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Editorial

International Scientific Conference 'Economic and Social Policy' follows the long tradition of conferences organized in the Moravian-Silesian Region in the Czech Republic on the topics of Economic Policy and Transition Economies, Economic Policy and the New EU Member States, Economic Policy in the EU Member States, or Economic and Social Challenges for European Economy. The conference takes place in the beautiful surroundings of Beskydy Mountains and is attended by experts from the fields of economics, law, sociology, political science and international relations, not only from the Czech Republic but also from abroad.

These proceedings contain selected papers presented at the 2020 conference, which took place in September 1–3, 2020 in Trojanovice, Czech Republic. Papers concern various issues of economic policy, employment policy, social policy, international relations, tax policy, international trade, legal aspects of business, etc. The conference organizers would like to thank all the conference participants for their valuable contributions and believe that we meet together again at the next annual conference of the impressive topics of Economic and Social Policy.

September 2020, Ostrava

Veronika Nálepová and Natalie Uhrová

Editors

OBSAH

DEMOTIVATIVE EFFECT OF SOCIAL ON THE LABOR SUPPLY OF LOW-SKILLED WORKERS

Vlastimil Beran[1]

Abstract

Social benefits comprise the provision of financial assistance from the state to citizens who find themselves in difficult life situations. Thus, it is logical to assume that social benefits represent the lowest household income threshold (without this being the fault of the claimant). While in the Czech Republic, the commitment of the state to provide citizens in difficult life situations is indisputable, this commitment should not be in conflict with the labour market. For most households in the Czech Republic, the income of individuals (households) from work represents the financial resources required to cover their expenses. This article analyses the conflict between social benefits and remuneration for work in the period between 2001 and 2019, during which time only two social benefit systems were in place in the Czech Republic. Other changes represented merely mathematical adjustments of the parameters of these two systems. The analysis conducted in selected years during this period concerning persons living alone compares income from social benefits with that from work (on the one hand the average gross wage, 60 % of the median wage and the minimum wage and, on the other, the net wage and net household income).

Keywords

Income, Job, Person Living Alone, Social Benefit, Wage

I. Introduction

The focus of this article concerns low-income persons who live alone and who find themselves on social benefits following a difficult life situation. As soon as a person's life becomes financed through social benefits, certain social-pathological phenomena begin to emerge after a certain period of time, and the situation often escalates to a state in which the person is unable to help him/herself.

The most vulnerable group in this respect comprises those with low levels of education and knowledge and few acquaintances, and who are unable to solve a given situation appropriately and to a sufficient extent. Subsequently, they begin to exhibit a general aversion to society, which they see as the cause of their misfortune.[2] At this stage, outside intervention is clearly required via the provision of social and/or community work. However, since, as mentioned above, this is most unlikely to occur under the conditions that currently prevail in the Czech Republic, the situation remains unaddressed, which is all too often the worst possible result. At the same time, it is clear that when a low-income person finds him/herself dependent on social benefits, it is necessary to motivate the person to return to the labour market as soon as possible.

If a person who lives from social benefits also suffers from a loss of housing and is, for financial reasons, forced to find accommodation in a hostel (or a similar form of housing), then he/she is required to accept the rules of the given community. Such rules usually differ from those of the majority society and it is unusual that persons who live in such accommodation are active in the labour market. If a person wishes to be accepted in such a community, it is usually assumed

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[2] They either show an absolute lack of interest in the public sphere or tend towards extremism or radical political parties.

that he/she does not work and is not looking for active employment, even though he/she may attend job interviews. Should he/she secure employment, the community will ensure that he/she feels that he/she is not following the accepted rules. Since it is natural for people to feel a sense of belonging, i.e. to be part of a community, he/she will find it very difficult not to adopt the rules of the community as his/her own. Once again, a situation emerges in which the person requires outside assistance, e.g. from social services.

In general, society has expectations of each individual in different parts of the life cycle. For example, in younger years, one is expected to work to save money for housing or starting a family.[3] However, if a person does not work but lives on social benefits, the functioning of the system as a whole is disrupted. He/she does not pay tax or social and health insurance contributions, nor does he/she create savings for the next life stage.[4] Nobody benefits from such a situation, i.e. the person affected, society nor the state. The tax system, including social and health insurance contributions, should work to motivate people to work. If it is more advantageous for an individual to remain on social benefits, then it cannot be expected that he/she will wish to work. Moreover, it is necessary to take into account that, going forward, he/she will lose both his/her skills and the habit of work and, conversely, fail to gain work experience, etc. In short, the individual will become unemployable in the labour market. Such individuals harm themselves since they never fulfil their potential, society as a whole suffers from a loss of cohesion and togetherness and the process of the division of society subsequently intensifies. Instead of the state budget receiving revenue, it incurs expenses, a process that is repeated over the long term. If this phenomenon occurs at a larger (mass) scale, it exerts both a destructive effect on the development of society and an adverse effect on the state budget.

In a rationally set social system, it should not be possible for an individual to receive the same amount in social benefits as he/she would from performing work[5]. Remuneration for work should always be higher than income from social benefits. Those who work sacrifice their free time both in the workplace and when travelling to and from work which, moreover, often incurs significant transport costs. The question is whether the Czech social system recognises the logic that individuals should be able to earn more by working than by remaining on social benefits.

II. Persons living alone

During the typical human life cycle, there is a high probability that a person will live alone for a certain period of time. This phenomenon may occur at any time in the life course. For some, it is the time at which they are attempting to become independent of the influence of their parents or following the end of the educational process, while others experience this situation following the breakdown of a relationship (separation) or family unit (divorce) and, in the worst case, as the result of a life tragedy (the death of a family member through accident or serious illness). Such a situation also occurs in the more advanced life stage when a person survives his/her life partner. While other situations in which people find themselves alone can be identified, in general they concern events that form part of human life and, in several cases, are unavoidable. Situations associated with tragedy or trauma are generally referred to as difficult life situations.

Difficult life situations are often associated with a person's psychological need "to find him/herself" or to identify the direction in which his/her life is advancing and the direction in which he/she would like it to progress. This process is so difficult for many individuals that

[3] Even in the later stages of life, individuals are required to fulfil certain social expectations.
[4] While in the case of low-income individuals, the potential to save is often very limited, one can at least consider independence from state assistance and social benefits.
[5] In the sense of full-time work.

they are unable to manage without the help of others, which is primarily expected to be provided by the family, extended family, friends or close community.

The literature on mental health that focuses on the impacts of the stressful life events of losing one's job and subsequent unemployment indicates that such events negatively impact one's status, time structure, demonstration of competence and skills and structure of relations. It carries a societal stigma and creates a sense of anxiety, insecurity and shame. (Newman, 1988) The loss of a job is a source of acute stress associated with the immediate disruption of a major social role as well as chronic stress resulting from continuous economic, social and psychological strain. (Pearlin et al., 1981) Leading modern explanations for why job loss and unemployment negatively impact a person's well-being include lowered self-esteem, sense of purpose and control; heightened apathy, idleness, isolation and the breakdown of the social personality structure; and a loss of the positive derivatives of participating in a work environment such as skills use, time structure, economic security, interpersonal socialisation and a valued societal position. (Brand, 2015)

As far as the Czech Republic is concerned, the normal practice is such that, in the best case scenario, emotional and psychological help is provided from the person's immediate environment (family and friends); otherwise he/she receives no help at all. Thus, according to a study by Marquis (1992), those from dysfunctional families are generally more affected by difficult life situations; such persons often do not receive any emotional or psychological help.

It is interesting that even thirty years after the Velvet Revolution in the Czech Republic, no mechanisms have evolved in Czech society aimed at assisting persons without families in society (the community).[6] Society relies on others to handle such situations, whether they be non-profit organisations, charities or the state. However, such institutions share the problem of the identification of those who find themselves de facto outside society, which seriously hinders the development of social and community work. (Matoušek, 2001) Although social work activities are provided in the Czech Republic, they remain significantly underfunded. Hence, thirty years after the political changes of 1989, community work is still the exception rather than the rule. It was not until 2018 that materials covering the provision of community work were published in the Czech Republic by Tožička and Uhlová (2018) under the official auspices of the Office of the Government of the Czech Republic.

From the economic point of view, in addition to the afore-mentioned psychological problems, such life situations are usually associated with financial and material deprivation. In the Czech Republic, experience shows that those in need turn first to the state should they require material and financial assistance, in which case it is unnecessary to distinguish persons with or without family and friends.

State assistance is intended to ensure that persons do not suffer from a decline in their living standards that would not have occurred without the occurrence of a difficult life situation. Households tend to prefer this form of assistance primarily because it is simple and anonymous and is a less stigmatising form of assistance than that provided by family or friends. Moreover, the stigmatisation factor means in many cases that without assistance from the state, many affected persons would have major problems overcoming difficult life situations without lasting negative life consequences. Since community involvement in this area remains underdeveloped in the Czech Republic, there is often no other option than applying for state assistance. The reason for this situation lies in the wording of the relevant legislation, which allows very limited space for the development of other solutions.

[6] Unless one includes the Czech practice of older woman why enjoy the confidence of others and who betray it to all who are prepared to listen to them.

Legislation strictly sets out the situations in which the state is obliged to provide assistance, i.e. purely financial assistance. The sufficiency, effectiveness and meaningfulness of such assistance is not considered; the respective state administration authorities are not required to consider the reasons for claimants needing help. Legislation sets out the obligation, and the obligation is fulfilled. In such a system, the provision of social work and, particularly, community work is extremely difficult. (Cheetham et al., 1992) In other words, if persons in need have been provided with financial assistance according to legislation, further expenditure from public funds on social work cannot be justified. Moreover, the same thinking, but with respect to non-financial considerations, applies to the provision of community work; again, why provide such services if the problem has been solved via the payment of social benefits? Changing attitudes, i.e. the status quo, in this respect in the Czech Republic is very difficult since a large part of the population remains burdened by historical developments, whether it be forty years of a centrally-planned economy or the "wild" period of transformation of the 1990s.

In order to answer this question, it is necessary to be aware of the recent history of the social benefits system. From 2001 to 2019, only two social benefit systems existed in the Czech Republic. In 2006, the housing item was separated from the living minimum. Up to this time, a single amount was paid out to cover all the needs of the claimant (only the alcoholic beverages and tobacco item was not included). Since, following 2006, expenditure on housing was no longer included, the living minimum served only to satisfy nutrition and other basic personal needs.

This change was deemed necessary since it became unrealistic to reflect the development of accommodation rents within the living minimum. The already rapid increase in housing rental costs was further accelerated following the announcement to deregulate the accommodation rental sector. The separation of housing from the living minimum was, thus, reasonable at such an economically turbulent time. However, the subsequent approach adopted to increasing the housing contribution, i.e. according to the amount of social benefits received, was seen by many as inappropriate. While the financial authority cited the insufficiency of housing capacity as the reason for this solution, over time it became apparent that this approach had opened the door to an externality known as the trade in poverty, which had become a major problem by 2010. Normally non-rentable flats were rented (from the private sector) by the state on a commercial basis at almost market rents. Such flats often did not meet basic hygiene standards or were simply unfit for purpose, thus representing expenditure from the state budget that was disproportionate to the service obtained. In addition, the housing market at this time was already distorted as a consequence of the economic transformation, at which time standard housing policies common in developed countries were not implemented in the Czech Republic.

Housing constitutes by far the biggest problem for persons living alone in the Czech Republic. The decision to commence working is influenced primarily by housing and one's ability to pay all the costs associated with it (e.g. energy). In most developed countries, social housing policies are in place aimed at addressing the situation of such individuals. In order to form a general understanding of social housing, it is necessary to be aware of the principles that form its cornerstones, what it stands for and what it aims to achieve. As a result of its considerable success, one of the pillars of social housing today comprises the Housing First programme approach. First introduced in 1992 in New York through an organisation known as "Pathways to Housing", the programme was developed to strengthen the assertive community approach as a mechanism for responding to the needs of homeless persons with mental illnesses (Tsemberis et al., 2004). The Housing First programme has already been introduced in the European Union

in a partly amended form[7], and the Housing First Guide Europe by Pleace (2017) has been published in various member states of the European Union.

Although the Czech Republic has not yet integrated this approach into the social system, a total of fifteen related applications were approved under call no. 108 of the Employment Operational Programme of the European Social Fund, consisting of pilot projects aimed at leading to the implementation of systemic measures in the future (Ministry of Labour and Social Affairs of the Czech Republic, 2019). Since this approach was incorporated into the model employed in this article for 2019 and was constructive in terms of helping to identify the problems of persons living alone in the Czech social system, it is necessary to clarify the model adopted and the assumptions thereof.

III. Methodology and data employed

The principal method employed comprises the comparative approach that enables the comparison of the settings of the social system in various years. The purpose of the comparison was to determine the year that represented the optimal situation in terms of motivating individuals to perform work, i.e. the situation in which an individual is objectively motivated to work since it is not financially advantageous to live on social benefits. This involves the absence of rational economic reasons that would discourage individuals from finding and remaining in employment. In addition to this hypothesis, it is necessary to perceive the system as a whole. Along with the existence of a benefits system, the quality of the public administration system and the services provided is of particular importance (Baldini et al., 2018). A further finding from Baldini's research is that the quality of the public administration system is more important than the quantity. In 2012, the benefits system in the Czech Republic was optimised in the form of the transfer of the payment of social benefits from municipalities to labour offices. The adapting of the public administration system was lengthy and far from smooth and almost resulted in the collapse of the social benefits system.

The values of the average and median gross wages constitute official statistics that are provided on an annual basis by the Czech Statistical Office (2020). The minimum wage and the amount of the living minimum are set by legislation for the respective year.[8],[9] Legislation valid in the respective year is used as the basis for the calculation of values concerning the amount of claimed social benefits in the model. The modelled situations do not take into account the possibility that individuals do not receive the social benefits to which they are entitled (unexpected non take-up). Persons living alone in the Czech Republic are entitled to claim two housing benefits - the housing allowance and the material needs housing benefit supplement - and one benefit for unfavourable life situations - the material needs living allowance. The modelled individual lives in a city of between 10,000 and 50,000 inhabitants and uses a living space that corresponds to the required size of his/her household type. The modelling of social benefits includes the comparison of the actual costs of housing and the respective legally set norms.

The article provides the outputs of the analysis in graphical form. The various graphs are designed so that it is easy to determine whether it is worthwhile for individuals to work or to remain on social benefits. The X-axis shows the average gross wage as a percentage, and income in Czech crowns is recorded on the Y axis. Each graph also contains two vertical lines;

[7] If help can be provided to dependent and homeless persons, there is a high probability that assistance can be provided for less seriously affected individuals.

[8] The minimum wage is defined in Act No. 262/2006 Coll., the Labour Code, Section 111. The amount is set in Government Decree No. 567/2006 Coll., on the minimum wage, etc. Section 2.

[9] The living minimum is defined and its amount is determined in Act No. 110/2006 Coll., on the living and subsistence minimum, Sections 2 and 3.

the left line represents the minimum wage from full-time work and the right-hand line two-thirds of the median wage[10]. This value represents the maximum income limit of low-income persons living alone, a fact that in itself represents a significant demotivational factor. The chance of the income of the population group considered in this study exceeding the limit of two thirds of the median is practically zero. While the possibility exists that some individuals have managed to increase their incomes to above this threshold, the number is so marginal as to be insignificant for the purposes of the research.

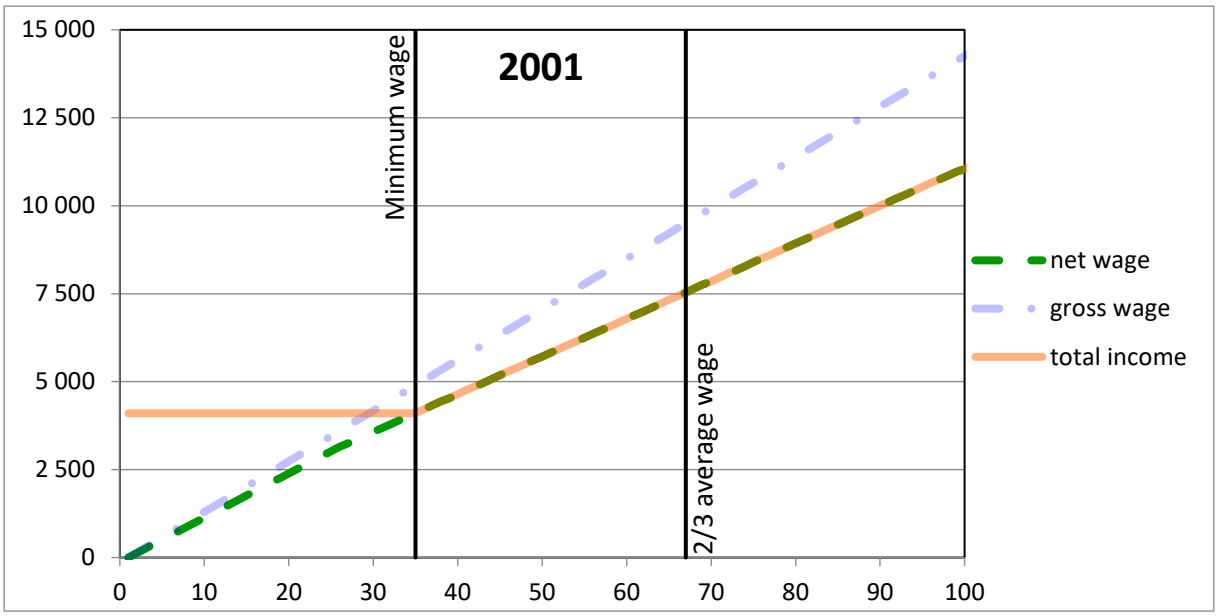
The dash-dotted line (in blue) represents the gross salary and the dashed line (in green) illustrates the development of the net wage (the net remuneration from work performed). The solid curve (in orange) illustrates the development of total household disposable income (the sum of the net wage and social benefits).

The aim was not to provide outputs for each year; rather, the graphs highlight the most significant changes that occurred in the given period. Thus, six graphs are provided for the years 2001, 2006, 2008, 2016 and 2019. Two graphs are provided concerning 2019, the first referring to individuals living in hostel accommodation and the second to persons living in rented housing.

IV. Outputs of the model for a person living alone in the period 2001 to 2019

The first graph refers to the beginning of the monitored period, i.e. 2001, in which year, the living minimum (including housing) was set at CZK 3,770, the minimum wage was CZK 5,000 and the average wage was CZK 14,378.

Figure 1 Person living alone 2001



Source: Czech Statistical Office, own calculations

The graph illustrates that a person living alone on the minimum wage received a similar net wage amount as that provided by social benefits. The claiming of benefits provided an income of CZK 4,100 and work with earnings of CZK 4,214. Thus, there was no motivation for those on social benefits to work for the minimum wage. In the case of the upper interval of 2/3 of the average wage, the net income was CZK 7,646, i.e. CZK 3,546 more than the income received

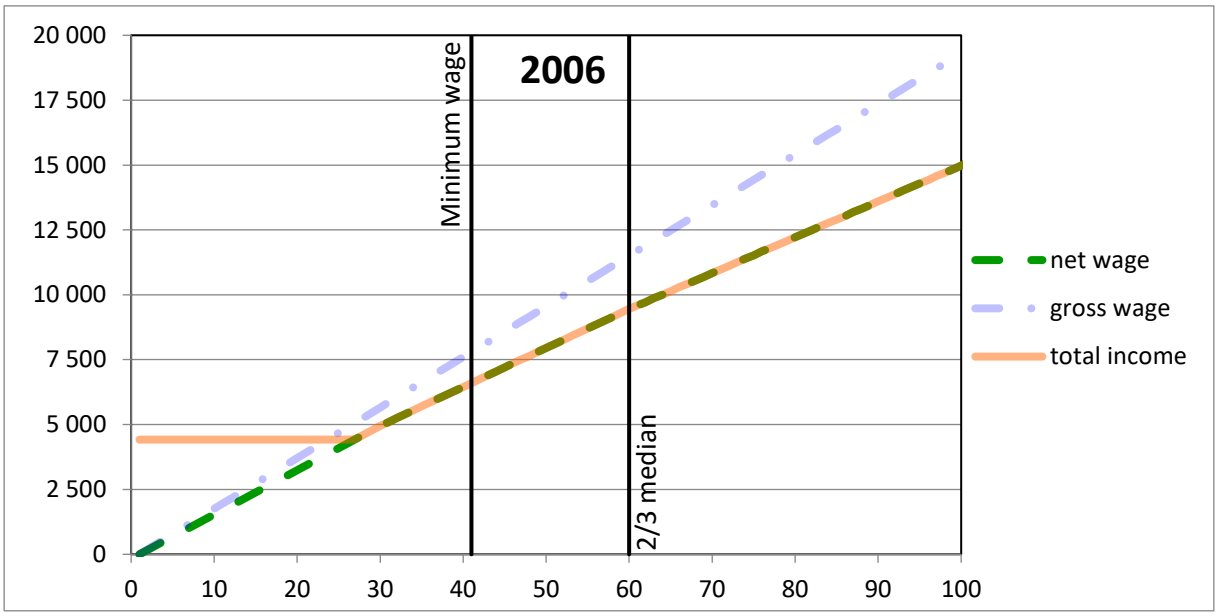
[10] In 2001, the monitoring of the median statistical value had not yet been introduced in the Czech Republic hence, it is peplaced by the average (gross) wage.

from social benefits. At the time, this amount was significant enough to motivate individuals to work. However, it should be noted that an income of 2/3 of the average wage (higher than 2/3 of the median) was unrealistic for the vast majority of the income group considered, the incomes of whom were nearer to the minimum wage than to 2/3 of the median. Thus, the economic motivation suggested by the graph most likely does not accurately reflect the real situation of most of the studied group.

The social system of 2001 features motivational elements with increasing income above the level of the minimum wage. However, the transformation process of the Czech economy was still underway at this time, i.e. the deregulation of prices accompanied by the suppression of wages due to competition. There was a significant number of persons in the Czech economy who had not worked since the Velvet Revolution, and this way of life became their normal lifestyle.

The second graph relates to 2006, in which year the living minimum was CZK 4,420, the minimum wage was CZK 7,570 and the average wage was CZK 19,546. This was the last year of the original social system, i.e. in which the housing component was included in the living minimum.

Figure 2 Person living alone 2006



Source: Czech Statistical Office, own calculations

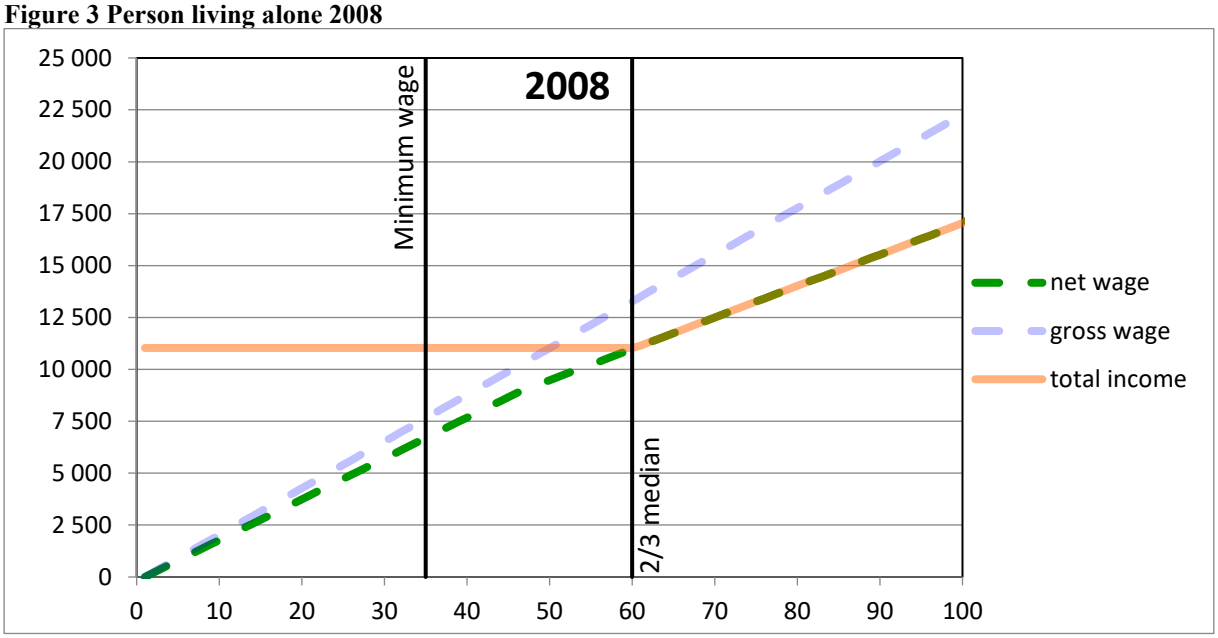
In contrast to 2001, a clear visual difference is evident in terms of the interaction of social benefits and earnings. Those working for the minimum wage received a net income of CZK 6,755, while those on social benefits received CZK 4,420. This would appear to suggest a clear work motivational aspect and to represent a significant improvement in terms of the household budget. In the period around 2006, however, the housing problem, especially rising housing prices, became publicly acknowledged. Many individuals on social benefits were already housed in accommodation[11] that was segregated from the rest of society. While the quality of such housing was significantly below that of the average, the cost was similar. Moreover, at this time even the lower middle class was experiencing housing problems since the price of labour was deliberately being reduced while prices continued to increase. While the model indicates economic motivation to work, unfortunately it fails to capture the other factors that

[11] For example, hostels, as already mentioned previously.

were involved in reality. Thus, it can be concluded that even in 2006 there was very little motivation for a person living alone on social benefits to take up employment.

The third graph relates to 2008, by which time the new social system had been introduced[12]. Since the previous year was characterised by a number of problems associated with the introduction of the new system, the author chose 2008 to demonstrate the functioning of the social system following the introduction of the changes. In 2008, the living minimum was set at CZK 3,126, the minimum wage was CZK 8,000 and the average wage was CZK 22,592.

Figure 3 Person living alone 2008



Source: Czech Statistical Office, own calculations

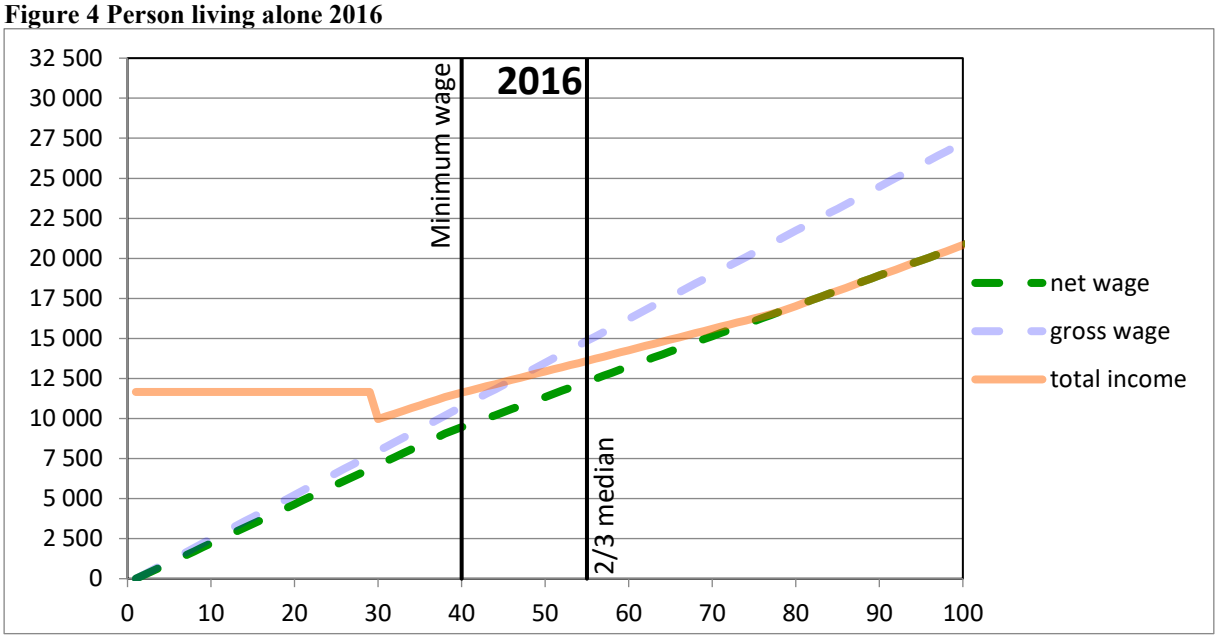
The development of the total income curve (the solid orange line) clearly indicates that it was not worth working at all for persons living alone. Between the minimum wage and the two-thirds of the median intervals, the sum of social benefits is higher than the net wage. The new social system created the strongest economic demotivation factor in history. For those already in receipt of social benefits, official earnings from work failed to provide motivation for them to work. In essence, those in work earned only the amount of the living minimum and *de facto* only handed over social housing benefits to the landlord. Provided an individual were not already disheartened, had a certain level of education and had a desire to improve his/her standard of living, he/she was able to find work and cheaper housing and, possibly, regain the opportunity to influence his/her life. However, such behaviour could not be expected from those on benefits over the long term. As a result, the *status quo* was preserved. Such individuals were not provided with help to change their life situation; moreover, the situation worsened over time and assumed enormous proportions. The trade in poverty was extremely successful in the Czech Republic. The statistics prove that many people prospered substantially from the misfortunes and life tragedies of their fellow citizens. In 2008, the material needs living allowance was provided to almost 250,000 claimants. In 2014, the number of claimants of this benefit reached its historical maximum of almost 880,000, after which time the number declined to 770,000 persons in 2016 (Ministry of Labour and Social Affairs, 2020).

The fourth graph refers to 2016, which saw the payment of relatively the highest amount ever from the state budget on social benefits related to housing (the sum of benefits divided by the

[12] 2007 was the first year of the operation of the new system, i.e. the non-inclusion of housing in the calculation of the living minimum. The introduction of the new system was beset by a range of problems.

number of benefits paid out). Moreover, 2016 also saw the introduction of legislation that aimed to put an end to the trade in poverty; previous legislation on this topic had failed to do so. However, it is not unreasonable to assume that the economic boom that followed was more effective in this respect than the introduction of the new legislation. In 2016, the living minimum was set at CZK 3,410, the minimum wage was CZK 11,000 and the average wage was CZK 27,589.

Figure 4 Person living alone 2016



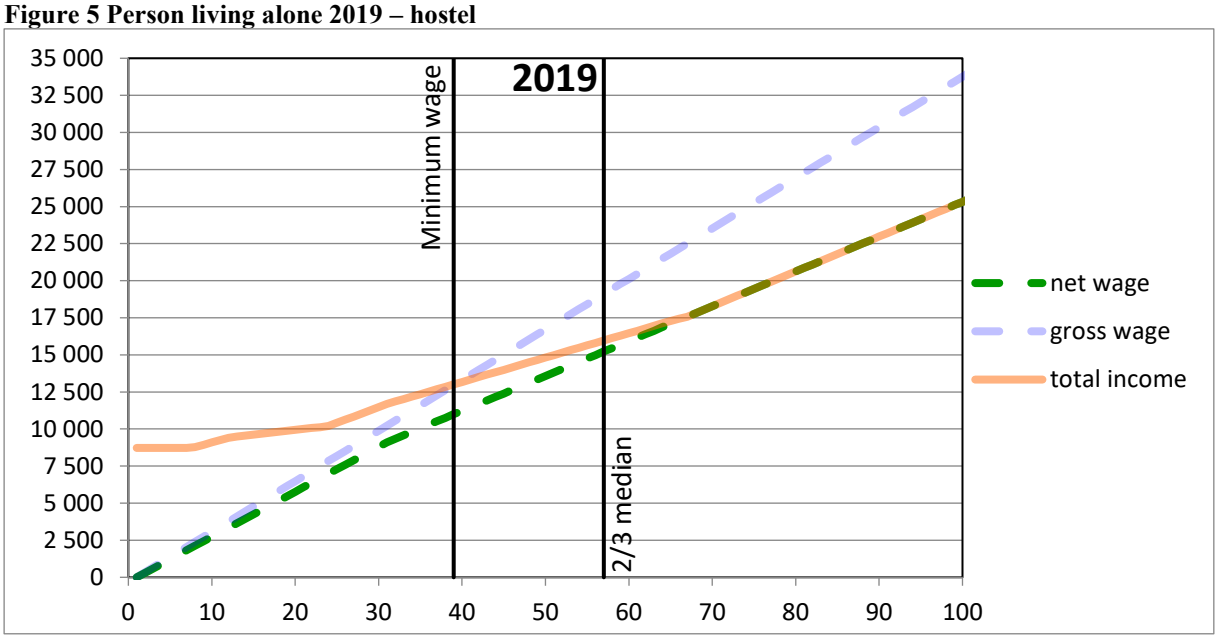
Source: Czech Statistical Office, own calculations

The development of the total income curve suggests that no significant changes had taken place in terms of the economic motivation to work. The value of social benefits (for persons who did not work) was almost identical to the total value of income from work and social benefits. Clearly, the various legislative amendments did nothing to change the basic problem of the social system. In the case of the maximum possible income of an individual (2/3 of the median)[13], the amount of income was a mere CZK 2,000 higher. The demotivating effect continued. It is also interesting to note that the right to social benefits ended upon earning 77 % or more of the average gross wage. Moreover, the limit of maximum earnings stood at 55 % of the average gross wage which, in itself, indicates a significant problem with concern to the Czech labour market. This phenomenon also occurred in 2019. It is necessary to emphasise that the long-term illogical settings of the system lead to a situation that benefits no-one in the end, e.g. the occurrence of illegal work, which took root in the Czech economy as early as in the 1990s.

The final two graphs relate to the situation in 2019. The first graph illustrates the changes that were brought about as a result of legislative amendments introduced after 2016, while the second graph provides an alternative scenario that considers the use of social housing. In 2019, the living minimum was set at CZK 3,410, the minimum wage was CZK 13,350 and the average wage was CZK 34,125.

[13] It remains true that such persons are unlikely to achieve such an income.

Figure 5 Person living alone 2019 – hostel

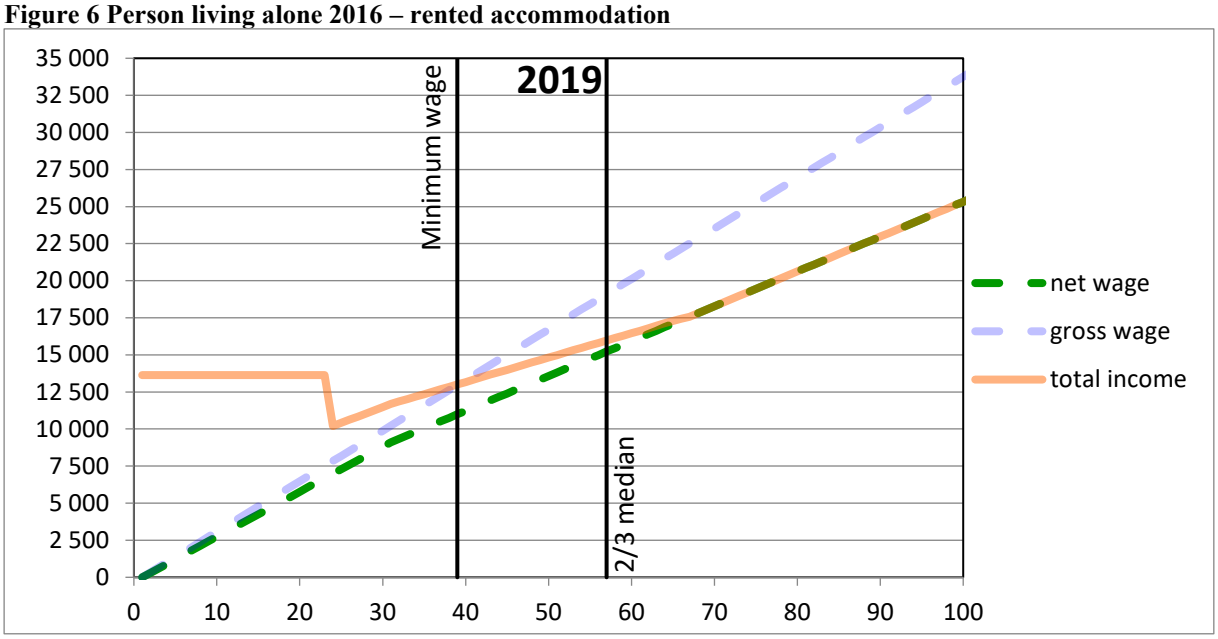


Source: Czech Statistical Office, own calculations

The graph shows the situation of individuals living in hostel accommodation, the financial resources of whom consist of the living minimum. They no longer receive money for housing, i.e. it is paid directly to the hostel owner. From the point of view of a person's decision-making process, it is necessary to take into account the full amount, thus ensuring that all the necessary costs are covered. The modelled economic assessment of income from social benefits alone compared to the sum of income from work and social benefits reveals the second lowest demotivating effect. Unfortunately, however, this is only the situation as indicated by the model; in reality, the probability that persons living in such accommodation will take up gainful employment is negligible. Even if they manage to find employment, such individuals are at risk of additional psychological stress and frustration - it is very difficult to leave the only community they know and they are very unlikely to have contacts and ties elsewhere. They have become cut off from mainstream society. While legislative regulation in this respect resulted in state budget savings, it did nothing to help such individuals or to solve the overall situation.

The final graph aims to show how much money an individual would need in order to be able to afford rented housing, thus providing the individual with the stability and certainty required to support his/her return to mainstream society. The disadvantage of this approach, however, is that the probability of successfully integrating individuals back into society is only slightly higher than in the case of successful addiction treatment.

Figure 6 Person living alone 2016 – rented accommodation



Source: Czech Statistical Office, own calculations

In 2019, a person living alone needed an income of around CZK 13,600 in a city of 10,000 to 50,000 inhabitants. While he/she would enjoy secure housing, he/she would have only CZK 3,410 for his/her living needs. The logic of social housing suggests that individuals would not be excluded from society. The problem remains, however, that since the combination of income from work and social benefits provides the same income, it is unrealistic in the Czech Republic to try to integrate persons living alone into society.

Two potential scenarios exist with concern to solving or alleviating the problem of the Czech labour market. The first scenario is to increase the remuneration for work to such an extent that it will be significantly higher than the amount of the social benefits that individuals are entitled to claim. This is subject to two assumptions. The first assumption is that price levels do not increase to such an extent that the purchasing power of money is devalued. The second assumption is that the amount of social benefits will remain the same, while continuing to fulfil their function as defined in legislation. For example, in the past, the living minimum has frequently failed to fulfil this function, which sheds a poor light on the Czech Republic's social system. The second scenario works via the alleviation of the distortion of the housing market and the elimination of the housing market bubble before it bursts. In cooperation with municipalities and regions, the Ministry of Regional Development and the Government should initiate the construction of social housing in the Czech Republic. In this case, a big question mark exists. The Czech experience to date with such large cooperation projects is poor and the result would be uncertain. At the same time, it is necessary to appreciate that the possibility to draw financial resources from European Union funding is coming to an end. While the use of funds in this direction would make sense and lead to the reaping of rewards in the future, unfortunately, the risk of corruption and the misuse of subsidies from European Union funds must also be taken into account.

V. Conclusion

The article provided an analysis of the interaction of the social system and the labour market in the period 2001 to 2009. Considering the example of low-income persons living alone, a rational economic reason was identified for not choosing to take up work during the monitored interval. The intensity of the demotivating effect varied according to the year selected for study.

According to the model, the lowest level of demotivation related to 2006; nevertheless, the situation in 2006 was far from ideal - the model simplified the real situation and failed to capture other variables that would have served to provide a more complete picture. Conversely, the highest level of demotivation was identified in 2008, since which time the modelled situation gradually improved. However, while the intensity of the demotivating effect was clearly declining, it remained a significant factor at the end of the reference period.

If those who find themselves in a difficult life situation in the Czech Republic are unable to solve the situation, they risk becoming stuck in the social system. Their lives stagnate and they suffer a decline in their standard of living. Outside assistance should act to mobilise such individuals and help them to return to mainstream society. The failure to do so results in negative consequences for all those involved – the individuals themselves, society and the state. The housing market plays an important role in this problem in the Czech Republic. Housing makes up one of the three basic necessities of life and it should not be ignored. The relevant authorities should actively address the situation in the housing market and not be content with merely mitigating the negative effects in the form of social benefits. The state must accept the fact that the system is not working rationally, and should start to work on determining a solution.

The state should begin solve the "easier part of the problem"; it still has the time and potential to learn to work with people in difficult life situations so as to enable them to integrate back into society. Going forward, this ability will be absolutely essential since, over the next 30 years or so, the age structure of the population in the Czech Republic will shift significantly towards the senior population. There will be a serious lack of people of working age to cover the payment of old-age pensions. The state will not be able to afford to lose people of working age, i.e. contributors to the social security system. If the state fails to adapt in this respect, through the provision of social and/or community work, then those who find themselves in difficult life situations will become lifelong recipients of social benefits. They will represent a net expense for the state. This negative trend can be prevented by the training of quality social workers who will be able to help these individuals via the provision of professional supervision services.

Persons who live alone generally have the easiest position in the labour market, i.e. they have no difficulties or complications associated with caring for others. When else should an individual work? However, it is also true that those on low incomes do not have the opportunity to see the positive results of their efforts. They are unable to generate savings from their earnings that would ensure better conditions for the future (starting a family, security in old age, etc.). This represents a further demotivating factor for individuals in this situation. The knowledge that they are able to earn money to meet only current basic needs leads to frustration and a loss of confidence in the system, authority and society as a whole. It increases the likelihood of resorting to illegal work and, importantly, increases the potential for passing on this approach and attitude to life to the next generation.

Today, the influence of the future challenges brought about by the robotisation, automation and digitalisation of the economy must not be overlooked. Increased demands will be placed on workers in terms of flexibility, life-long education and work habits. Since there is a very real risk that those on social benefits and, indeed, those on low incomes as defined at the beginning of the article will be increasingly excluded from the modern world of work, the situation must be addressed now before it is too late.

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CATALAN HOME BIAS WITH THE REST OF SPAIN: DOES IT STILL EXIST?

Lucie Coufalová[1], Jakub Buček[2]

Abstract

The current high degree of support for secession in Catalonia raises questions about the viability of an independent Catalan country. Most deal with the impact secession would have on the region's foreign trade. The aim of this paper is to identify the main determinants of the region's foreign trade and compare them with previous studies that dealt with this topic. The analysis is based on the gravity model approach, using the Poisson model for the period 1995−2007. We determined that the home bias in Catalan exports presented in the previous literature was, to a great degree, a consequence of the omission of important explanatory variables in the model equation. Moreover, those estimates showed a strong tendency to decrease over time. For the last two years of the period under review, the model predicts a border effect equal to zero.

Keywords

Catalonia, Exports, Gravity Model, Home Bias

I. Introduction

In Europe, talks are currently underway on separatism, particularly in connection with the call for independent states among the Catalans, Scots, Flemish, Basque, Venetians and other Italian regions. By far, the most significant secession movement in recent years has been recorded in both Catalonia and Scotland. While in the latter an official referendum was held in 2014, the Spanish constitution does not allow independence referenda of its autonomous regions.

Even though, the exacerbation of the situation in the last years also revived debate over consequences for possible Catalan independence. In the region, as well as in other democratic countries, political discourse related to separatism is increasingly centred on the role of foreign trade. For example, the Spanish government has long been trying to discourage Catalans from secession by threatening them with vetoing membership of their potential future state in the European Union. While we neglect the much-discussed legal framework today for accession of the potential new state, it seems that trade among EU member states would be a key point for its survival.

The creation of a physical border between an independent Catalonia and the rest of the Spanish state, as well as the reintroduction of obstacles to trade linked to the abandonment of the single European market, would certainly affect the volume of trade flows for the newly created state.

The purpose of this article is certainly not to present how that disruption might take place, what might follow and how the Catalan economy may be affected, as all this would only be speculation. Our goal is to identify the main determinants of the region's foreign trade and compare them with the previous studies that dealt with this topic.

Given the ongoing internationalization of the Catalan economy, these determinants are expected to be different. Moreover, we further aim to demonstrate that these studies missed

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important factors influencing Catalan foreign trade. In consequence, their value of parameter estimates of the Catalan home bias were overrated. Our analysis is based on the gravity model of foreign trade, using the Poisson (PPML) model.

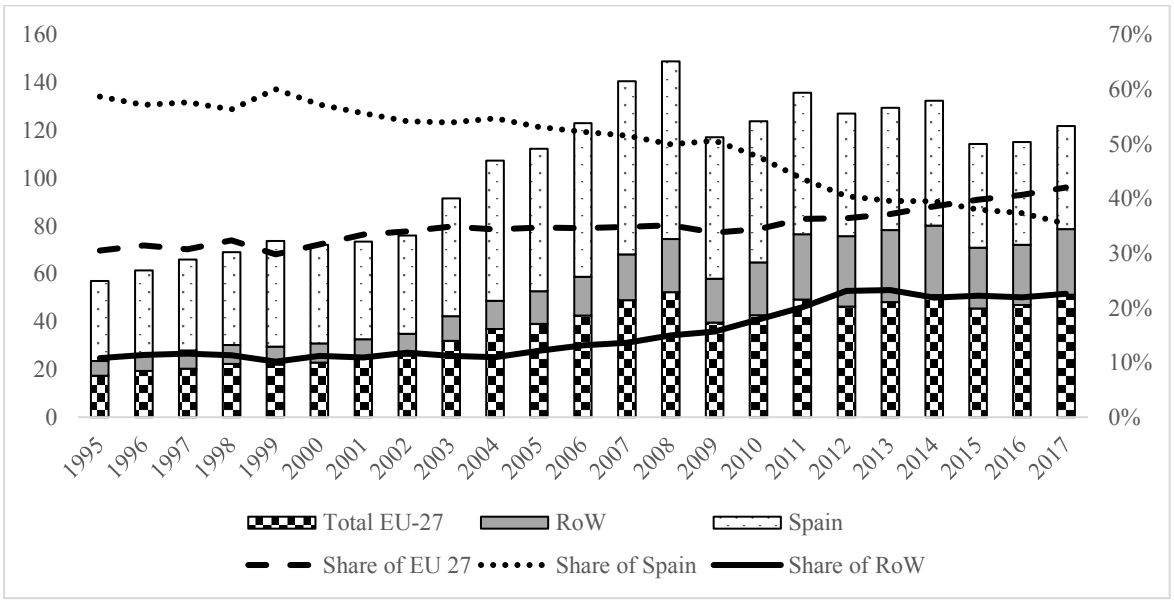
The text is structured as follows: Firstly, the paper deals with the current trade links of the region with the rest of Spain and other countries. Following that, focuses on a review of the literature that deals with the border effect and the relationship between disintegration and trade with a special emphasis on Catalonia. The third area presents data and methodology and the fourth summarises results and discussion. The last part concludes.

II. Catalonia's trading patterns

In terms of trade, Catalonia is a key region of Spain, accounting for 26 % of international Spanish exports and 28 % of total national imports. The sum of the trade flows that take place within the region, plus those which Catalans realize within the rest of the Kingdom, represent 22 % of the total flows of goods produced and realized in Spain. This is a huge number in comparison with Andalusia (13 %) and Valencia at 11 % (C-intereg. CEPREDE 2018).

Catalonia is an export-oriented region. Its share of foreign exports of goods and services to its GDP in 2011 was 33.2 %. Moreover, considering its trade with the rest of Spain as foreign, this share would increase to almost 62.9 % in that same year (Generalitat de Catalunya 2018).[3]

Figure 1 Catalan exports to Spain, EU-27 and the rest of the World (in billions of US $; left axis) and their corresponding percentage shares (right axis)



Source: C-intereg. CEPREDE (2018) and DataComex (2018)

Figure 1 shows the development of Catalan exports of goods depending on whether they travel to the rest of Spain, the EU or the rest of the world. Obviously, over time its relative share of exports to other Spanish regions has declined in comparison with the relative growth in exports

[3] We make this comparison for 2011, because recent data for trade with goods and services with the rest of Spain was not available. In 2017, the share of exports to foreign countries accounted for 39.4% of the region's GDP (Generalitat de Catalunya 2018).

to the EU and the rest of the world.[4] This supports a plausible geographical diversification of the region's exports over time.

From the point of view of individual destinations, it is certainly not surprising that Catalonia realizes a great percentage of its exports within the Spanish state. However, its principal trading partners changed considerably in recent years (see Table 1). Whereas in 1995 the three principal export destinations were other Spanish autonomous regions, in 2016[5] only Aragon was among them. The remaining two leading positions were overtaken by France and Germany. There was also a significant change on the import side, where are now a clear predominance of foreign trading partners. This resulted in 2016 in a huge trade deficit in international trade of 13 billion euros, which was compensated by a great surplus of 18 billion euros with the rest of the Spanish state (C-intereg. CEPREDE 2018).

Table 1 Principal geographical destinations of the Catalan goods.

Export				Import			
1995		**2016**		**1995**		**2016**	
Destination	Mil. €	Destination	Mil. €	Destination	Mil. €	Destination	Mil. €
Rest of Spain	31 373.43	*Rest of Spain*	38 861.26	*Catalonia*	25 004.07	*Catalonia*	31 401.75
Catalonia	25 004.07	*Catalonia*	31 401.75	*Rest of Spain*	17 006.77	*Rest of Spain*	21 313.21
Valencia	5 869.76	France	10 460.44	Germany	5 006.88	Germany	14 566.61
Madrid	4 647.30	*Aragon*	9 708.53	*Valencia*	3 798.66	China	7 445.33
Aragon	4 512.70	Germany	7 736.28	France	3 720.79	France	7 271.56
France	3 536.36	Italia	5 932.27	Italy	3 346.94	Italy	6 336.67
Andalusia	3 388.26	*Valencia*	5 009.59	*Aragon*	2 430.44	*Andalusia*	4 253.27
Germany	3 107.34	Portugal	4 366.01	*Andalusia*	2 006.00	*Aragon*	3 623.32
Basque C.	2 692.43	*Madrid*	4 050.88	*Madrid*	1 824.79	*Valencia*	3 402.97
Castile & León	2 261.23	UK	3 910.36	*Basque C.*	1 723.01	Neatherlands	3 068.99
Italy	1 875.74	*Andalusia*	3 372.17	*Castile & León*	1 581.97	US	2 665.14
Canary Isl.	1 529.96	*Castile-La M.*	2 826.40	UK	1 548.92	UK	2 489.63
Portugal	1 375.34	*Basque C.*	2 662.40	Japan	1 450.61	Belgium	2 218.82
Navarra	1 276.74	Switzerland	2 162.91	Neatherlands	1 355.56	Switzerland	1 918.44
Balearic Isl.	1 171.26	US	2 156.54	US	1 281.55	Japan	1 873.79
Galicia	1 136.05	*Castile & León*	2 040.99	Belgium	916.41	*Basque C.*	1 753.30
UK	1 075.85	*Balearic Isl.*	1 965.61	*Navarra*	691.85	Portugal	1 684.57
Murcia	751.54	Neatherlands	1 921.15	*Castile-La M.*	637.72	Morrocco	1 548.81
Castile-La M.	684.51	Belgium	1 643.70	China	593.37	Poland	1 386.77
Neatherlands	565.54	*Cantabria*	1 399.66	Switzerland	470.45	*Castile & León*	1 352.89

Source: C-intereg. CEPREDE (2018)

[4] For example, compared to Scotland, the Catalan region is relatively trading much less with the rest of the country and significantly more with the other EU countries. In 2016, a total of 61% Scottish exports (excluding oil and gas) went to the rest of the UK, 17% to the EU and 23% to the rest of the world (The Scottish Government 2018).

[5] The table offers principal partners only for the trade with goods. Detailed data which would include also trade with services are not available. For this reason, the following analysis is only based on data concerning trade with goods. Nevertheless, we are aware that the data on exports including services would certainly provide more accurate estimates.

It is therefore clear that, in the event of independence, it would be crucial for a newly created country to maintain its existing trade links with the other Spanish regions, as well as those business partners from outside Spain. On the other hand, maintaining friendly business relationships would also be vital for Spain, given the importance of Catalonia as a nexus between Spain and Europe. The region is an important gateway for European imports arriving in Spain (Ghemawat 2011; Llano-Verduras et al. 2011).

III. Trade and borders

The development of business links between two areas can be modelled by gravity equations of foreign trade. John McCallum was a pioneer of this approach in the field of economics, who explored the role of the border in trade between Canadian and US provinces. In his 1995 article, he introduced the term *home bias*, which expresses the fact that the volume of national exchange largely exceeds its level predicted by the gravity model. It is, therefore, a kind of bias towards the domestic market.

This theory puts the blame on the physical border between the two trading partners, introducing the term *border effect*. McCallum concludes that, taking into account other variables that affect the level of exchange, flows between the Canadian provinces are twenty-two times higher than the flows between an elected Canadian province and a corresponding US state. Therefore, the existence of borders plays a very important role, even if they separate two states that support the liberalization of mutual trade relations, as was the case of Canada and the USA.

It follows that the membership of Catalonia in the European Union and the associated removal of physical borders should have had a positive effect on the region's foreign trade. On the contrary, its possible independence might lead to a decline in mutual trade with the rest of Spain, as well as with the European Union if the country finds itself outside the European Single Market (ESM).

Integration, disintegration and the gravity model

After McCallum, came many other economists who used the same method and tried to estimate the influence of many other factors influencing foreign trade. The model was used inter alia to study the impact of integration and disintegration on volumes of foreign trade.

From the point of view of secessionist tendencies in some European countries, the paper *Disintegration and trade* by Fidrmuc and Fidrmuc (2003) is important, as it deals with the impact of the break-up of the Soviet Union, Yugoslavia and Czechoslovakia on the mutual trade of the successor states. In the case of Czechoslovakia, the home bias between the two newly created republics slightly decreased immediately before the division, but the intensity of the exchange stood 32 times above its normal level between the two countries.

Immediately after the breakup of the federation, in 1993−1994, it decreased eleven times and by 1998 even to the level of seven times the average intensity predicted by the model. This large trade slump took place despite enormous efforts to maintain the current level.

The authors thus point to a much greater bias towards the domestic market than McCallum and, above all, the posterior scholars' contributions (e.g. Helliwell 1995; Nitsch 2000). However, they also draw attention to the need to analyse these events in a wider context, which includes the proximity of the new republics to the European Union market, as well as to other circumstances, such as economic crises. The geographical proximity to developed European markets and ongoing accession negotiations into the EU led to a rapid reorientation of its trade towards these economies.

The drop in the trade between countries concerned was even deeper than in the case of the Baltic countries or Russia, Ukraine and Belarus.[6] An important role was certainly played by the fact that these were formerly centrally planned economies, characterized by generally very low levels of foreign trade.

On the other hand, Sousa and Lamotte (2007), in agreement with Frankel (1997), conclude that business paradigms change very slowly, and they oppose the traditional view of the sharp decline in trade between two newcomers who were part of the same political group. The authors apply a theoretical gravity model, which concerns the period from 1993 to 2001, to the same political blocks as Fidrmuc and Fidrmuc.

The conclusion of their work is that there is no compelling evidence of the negative influence of political disintegration on mutual exchanges between successor states. Established business links vary quite slowly, due to the sunk costs of entering new markets and building business infrastructure. This idea is in line with Eichengreen and Irwin, who wrote that "countries with a history of trading with one another – whether for reasons related to politics, policies and other factors – generally continue to do so" (1997: 35). Djankov and Freund (2002), who see the main cause of the decline in the volume of trade between countries in the former CCCP after the introduction of customs, also point to the fact that past trade ties limit its reorientation.

Catalonia and its home bias

There were also studies that focused on Catalonia. The aim of these works, based mostly on this very model, was to prove the strong dependence of the Catalan economy on the Spanish state or, on the contrary, to underline the strong reorientation of the region's trade towards foreign markets. Nevertheless, empirical evidence concerning this phenomenon is limited.

For example, the contribution of Gil-Pareja et al. (2005) focuses on exports of Spanish regions among themselves and on their exchange with 27 OECD countries in the period 1995−1998. The authors conclude that at that time Catalonia traded 22 times more with other regions within the Iberian Peninsula than with other countries. Their work was followed by Llano-Verduras et al. (2011), whose analysis covers the period 2000−2005 and the observed OECD sample is reduced to 25 countries. Their conclusion is that the border effect in Spain is largely the result of geographical aggregation, and such estimates are therefore significantly overestimated.

Decreasing dependence of the region on trade with Spain, as a consequence of the deepening European integration, is the most important conclusion of Ghemawat et al. (2010). The estimated value of their border effect is 4.01, which means that, according to their results, Catalonia trades 55 times more with other Spanish regions than with the other countries included in the sample. They observe a downward trend of this effect – from 80 in 1995 to 29 in 2005. Nevertheless, they work with 1995−2006 dataset covering, apart from the rest of Spain, only 22 OECD countries. As shown in Figure 1, in 2006, Catalonia still exported more than a half of its goods to Spain. At present, Spain accounts only for 35.4 % of Catalan exports of goods.

Five years later, Lanaspa Santolaria et al. found large deviations in the border effect across Spanish regions. Their estimates were the lowest for Madrid (5.17) and Catalonia (8.11), both well below the national average (10.5). The authors also emphasize the decreasing importance of this effect over time. They consider a set of 40 countries which included all the OECD

[6] The home bias in the former Soviet Union countries was, before the break-up, up to 43 times the predicted level. For the successor states, Russia, Ukraine and Belarus, it was significantly lower (only 13 times). Similarly, the breakup of Yugoslavia meant a drop in the value of this parameter in the case of the trade between Croatia and Slovenia from 24 times to twice the predicted level.

members, Russia, Brazil, China, India, Indonesia and South Africa during the period 2000−2010.

All these estimates play an important role in the current lively debate about the consequences of the Catalan independence on the region's economy. Most scholars, mainly those who oppose independence, focus on the drop in export flows of Catalonia with the rest of Spain, as well as with other EU states, and its consequent impact on the region's GDP. Generally, they emphasize the importance of the mentioned border effect and the drop in trade with Spain that is expected to occur should Catalonia become independent (among all Buesa 2009; Ghemawat 2011; Comerford and Mora 2014; or Feito 2014).

For example, Ghemawat (2011) expects a drop in trade between an independent Catalonia and Spain comparable with the drop registered between Czech Republic and Slovakia after 1993. He concludes that there would be a slump in bilateral flows to one third of their actual value that would cause a 7 % drop in GDP. Comerford and Mora (2014) expect a reduction in Spanish-Catalan exchange to the current level of Spanish exchange with Portugal with its subsequent 9 % negative impact on the GDP of the region.

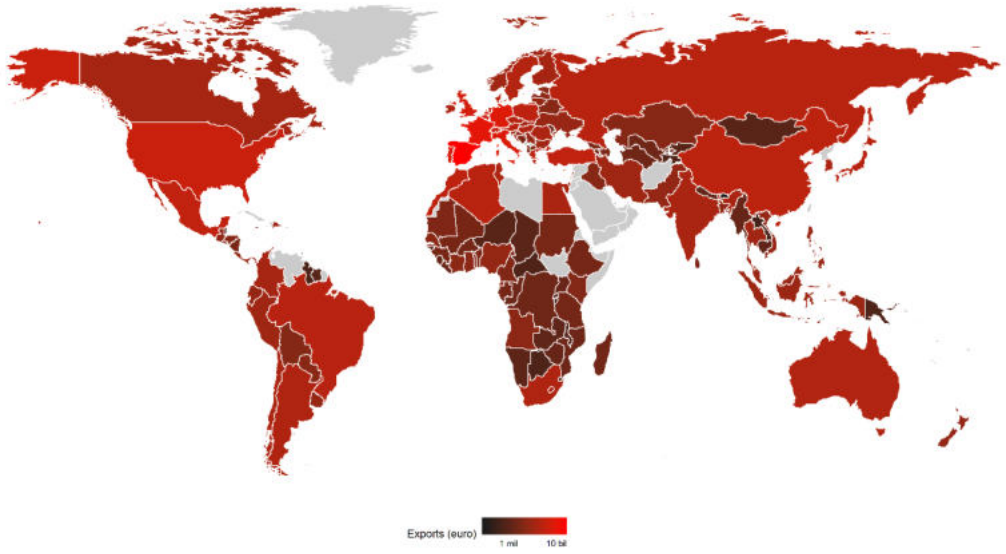
By contrast, pro-independence authors highlight the erosion of this factor over time (Antrás and Ventura 2012) or do not consider bilateral exchange of goods and services as a determinant to the wellbeing of Catalonia should the region obtain independent status (Guinjoan and Cuadras-Morató 2011).

As has been explained, in recent years, there has been strong internationalization in Catalan export flows. Consequently, updated estimates may be beneficial to the debate.

IV. Data and methodology

Our sample includes the trade volumes of Catalonia with 161 trading partners from 1995 to 2017. It is an unbalanced data set, as there are some missing trade flows. It represents the vast majority of Catalan trade in goods and, because data on trade at the regional level is generally very poorly available, provides us with a unique set of statistics. The data set was retrieved from the C-intereg CEPREDE database, which covers the interregional trade of the Spanish regions and from DataComex, statistics provided by the Spanish Ministry of commerce, industry and competitiveness. Figure 2 offers a visualization of the data.

Figure 2 Catalan export destinations. Countries are filled with respect to absolute value of Catalan export. Countries filled with grey colour were not available in the dataset



The standard tool to model trade flows is the gravity model of international trade that was first used by Tinbergen (1962). The model mimics gravitational interaction as described in Isaac Newton's law of gravity. Masses of objects (in the physical point of view) are replaced by economic masses of each country (typically the GDPs) and the distance is measured as the distance between the two economies. The basic gravity model takes the form of

$$F_{i,j} = \beta_0 \frac{Y_i^{\beta_1} Y_j^{\beta_2}}{D_{i,j}^{\beta_3}} \epsilon_{i,j} \quad (1)$$

where $F_{i,j}$ denotes trade flow between country i and j, Y_i and Y_j represent GDPs, $D_{i,j}$ is the distance between the two countries, $\epsilon_{i,j}$ is an error term with expected value equal to 1, and β_0, β_1, β_2 and β_3 are unknown parameters. The β_1, β_2 and β_3 correspond to the elasticity of trade flow to size of an economy and distance, respectively.

Since the basic form of the gravity model is not linear, both sides of the equation are transformed into logarithmic form. The *log-log* form is the following

$$\ln F_{i,j} = \ln \beta_0 + \beta_1 \ln Y_i + \beta_2 \ln Y_j + \beta_3 \ln D_{i,j} + \ln \epsilon_{i,j} \quad (2)$$

This equation can be estimated using ordinary least squares (OLS). However, the disadvantage of this specification is that it may lead to problems of endogeneity due to the correlation between explanatory variables and error members or endogeneity due to the omission of a significant variable. In consequence, the OLS method is not appropriate (Egger 2004; Santos Silva and Tenreyro 2006; Baier and Bergstrand 2009a; Bubáková 2013).

Moreover, although the zero trade flows in our sample are relatively low (2.55 %), their presence (regardless of whether they result from measurement errors, rounding or actual absence of trade), makes the OLS estimator inconsistent. To deal with this inconvenience, we follow Santos Silva and Tenreyro (2006), who propose to use the Poisson pseudo-maximum likelihood (PPML) estimator. PPML works with a non-logarithmic form of the gravity equation and consequently is suitable for estimating datasets containing missing flows. The only demand

on the model is the proper identification of regressors. If this requirement is met, then estimates are consistent.

Another advantage is that it does not require a Poisson distribution and with correctly specified regressors it allows for regressions with continuous dependent variables. It is also a solution to the heteroscedasticity problem caused by the log-linear form of the model (UNCTAD/WTO 2012). According to existing literature, the PPML is the best estimator of gravity equation, especially when the dataset contains missing trade flows (Babecká Kucharčuková et al. 2012; UNCTAD/WTO 2012; Glick and Rose 2015; Fally 2015).

The Santos and Silva Tenreyro's (2006) multiplicative form of the basic model is as follows:

$$F_{i,j} = \exp\left[\ln \beta_0 + \beta_1 \ln Y_i + \beta_2 \ln Y_j + \beta_3 \ln D_{i,j}\right] + \epsilon_{i,j} \quad (3)$$

We estimated two model specifications in order to determine whether any border effect in Catalan exports can be observed. This means whether, after controlling for the other effects, the region trades more with other Spanish regions than with the rest of the countries.

The dependent variable expresses the volume of exports from Catalonia to the corresponding trading partner. The basic model contains only logarithms of GDP and distance and a dummy variable accounting for the border effect. The augmented version of the gravity equation also includes additional characteristics such as contiguity, common currency, language, access to the sea, and membership in the ESM.

We expect the volume of trade to be positively influenced by the size of the demand by the trading partner. We cover this influence by including the gross domestic product variable in the equation ($\ln\_GDP_i^t$). The GDP in 2011 constant international dollars was retrieved from the World Development Indicators provided by the World Bank (2018). We opted for the purchasing power parity (PPP) values, as they better reflect the demand power of a given country than non-parity values. In order to calculate the GDP of the rest of Spain, we used data offered by the World Bank (2008) and subtracted from them the percentage share of Catalonia on the total Spanish GDP in a given year, as provided by the Spanish National Statistical Office (INE 2018).

According to the previous literature that uses gravity models of international trade, we believe that exports positively depend on the GDP of the trading partner. Despite the fact, that larger markets can generally better satisfy home demand, a larger importer's market should be able to absorb more imports. The second effect should prevail, and the GDP's parameter estimates should be positive (Bubáková 2013). Although the product of one country is a function of its net exports, we follow Frankel (1997), who states that endogeneity causes only minor changes in results and it is therefore ignored in most cases.

Another basic term included in the gravity models of trade reflects the distance between the pair of trading partners. For this reason, we include the variable $\ln\_Distance_i$, which is expected to have a negative effect on the bilateral trade of Catalonia, because the longer the distance, the higher the transportation costs. There is no consensus among existing literature about how the distance between two countries should be measured. We use the data from the geobytes.com site[7], based on a great circle approach, which approximates the distance from Barcelona to the capitals of all trading partners included.

[7] In few cases we had to use the GeoDataSource, because the geobytes.com did not contain the corresponding information.

The BE_i variable only accounts for Spain and hence is 0 for the rest of Catalonian trading partners. It refers to the mentioned border effect. We suppose the parameter to be positive, which means that Catalonia should trade proportionately more with the rest of Spain than with third countries. This may be because both trading partners belong to the same country, share a history, culture and legal system, as well as the absence of a physical border between them.

In the augmented version we also control for other geographical characteristics of the partners in order to approximate the transaction costs as accurately as possible. The first is a dummy variable Sea_i, which is 1 for countries with access to the sea and 0 otherwise. The possible use of sea transport should have a positive influence on trade, as transaction costs are lower for countries with access to the sea and vice versa for landlocked nations (e.g. Grančay et al. 2015; Glick and Rose 2015).

The last variable accounting for specific geographic attributes of the importer is $Contiguity_i$ which is 1 for countries that share a land border and 0 for those that do not. According to the existing literature (e.g. Bubáková 2013), Catalonia is expected to trade more with adjacent countries, in this case France, than with other partners.

Additional dummy variables that refer to economic and political characteristics of the region's trading partners have also been included. Following several studies (such as Fidrmuc and Fidrmuc 2003; Egger 2004, 2005; Baier and Bergstrand 2009b; Grančay et al. 2015; Glick and 2015), we introduce the dummy FTA_i^t, which is supposed to have a positive effect on trade between the ESM member states. It takes the value of 1 if the country is part of the ESM and 0 if it is not.[8]

The volume of the region's exports is also expected to be influenced by the $Currency_i^t$ variable. Glick and Rose (2015), in reviewing their well-known article from 2002, conclude that, *ceteris paribus*, a currency union increases trade volumes by 2.5 times. On the other hand, the authors also point out that the European Monetary Union (EMU) has a much smaller positive impact on trade creation than other monetary unions. The authors use a range of alternative estimates that predict different results, which significantly undermines their ability to accurately estimate the impact of paying with the same currency on trade. This leads them to conclude that it is beyond their power to arrive at a precise conclusion on the effect of the single currency on trade volumes--even though it has become a common practice to control for this influence.

The term $Language_i$ is 1 for those countries were the official language is Spanish and 0 otherwise. For this purpose, we use the CEPII database provided by Mayer and Zignago (2011). Egger and Lassmann (2012) in their meta-analysis conclude that common language has a direct and positive impact on the two countries' mutual exchange, which increases by 44 %. They also highlight the growing importance of this parameter over time. Fidrmuc and Fidrmuc (2016) show, that this effect is not restricted to official tongues. The ability to communicate in the same language considerably facilitates trade.

We have included time dummies γ_t in order to control for all events which are specific to the year t that could affect the international trade. β_0 is an intercept and ε_i^t is the error term.

V. Results and discussion

Table 2 offers the estimations of both specifications. The basic form included on the right side of the equation denotes only GDP, distance and BE variables. Parameter estimates of both GDP and Distance are highly statistically significant and close to unity in accordance with the

[8] Nevertheless, according to the World Bank (2005), the parameter estimates of FTA can also be negative. The FTA estimate depends on the design and implementation of a given free trade agreement.

available literature. This model predicts on 5% level of significance a border effect of 11.31 ($e^{2.426}$), which closely matches the results of the literature reviewed above.

In the next step, we included several explanatory variables in the model. GDP and distance also continue in line with our expectations in the augmented version of the gravity equation. GDP clearly positively affects the exports of Catalonia. The larger the GDP of the importer, the larger the demand for Catalan exports. Also the parameter estimate of the distance between Barcelona and the capital of the corresponding trading partner has the expected sign reflecting that the larger the distance between both countries, the higher the transaction costs.

Table 2: Results of the basic and augmented Poisson estimations.

Variable	Basic Model	Augmented Model
Intercept	3.522** (1.519)	4.887*** (1.406)
Distance (log)	-0.900*** (0.093)	-1.070*** (0.099)
GDP (log)	0.954*** (0.038)	0.907*** (0.030)
Border Effect	2.426** (1.002)	0.438 (1.211)
FTA		0.703* (0.361)
Currency		0.067 (0.571)
Language		1.307*** (0.214)
Access to the Sea		1.048*** (0.167)
Contiguity		-0.127 (0.859)
Time fixed effects	Yes	Yes

*Notes: Estimated in R Software Version 3.3. Standard errors are in parenthesis below parameter estimates. *, **, and *** denotes statistical significance at the level 10, 5, and 1 % respectively.*

Similarly to the majority of previous studies, the model predicts the positive effect of ESM membership, although it is only significant on a 10% level. According to these results, Catalonia trades 2.01 times more with countries that can participate in the ESM, than with third countries. The parameter estimate of currency union was not statistically significant and the same holds for the dummy that controls for contiguity.

Regarding our main variable of interest, the BE estimates resulted as statistically insignificant, which can be interpreted in such a way that in the basic specification this variable also captured other effects that were not included in the model. On the contrary, two of the additionally added variables, Language and Sea, were highly statistically significant. Our multiple variables model thus points to the fact that the BE term often captures other effects that the available literature misses

For example, Lanaspa Santolaria et al. (2015) include the coast variable, which corresponds to our sea variable, but the authors do not include language. Neither do Gil-Pareja et al. (2005) nor Ghemawat et al. (2010), who control for the island states. Llano Verduras et al. (2011) do not include any of them. Therefore, none of these studies account for the language effect.

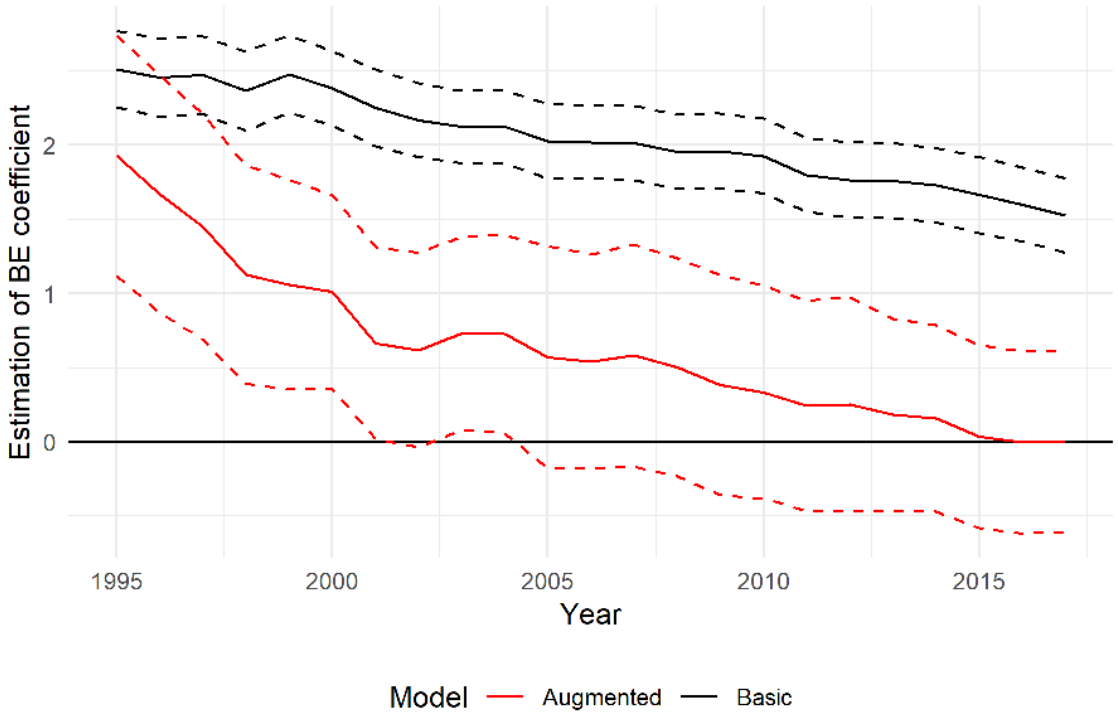
Nevertheless, our estimates show that, after controlling for the other variables, Catalonia trades significantly more with Spanish-speaking countries than with those with other official languages. The model shows that Spanish-speaking countries absorb, *ceteris paribus*, 3.7 times more Catalan exports that countries with other official tongues.

Moreover, part of the discrepancy may also be a consequence of the fact that some of the studies reviewed contain only data concerning OECD countries, including in their samples, apart from Spain, only one Spanish speaking member–Mexico. Moreover, the period studied by these authors covered either the 90's or the initial years of the 21st century. Given that the share of the rest of Spain on Catalan exports continuously diminished, the significance of the border effect also logically decreased.

Therefore, widening the dataset adds value to the analysis. The same occurs with the Sea variable. Whereas many previous studies failed to include this variable, our estimation shows that Catalan foreign exports are positively associated with the use of sea ports. Its parameter estimate is highly statistically significant reflecting the fact that using sea transport lowers the transaction costs of trade.

Figure 3 shows the difference in BE parameter estimates between the basic and the augmented model, as well as the evolution of the border effect over time. It shows that, after controlling for the other variables, the model predicted zero border effect for the final two years of the period reviewed. Therefore, it seems that nowadays there is no significant bias towards the Spanish economy.

Figure 3 The evolution of the border effect over time.



VI. Conclusion

The last unofficial referendum on independence in Catalonia expressed the will of a great part of the inhabitants of the region to secede from Spain. The reluctance of the Spanish central government to discuss any topic on the subject does not mean that the situation may calm down soon. The political discourse of both supporters and opponents for independence is very often based on the importance of Catalonia's trade links to the rest of Spain, as well as on future membership of the region in the European Union.

Previous literature on this topic highlighted the bias of Catalan trade towards Spain, confirming McCallum's border effect. Nevertheless, the econometric analysis provided in this paper shows that this effect is a result of the under-defined model specifications presented by those scholars.

In our basic model specification Catalonia exports, all things equal, on average 11.6 times more to the rest of Spain than to other countries. Notwithstanding, the augmented model predicts no significant border effect in the exports of the region. Especially important are sharing the same language and access to the sea.

Controlling for these variables, the border effect decreases significantly. Moreover, after controlling for the other variables, the model predicted zero border effect for the last two years of the period reviewed. This means that nowadays there is no significant bias towards the Spanish economy.

Therefore, we can conclude that Catalonia is less dependent on trade with the rest of Spain that is commonly believed. This finding is extremely relevant given the role of a border effect argument in the debate on secession. Preserving the Spanish language in case the region becomes independent also seems to be crucial because the official language in Catalonia is also one of the pillars of the separatist discourse in the region. Indeed, this factor appears to be definitely more important than staying in the Eurozone, as the parameter of the currency variable showed as insignificant.

Another important argument of both sides of the conflict is the future membership of Catalonia in the ESM, as that status is far from clear. The Poisson model predicts that, all things equal, Catalonia trades more with countries with free access to the ESM than with the rest of the world. Therefore, it is certainly not surprising that Catalonia, in the case of independence, should strive at least to maintain its duty-free trade status within Europe.

However, given the fact that the data offered by the Spanish Ministry of commerce, industry and competitiveness does not include flows of services, there is still space for more accurate estimates, as trade with services accounts for a considerable part of world trade.

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CODE OF ETHICS ANALYSIS OF CZECH COMPANIES TO ADDRESS CSR AND SDGS

Martin Černek[1], Radka MacGregor Pelikánová[2]

Abstract

Codes of ethics are documents that regulate general and specific rules of activities in individual organizations and professions. These are also documents, that are part of the organization's communication with the public and the PR tool. Also, some organizations, associations or companies may create a code for their employees, either binding or voluntary. There is a general recommended content of codes of ethics, which should currently correspond to the overall mission, vision, and mission of the organization, as well as to the generally accepted goals of corporate social responsibility and the goals of sustainable development. In this context, there is the 2030 Agenda with 17 Sustainable Development Goals, which are fundamental policies recognized at international, regional, national, and individual levels. Organizations have no legal obligation to adhere to the goals of sustainable development, to participate in the involvement of stakeholders. The adoption of internationally set goals for sustainable development is the result of the exercise of their freedom of will, moral values and ethical obligations reflected in the codes of ethics that organizations publicly present. The analysis of the codes of ethics of the largest Czech companies is an effort to understand, appreciate and assess the content of these codes and to extract their attitudes towards CSR and SDGs. Qualitative and quantitative meta-analysis revealed a fundamental shortcoming, confusion, and unsuitability of a systematic conceptual approach to the content of individual codes of ethics. This, of course, cripples the aspirations of these codes as tools to address CSR and achieve SDGs.

Keywords

Code of Ethics, Corporate Social Responsibility, Sustainable Development Goals, Delphi Method

I. Introduction

Codes of ethics are still among the most important and most used tools of ethical management of companies, enterprises, and organizations in general. The area of codes of ethics is a discussed topic in the Czech Republic, but it is still insufficiently developed. Not many entrepreneurs are aware of the benefits of ethical business conduct. For many entrepreneurs, the priority is economic results, which are often achieved at the expense of business ethics. An ethical document does not guarantee the organization ethical behavior, it only serves as a model, a guide in the application of ethical behavior in business practice and in decision-making in controversial situations. Thanks to the ethical program, they can gain the necessary competitive advantage, the trust of customers, but also suppliers, and also improve the relationship of employees to the company (stakeholders).

In reality, however, the creation of a code of ethics is a process with certain clearly defined steps that are important to follow. Thanks to them, we obtain a document that reflects the real needs of the organization and ultimately becomes an effective tool for managing the organization and solving ethical issues that may arise in the company. When defining the

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content of codes of ethics, it is possible to rely on the characteristics according to Remišová (1998), who states that through codes of ethics an institution, company or other group of people informs its members and the environment that ethics has become a necessary part of its activities. Friedel (2003) states that the code of ethics is a tool that helps to ensure that the day-to-day activities of the company and the actions of all its employees (members) comply with the established principles. It is a set of specific rules that are based on the values and principles of the organization and define the standard of professional conduct. The provisions of the Code of Ethics serve to promote ethical behavior and decision-making and thus help to improve the overall environment within the company, and thus the entire business environment. Although the code of ethics is not legally valid, its violation may lead to certain sanctions. For employees, this can be reflected, for example, in their personal evaluation, or it can bring companies negative publicity or exclusion from the professional association.

The structure and content of the codes of ethics of individual companies obviously differ. These deviations in content are caused mainly by differences mainly in traditions, in the moral maturity of management and employees, but also in the activities or size of the company. The Code of Ethics is considered to be a relatively extensive document, which usually contains, defining in particular the following parts (Putnová, Seknička, 2007): *preamble, customer relations, relations with shareholders and other investors, relations with employees, relations with suppliers, relations with competitors, relations with the government and local authorities*. Bláha, Černek (2015) emphasize the importance of the preamble, which should not be missing in any code of ethics. The preamble emphasizes the need for a code of ethics for organizations, expected standards of conduct, rules for using the code of ethics in decision-making, and the validity of the code of ethics. Although the codes of ethics of individual companies differ, they are mostly the same. The content and semantic validity of the code of ethics should correspond to the current development of the organization and the external situation of the society as a whole. The extended content of the thematic areas of the code of ethics, which can be generally applied in business management, basically includes the following moments: *respect for the law, safety and quality of production, health and safety at work, conflicts of interest, recruitment procedures, relations with suppliers, protection environment, corruption, political activities, information about property, corporate espionage, use of inside information, concluding contracts, obtaining and using information about others, protection of company interests*.

Codes are multifunctional and may be more general and abstract (codes of ethics), or more specific and practical in detail (codes of conduct), but are always associated with social commitment, response or prevention of events that are not fully covered by law and have a strong impact on all stakeholders expecting specific compliance by the company (Hoover, Pepper, 2015; Adelstein, Clegg, 2016). Sustainability, CSR and codes are increasingly seen as guidelines for creating a future world that balances economic, environmental and social factors in a fair and sustainable way (Zikic, 2018) in the context of a highly competitive knowledge economy (Dima et al, 2018). CSR e-reporting is a hallmark of the current relationship and interaction of a wide range of stakeholders in the internal single market (Piekarczyk, 2016), which is only partially covered by binding, expressed and explicit legal norms (MacGregor Pelikánová, 2018b; Bansal, Song, 2017) . The values and interests of stakeholders are promoted as a guiding principle by company executives and other internal and external stakeholders. The scientific community still has low knowledge of the processing of these values and the mechanisms of their final projection into reports and CSR codes (Washburn et al, 2018).

The first purpose is to understand, appreciate and assess the nature of these codes of ethics in the context of relevant international, regional, and national legal systems, in particular the codes of the largest Czech companies. The second purpose is to extend the case study of these codes, to analyze them from different perspectives and to extract their attitudes towards the sustainable

development goals as directed by the CSR categories, including the interaction of 17 sustainable development goals with the 6 main CSR categories.

II. Current state of CSR, SDGs rules and policies

The UN 2030 Agenda set out 17 Sustainable Development Goals (SDGs), based on five aspiration action plans for people, the planet, prosperity, peace, and partnership. These are basic policies that are a recognized platform at the international, regional, national, and individual levels. This agenda has been quickly recognized by the EU, and so this soft instrument of international law influences EU law and the national laws of EU Member States, such as sustainability concerns reflected in corporate social responsibility (CSR) rules on non-financial corporate statements. For decades, CSR has been widely perceived as an essential part of an ethical approach to business activities, not only by large international corporations, but also as part of small and medium-sized enterprises (Alm, Torgler 2011; Abend, 2013; Sheehy, 2015). Sustainability and CSR are understood dramatically heterogeneously (waste) as a source of competitive advantage, as a basic commitment and prerequisite for (not only economically) successful operation (Girard, Sobczak, 2012; Rodriguez-Fernandez, 2016; MacGregor Pelikánová, MacGregor, 2019).

However, due to the division of competences and the doctrine of the institutions, there is neither international law nor EU law forcing EU Member States to include binding provisions on SDGs in their national laws. Most EU member states, including the Czech Republic, have neither the obligations of SDGs nor the obligation to issue a code of ethics or code of conduct (codes) in their national laws. European businesses therefore have no legal obligation to adhere to the Sustainable Development Goals, to participate in multi-stakeholder involvement and related partnerships (Schaltegger et al, 2018). The interaction between law and trade, more specifically the interaction of legal, moral, and social obligations regarding business behavior, is full of contradictions (Vivant, 2016). Since the 1970s, these contradictions have led to the realization that there is a conflict between the commitment to support globalized economic growth and the issue of the growing needs of the world's population, along with the deteriorating ecological situation (Meadows, 1972). The leading institution recognizing this was the United Nations, which considered reflections on how to achieve global prosperity without deteriorating the world's environment, both in developed and developing countries (MacGregor Pelikánová, 2019a). This gave rise to the concept of sustainability, based on environmental, social, and economic pillars, and aimed at matching available resources as the world's growing population emerged (Meadows et al., 1972).

During the UN Summit in September 2015, world leaders adopted a resolution called Transforming Our World: Agenda for Sustainable Development 2030 (Agenda 2030) with its 17 sustainable goals for sustainable development and 169 related goals. In January 2016, these sustainable development goals became universally applicable to mobilize efforts and stimulate action on them for the next 15 years, i.e. by 2030. Because the sustainable development goals are the result of international law and are not enforceable per se (MacGregor Pelikánová, 2018a), it is up to the states whether they embody them in their legal systems or not (MacGregor Pelikánová, 2018a). So far, states have demonstrated different approaches to sustainability and have appropriately "delegated" certain tasks and responsibilities to stakeholders, including businesses (MacGregor Pelikánová, 2019a).

However, it should be noted that the implementation of CSR and the use of codes of ethics is not mandatory (MacGregor Pelikánová, 2019a) and that it will be freely accepted by national, especially private, entities that gradually recognize its benefits. First, there is EU legislation addressing other issues that have an impact on CSR reporting and codes, see the Unfair Commercial Practices Directive of 2005. Second, EU law, and often national law, aimed to

establish legal obligations for companies in terms of their transparent CSR, ie some private law entities have to accept and report on CSR. Formal and publication requirements lead to BRIS, while content requirements such as Czech companies mean a combination of the requirements of Directive 2013/34 and the 1991 Act. (Pelikánová, 2019c):

1. environment protection
2. employee matters
3. social matters and community concerns
4. respect for human rights
5. anti-corruption and bribery matters
6. R&D activities.

These six categories of CSR naturally reflect the sustainability structure of the three pillars and the sustainable development goals, and therefore, based on previous studies (Ting et al, 2019), together with the Dow Jones World Sustainability Index, a preliminary comparison table can be structured as below (Table 1).

Table 1 The comparative table of SDGs and 6 CSR categories (key word)

CSR 1 (Environm)	CSR 2 (Employee)	CSR 3 (Social)	CSR 4 (Human Rights)	CSR 5 (Rule of law)	CSR 6 (R&D)
SDG 6 (water)	SDG 8 (growth)	SDG 1 (poverty)	SDG 4 (inclusion)	SDG 11 (safety)	SDG 7 (energy)
SDG 13 (climate)	SDG 12 (consumption/production)	SDG 2 (hunger/food)	SDG 5 (discrimination)	SDG 16 CSR (peace)	SDG 9 (innovation)
SDG 14 (sea)		SDG 3 (health)	SDG 10 (equality)	SDG 17 (partnership)	
SDG 15 (ecosystem)					

Source: Prepared by the Authors based on EurLex and Agenda 2030.

III. Materials, Data and Methods

The materials and methods used are directly determined by the two interrelated purposes of this article. The first purpose is to understand, appreciate and assess the nature of the codes of the largest Czech companies. The second purpose is to extend the case study of these codes, to analyze them from different perspectives and to extract their attitude towards sustainable development goals as guided by CSR categories, including the interaction of 17 sustainable development goals against the 6 main CSR categories. This requires the creation of a theoretical basis and case studies of these codes, in particular their internal and external descriptive analysis, using quantitative content methods focused on automatic keyword frequency and qualitative content methods using the manual Delphi approach.

Data are obtained by multidisciplinary and multicultural survey of primary and secondary data. The studied materials include legislative documents accessible from the EurLex database, academic files accessible from the WoS and Scopus databases, codes of these companies published on their Internet domains. The interdisciplinary and multi-jurisdictional nature of the survey requires holistic processing using meta-analysis (Silverman, 2013). The interplay of economic, legal, and technical aspects forms the focus, focusing on qualitative and quantitative data and includes deductive and inductive aspects of legal thinking (Matejka, 2013).

Quantitative research and data are therefore complemented by qualitative research. This holistic and comparative processing through critical meta-analysis is an indicator of a trend (Cerchia, Piccolo, 2019). It is suggested that both company size and financial performance affect CSR and CSR reporting much more than its affiliation to a particular type of industry (Arminen et al, 2018). The analysis needs to be performed through dynamic and comparative research with respect to the types of information on CSR (R&D) leading to innovation (Dima et al, 2018; Pohulak-Żoledowska, 2016), environmental protection, employment issues and others.

In particular, the research and processing of these data from codes is performed using textual content analysis (Kuckartz, 2014), which allows replicable and valid conclusions about texts and is considered an established research method with regard to business ethics and CSR issues (MacGregor Pelikánová, 2019b). Qualitative content analysis using the simplified Delphi method (MacGregor Pelikánová, 2019a) involves manual sorting of data from these four codes by three experts focusing on four ethical principles and six categories of CSR and using (+) or (++) or (+++) and quotes. Quantitative content analysis is performed by automatically scanning the number of pages and frequency of keywords and refocusing on four ethical principles. These four ethical principles stem from the metaphysics of morality (Kant, 1785) adapted to our time (Taylor, 2018) and reflect the fact that the CRS integrates into all activities and policy areas, in particular:

- the principle of personality to enhance autonomy and authenticity of the individuals;
- the principle of solidarity which requires being and working together;
- the principle of subsidiarity against unreasonably distant decision-making leadership;
- the principle of the environmental protection to respect the world.

The selected sample includes the 20 largest Czech companies that have their codes of ethics available online and in English. The "largest" criterion reflects the total annual income in 2019. All these companies have more than 500 employees and store their annual reports in the Czech Commercial Register. The list below (Table 2) lists their name, identification number and industry.

Table 2 Case study – the largest Czech business with Codes based on Revenue – identification

	Business	ID	Industry	Revenue in bil. CZK
1.	Škoda Auto, a.s.	00177041	automobiles	416
2.	ČEZ, a.s.	45274649	electricity	185
3.	Agrofert, a.s.	61672190	agricultural	160
4.	Energetický a Průmyslový Holding, a.s. (EPH)	28356250	energy	160
5.	UNIPETROL, a.s.	61672190	chemicals	130
6.	RWE Supply & Trading CZ a.s	26460815	oil and gas	104
7.	Foxconn Technology CZ, s.r.o.	27516032	electronics	104
8.	Continental Automotive CZ s.r.o.	62024922	automobiles	57
9.	Kaufland Česká Republika, v.o.s.	25110161	grocery	57
10.	Albert Česká repulika, s.r.o. (Ahold)	44012373	grocery	49
11.	ČEPRO, a.s.,	60193531	oil and gas	48
12.	Finitrading a.s. (Třinecké želez.)	61974692	iron, finance	47
13.	MOL Česká republika, s.r.o.	49450301	gas	50

14.	E.ON Česká republika, s.r.o.	25733591	energy	45
15	O2 Czech Republic a.s.	60193336	telecom.	38
16.	České Dráhy, a.s.	70994226	railways	35
17.	Metrostav a.s.	00014915	building	35
18.	VEOLIA ČESKÁ REPUBLIKA, a.s.	49241214	water supply	27
19.	T-Mobile Czech Republic a.s.	64949681	telecom.	14
20.	Skanska, a.s.	26271303	building	14

Source: Prepared by the Authors based on justice.cz

Regarding the second purpose, this article relies mainly on further expanding and exploring this pioneering Czech case study, which includes a description and a deeper understanding of whether and how the codes address the six main sustainable development goals and 17 sustainable development goals. The quantitative aspect was solved by calculating the total number of pages and keywords, ie how many pages the entire Code lasted and how many times the keyword was listed for each CSR or SDGs category. The keywords used reflect the designation and content of each CSR and SDG category and are listed in parentheses in Table 3. The need to respect these keywords was behind the requirement to include only large companies with English codes available.

IV. Results

The case study shows that Czech companies (at least large companies) are at least partially interested in correctness and fairness either of their own free will or from public pressure. But what kind of morality and ethical commitment is expressed? Is it guided by four ethical principles: personality, solidarity, subsidiarity, and environmental protection? (Table 3).

Table 3 Case study – Adherence of Codes to 4 ethical principles (0 no, + weak, ++ medium, +++ strong)

	Business	Personal. (trusting)	Solidarity (sharing)	Subsidiarity (participati)	Environm.
1.	Škoda Auto, a.s.	+	+++	0	+++
2.	ČEZ, a.s.	++	++	++	++
3.	Agrofert, a.s.	0	++	0	++
4.	Energetický a Průmyslový Holding, a.s. (EPH)	+++	++	+++	+++
5.	UNIPETROL, a.s.	++	++	++	++
6.	RWE Supply & Trading CZ a.s	++	++	++	++
7.	Foxconn Technology CZ, s.r.o.	+++	++	+++	+
8.	Continental Automotive CZ s.r.o.	0	++	0	+
9.	Kaufland Česká Republika, v.o.s.	+	+	+	+
10.	Albert Česká repulika, s.r.o. (Ahold)	+	+	+	+
11.	ČEPRO, a.s.,	++	++	+	++
12.	Finitrading a.s. (Třinecké želez.)	++	++	+++	++
13.	MOL Česká republika, s.r.o.	+	++	+	++
14.	E.ON Česká republika, s.r.o.	++	++	++	++
15	O2 Czech Republic a.s.	++	++	+++	++
16.	České Dráhy, a.s.	+	+	+	+
17.	Metrostav a.s.	+	+	+	+

18.	VEOLIA ČESKÁ REPUBLIKA, a.s.	+++	++	++	+++
19.	T-Mobile Czech Republic a.s.	++	+	+	+
20.	Skanska, a.s.	++	++	++	++

Source: Prepared by the Authors based on Codes obtain from Websites on Domains of businesses.

The principle of personality to strengthen the independence and authenticity of individuals means to respect individuals and their private lives, to promote trust, to value responsible people with social awareness. According to the principle of personality, man is neither a means nor a means to achieve a goal; instead, every action must lead to respecting the autonomy and authenticity of the person (Kant, 1785; Taylor 2018). The principle of personality requires trust and respect, as in the case of EPH or Foxconn, while other codes show significant shortcomings in this respect, such as Škoda or Agrofert.

The principle of subsidiarity against unduly distant decision-making allows for a diversity of business models and promotes the sharing of expertise and skills, encourages stakeholder dialogue with final internal decision-making bodies. The principle of subsidiarity means participation, even in the decision-making process. There are significant differences between the codes, some show real closeness and active involvement in policies by all stakeholders, including lower employees, see EPH, while others indicate real distance from power and avoidance of lower employees in policy making and implementation, see very hierarchical approach of companies Škoda or Agrofert.

In short, with regard to these four principles, three groups of codes have emerged: Highly encompassing all four principles (EPH, Foxconn, EON, O2, Veolia), weakly encompassing all four principles (Albert, Czech Railways, Metrostav) Codes failing with respect to the principle of personality and the principle of subsidiarity, but as for the other two principles (Škoda, Agrofert), it is going really well. It is positive that some codes deal with the UN International Compact on Human Rights and the OECD Guidelines for Multinational Enterprises (RWE, Veolia, partly Kaufland). It is worrying that the 3rd group includes absolutely top Czech companies such as Škoda and Agrofert, ie these top companies show a crippled multi-stakeholder approach, strong hierarchy rigidity, reduced human capital appreciation and active involvement, and a general lack of sustainability partnerships.

Codes of ethics of top Czech companies vary in name and size, but all include four discussed ethical principles (see above), 6 categories of CSR and partly even SDG (Table 4). It is very instructive to compare their size (number of pages) and the quantitative aspects of the CSR categories (keyword frequency: *employee, environment, social rights, human rights, anti-corruption, bribery and R&D*) as well as the qualitative aspects of the CSR categories (+ to +++ in terms of the intensity, specificity and authenticity of these CSR categories). In addition to these dry data, it is worth noting that some codes provide a positive incentive for CSR partnerships and the involvement of various stakeholders, see the ČEPRO reward system to prevent criminal behavior, or behavior with a negative impact on sustainability and CSR.

Table 4 Case study – Codes and their adherence to selected 6 CSR categories (number of words/quality)

	Business	#pp	Empl.	Envir.	Social	HR	Anti-Cor	R&D
1.	Škoda Auto, a.s.	40	51/++	15/+	6/+	10/++	7/++	1/+
2.	ČEZ, a.s.	11	18/++	6/+	2/+	1/+	3/++	1/+
3.	Agrofert, a.s.	5	54/++	7/+	4/+	0/0	2/++	1/+
4.	Energetický a Průmyslový Holding, a.s.	112	98/+++	103/+++	2/+	3/+	56/++	3/++
5.	UNIPETROL, a.s.	14	45/+++	24/+++	3/+	0/0	0/0	0/0

6.	RWE Supply & Trading CZ a.s	8	25/++	8/+	6/+	4/+	6/++	0/0
7.	Foxconn Technology CZ, s.r.o.	12	24/++	12/++	3/++	3/++	3/++	2/+
8.	Continental Automotive CZ s.r.o.	13	29/+++	12/++	2/+	6/++	1/+	0/0
9.	Kaufland Česká Republika, v.o.s.	4	31/++	7/+	4/+	2/+	2/+	0/0
10.	Albert Česká repulika, s.r.o. (Ahold)	14	10/++	9/++	0/0	4/+	3/+	0/0
11.	ČEPRO, a.s.,	24	68/+++	17/+++	1/+	0/0	0/0	0/0
12.	Finitrading a.s.	6	12/++	11/++	1/+	0/0	2/+	0/0
13.	MOL Česká republika, s.r.o.	30	61/+++	37/+++	2/++	37/++	16/+++	2/+
14.	E.ON Česká republika, s.r.o.	36	31/++	16/++	1/0	5/++	9/++	0/0
15	O2 Czech Republic a.s.	7	10/++	3/+	1/0	1/+	1/+	0/0
16.	České Dráhy, a.s.	6	10/++	9/++	3/+	0/0	4/++	0/0
17.	Metrostav a.s.	2	4/++	2/++	2/+	0/0	1/+	0/0
18.	VEOLIA ČESKÁ REPUBLIKA, a.s.	20	53/+++	18/++	8/++	2/+	8/++	1/+
19.	T-Mobile Czech Republic a.s.	6	18/++	9/++	1/+	4/+	1/+	0/0
20.	Skanska, a.s.	8	15/++	12/++	0/0	3/+	6/+	0/0

Source: Prepared by the Authors based on Codes obtain from Websites on Domains of businesses.

The analyzed codes differ dramatically in approach to SDGs and oscillate between express links, implied links, no links, or even against SDGs. Therefore, it is very instructive to compare how they approach the goals of sustainable development, which are conveniently grouped into 6 groups. Quantitative aspects are presented (frequency of key pairs in general: sustainability, partnership, water and climate for SDGs 6,13,14,15, etc.), as well as qualitative aspects of evaluation (Table 5. In order to avoid the risk of misleading overlaps, this The wording for each category differs from the keywords used for the 6 categories of CSR EPH data should also be understood with the reservation that it is not just a code of ethics, but also a sustainability report.

Table 5 Case study – Codes and their adherence 16 SDGs (number of words/quality)

	Business	SDG (key word)	SDG – 6 groups (key word)					
		(sustainabilit, partnership)	6,13, 14,15 (water, climat)	8,12 (growth, product)	1,2,3 (poverty hunger)	4,5,10 (inclusion discrimination)	11,16,17 (safety, peace)	7,9 (energy, innovation
1.	Škoda ….	8/+	0/0	6/+	0/0	5/+	9/+	2/+
2.	ČEZ….	0/0	0/0	1/+	0/0	3/+	1/+	1/+
3.	Agrofert	0/0	0/0	1/+	0/0	2/+	4/+	1/+
4.	EPH	152/++	95/++	80/++	0/0	3/+	35/++	174/++
5.	UNIPET...	3/+	0/0	4/+	0/0	2/+	9/++	2/+
6.	RWE	2/+	0/0	0/0	0/0	1/+	4/++	1/+
7.	Foxconn	0/0	0/0	2/+	0/0	3/+	1/+	1/+
8.	Contin…	1/+	4/+	8/+	0/0	4/+	11/++	4/++
9.	Kaufland	0/0	1/+	1/+	0/0	2/+	7/++	0/0
10.	Albert	2/+	0/0	1/+	0/0	5/+	13/++	1/+
11.	ČEPRO	2/+	0/0	0/0	0/0	5/+	10/++	0/0
12.	Finitr…	0/0	0/0	1/+	0/0	3/+	5/+	1/+

13.	MOL	9/++	1/+	3/+	1/+	9/++	2/+	9/++
14.	E.ON	14/++	0/0	1/+	0/0	1/+	5/+	6/++
15	O2	2/+	0/0	0/0	0/0	1/+	0/0	0/0
16.	ČD	1/+	0/0	0/0	0/0	2/+	2/+	0/0
17.	Metrostav	0/0	0/0	0/0	0/0	1/+	0/0	0/0
18.	VEOLIA	7/++	3/+	0/0	0/0	3/+	6/+	5/++
19.	T-Mobile	1/+	2/+	0/0	0/0	1/+	2/+	1/+
20.	Skanska	2/+	1/+	2/+	0/0	5/++	6/+	2/+

Source: Prepared by the Authors based on own field search and research.

This is a weak result beyond general expectations, ie the codes of the 20 largest Czech companies in general do not mention or consider SDGs in general, and if they approach their content in terms of terminology, the meaning seems completely different. Boldly, these codes do not follow the "*roadmap for a better and more sustainable future for all*", as expressed in UN Agenda 2030. These grim statements need to be distinguished, as the overall lack of interest in SDGs 1-3 is partially offset by a slight interest in SDGs 4, 5, 10 and SDGs 11, 16, 17 and especially SDGs 7, 9. In fact, some companies are even to be commended for their efforts to combat discrimination (SDGs 5, 11) and to support results-oriented research and development (SDG 9). This is the case of Continental, MOL, EON and Veolia, but certainly not the top trios of Škoda, ČEZ, Agrofert.

VI. Conclusion and Discussion

It is known that competitiveness lies not only in basic economic performance and outputs, but also in social, environmental, cultural, and other elements (Dima et al, 2018). Sustainability is a new postmodern scientific discipline, which implies that the main role of sustainability is the systematic and scientific support of issues of social justice, the impact of globalization on the environment and the position of transnational organizations in society (Kourula et al, 2017). Mechanisms, better ways to address social justice and environmental justice are being sought (Van Tulder, 2017). Increased business complexities associated with increased global transformation have led companies to behave responsibly in managing the sustainability agenda (Schaltegger et al, 2018). The 2030 Agenda has brought 17 goals for sustainable development, but there are many different ideological, regional and contextual attitudes and commitments to sustainability. The complexity of this agenda is becoming an increasingly complex problem for other methodological approaches to sustainability (Lu et al, 2015; Van Tulder, Keen, 2018) and is confirmed by a case study of the codes of the largest Czech business.

We suggest that the moral responsibility set out in codes of ethics be more in line with the CSR trends reported, as they vary considerably (MacGregor Pelikánová, 2019a) across industries (MacGregor Pelikánová, 2019d) and at EU and national level (Fura et al 2017) and that conflicts are not only between different stakeholders but even between different sectors (Hahn et al, 2018). There is a debate as to whether moral liability codes should remain outside the scope of legal liability legislation, or should only be subject to disclosure rules, or whether they should be regulated together with CSR and in a more binding way (Bernardová, 2016). As this discussion did not lead to a legislative result, companies remain free and generally decide, like large Czech companies, to show moral responsibility (Sroka, Lőrinczy, 2015) and issue and publish codes that mention or address CSR and SDG to some extent and which they often have perfect form but less perfect content. In this respect, we can observe a parallel with CSR reporting (Čevela, Bílková, 2016; MacGregor Pelikánová, 2018b). The audience for reading these codes is very diverse and expects that a reasonable amount and quality of data will be

provided in a search engine friendly manner (MacGregor Pelikánová, 2019d). Because such an audience includes current or potential clients as well as business partners (Solesvik, Gulbrandsen, 2013), entrepreneurship better meets the concepts and values they expect and prefer (Plank, Teichmann, 2018; Sroka, Lőrinczy, 2015). Interestingly, it seems that the codes of the largest Czech companies are often even more employee and provider oriented, and therefore correspond to new trends in CSR reporting, especially in Central Europe (Bode, Singh, 2018; Chassé, Courrent, 2018; Sroka, Szanto, 2018). In addition, their analysis contributes to the current debate on the urgent need for cross-sectoral partnerships (Van Tulder et al, 2016).

The significance and transparency of the Codes of the largest Czech companies is comparable to Western companies in terms of the number of companies involved. Morality, ethics and responsibility are key concepts in Central and Eastern Europe. In continental Europe, whose Central European countries have always been culturally involved, there was a clear distinction between morality and ethics and between moral and ethical. Today, with the growing influence of Anglo-Saxon and American culture, there is a tendency to use both terms together with more clearly defined semantic content (Brown et al., 2003; Hardy 2014). In the Anglo-Saxon literature, the most commonly used terms are code of ethics, code of conduct or moral principles. In the ethical documents of leading Czech companies, we see the designation of this document as; *code of ethics, moral principles, code of conduct, business principles, code of conduct, corporate values or code*.

Although there are still many managers, entrepreneurs, students and citizens who have doubts about the legitimacy of business ethics, and thus about the very importance of codes, which they consider unrealistic and illusory in a market environment (Somers, 2001; Černek et al., 2014), prevailing the tenor is strongly pro-Code. At the same time, a review of the literature and a case study confirm that these codes continue to follow traditional standards for immediate economic success, normative compliance, internal governance and the urgent impacts of their sector, while global issues are omitted, ie the philosophy of sustainable development goals and CSR. hardly occurs in the codes of the most respected companies (Calderón et al, 2012; Schauster et al, 2018). Progress towards the SDGs is slow, fragmented and highly diversified due to several factors, such as the need to review corporate and individual moral and ethical obligations of companies, including the absence of legal sanctions models and the lack of formal procedures to ensure sustainability. achieved (Persson et al, 2016; Van Tulder, Keen 2018). Multinational enterprises and corporations are considered to play a special role due to their global influence and activities, in which they are confronted with a number of issues, stakeholders and institutional contexts in the home and host country. Their potential to be not only part of the problem, but perhaps part of the solution, is increasingly recognized and has come to the forefront of research into CSR activities and the implications of sustainable development (Kolk, Tulder, 2010). Although incentives to implement sustainability initiatives vary, they usually include competitiveness, legitimacy, and environmental responsibility (Sarkis et al, 2012; Searcy, 2014). The production, consumption and disposal of products have a number of negative environmental and social impacts. These impacts are expected to increase significantly in the coming years, despite the development of the most environmentally friendly means of production (Kozlowski et al, 2018).

Entrepreneurship can be beneficial and desirable if it has sustainable goals such as protecting the ecosystem, combating climate change, reducing environmental degradation and deforestation, improving agricultural practices and the environment, transporting drinking water or maintaining biodiversity (Belz, Binder, 2017 Hockerts et al., 2018). The Sustainability Report appears to be a tool to address stakeholder requirements. The integration of sustainability management mechanisms and links basically seeks to integrate shareholder and

organizational-social relations. Enterprise-wide CSR management is an important step that must never be forgotten when designing effective sustainability reports (Amran, Haniffa, 2011).

Achieving the goals of sustainable development is a criterion leading to a largely sad picture. The codes seem to be much more heterogeneous and are not of interest to most SDGs. Quantitative and qualitative assessments show that there is no single code with a strong commitment to most sustainable development goals, and that most codes are only interested in achieving a few sustainable development goals. The best for SDGs are the codes Unipetrol, MOL and EON, ie Gas and energy companies with strong international connections. As mentioned above, SDGs 1-3 (*poverty, hunger*) are less popular, while SDGs 7, 9 (*energy, innovation*) are covered by almost all codes. This must be confronted with the 6 categories of CSR (R&D), which is completely underestimated by codes. Does this mean that companies want and expect innovation without research, effort, and investment?

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EMISSION EFFICIENCY: DEA APPROACH

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Abstract

In recent decades, increasingly warning signs of the need for an acute solution to air pollution and climate change have shown. One of the factors that would help reduce carbon emissions and mitigate the effects of climate change is energy efficiency. In this paper, we focused on evaluating the impact of energy use and CO_2 emissions on gross domestic product generation. Using the DEA model, the development in the years 1990-2017 for the countries that belong to the largest producers of carbon emissions is evaluated. Special attention is paid to the EU28 countries. The results reveal „greening" of European economies as contrasted with the mixed performance worldwide.

Keywords

Eeconomic Performance, Convergence Trap, V4 Coutries, Global Innovation Index, Data Envelopment Analysis

I. Úvod

Základnou paradigmou ekonomického rozvoja v ostatných desaťročiach sa stáva jeho udržateľnosť. Vidieť snahu dostať do rovnováhy opatrenia na podporu ekonomického rastu s minimalizovaním jeho environmentálnych dôsledkov (zabránenie devastovaniu planéty a klimatickým zmenám) a sociálnych nerovností. Globálne iniciatívy sa snažia o zmenu vnímania ekonomického rastu optikou rastu hrubého domáceho produktu, ako tomu bolo celé desaťročia. Koniec 60. rokov priniesol pesimistické pohľady na ekonomický rast, podporený extenzívnymi industriálnymi procesmi, keď Rímsky klub (Meadow *et al*., 1972) upozornil, že ekonomický rast naráža na svoje environmentálne a sociálne hranice. To vyvolalo rozsiahli diskusiu o ekonomickom raste, ťahanom predovšetkým cez rast spotreby, pričom ničenie životného prostredia bolo vnímané ako nevyhnutný dôsledok rastu (napr. Cobb, Halstead a Rowe, 1995, Baker, 2006, Ayres *et al*., 2007). V súvislosti s ekonomickým rastom sa pozornosť obracia hlavne na jeho kvalitu (Stiglitz *et al.,* 2009; Pillarisetti, van der Bregh, 2008).

V rámci akútnej potreby riešenia environmentálnych dôsledkov ekonomického rastu sa stále viac dostáva do popredia riešenie problému zhoršujúcej sa kvality ovzdušia a klimatických zmien. Iniciatívy orientované na udržateľný rozvoj sa rozšírili o iniciatívy zamerané na zmiernenie a zamedzenie klimatických zmien (napr. Rámcový dohovor OSN o zmene klímy, 1992; Kjótsky protokol, 1997; Rámcový dohovor OSN, 1998; Parížska dohoda o zmene klímy, 2007, Summit o zmene klímy, 2019, Európska Zelená dohoda, 2019). Ich výsledkom by malo byť, že celosvetové čisté emisie oxidu uhličitého spôsobené ľudskou činnosťou sa do roku 2030 znížia približne o 45 percent úrovne roku 2010 a dosiahnu „čistú nulu" okolo roku 2050 (United Nations. 2020).

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II. Posun vo vnímaní klimatických zmien

Významný posun vo vnímaní klimatických zmien priniesla štúdia „Ekonomické aspekty zmeny klímy“ (tzv. Sternova správa, 2006), ktorá identifikovala riziká vyplývajúce z klimatických zmien a následky globálneho otepľovania (topiace sa ľadovce, pokles výnosov úrody, zvýšená hladina mora predstavujúca väčšie ohrozenie ľudí záplavami a pod.). Štúdia zároveň poskytla návod na zmiernenie, prípadne zastavenie negatívnych dôsledkov klimatických zmien (predovšetkým na nevyhnutnosť využívania nízkouhlíkových technológií a zvýšenie ich efektívnosti, zníženie dopytu po tovaroch a službách súvisiacich s vysokými emisiami, zastavenie odlesňovania...) a upozornila na potrebu adaptácie globálnej spoločnosti na nezvratné klimatické zmeny. Štúdia rozpútala diskusiu medzi prívržencami a odporcami pesimistických pohľadov na klimatické zmeny (Nordhaus 2007; Dasgupta 2008; Dasgupta a kol. 2009; Mendelson, 2009 a ďalší).

Popri skúmaní dopadov klimatických zmien v oblasti prírodných a geofyzikálnych javov (Rodell et al., 2009; Velicogna, 2009) sú hodnotené aj ich ekonomické dôsledky. Vo všeobecnosti existuje konsenzus, že na jednej strane emisná náročnosť ekonomického rastu zhoršuje klimatické zmeny a na druhej strane krátkodobé opatrenia, smerujúce k riešeniu klimatických zmien majú silu podviazať dlhodobý ekonomický rast, predovšetkým tým, že znížia prorastový vplyv práce a kapitálu (Wade, Jennings, 2015). Predpokladá sa, že globálne otepľovanie spomalí globálnu aktivitu a jeho vplyv na ekonomický rast bude dlhodobo negatívny (Feyen *et al*, 2020; Wade, Jennings,2015; Kahn *et al*., 2019; Lanzi, Dellink, 2019; Fankhauser. S. Tol, R.S.J.,2005, a mnohí ďalší). Pretrvávajúce zvyšovanie teploty, zmeny v zrážkových modeloch a nestabilnejšie poveternostné udalosti môžu mať dlhodobé makroekonomické účinky (Wade, Jennings, 2015, Feyen et.al, 2020) a nepriaznivý vplyv na produktivitu práce, spomalenie investícií, menovú a finančnú stabilitu a zhoršenie ľudského zdravia a ďalšie (Kahn *et al*., 2019; Rozenberg, Hallegatte, 2015, Wade, Jennings, 2015; Batten *et al.,* 2020; Feyen, E. et.al, 2020). To si vyžiada rozsiahle adaptačné prístupy, tak v zmene štruktúry ekonomiky ako aj hospodársko-politických prístupoch (Ruhl, 2009).

Golub, Toman (2016) upozorňujú, že zavádzanie alternatívnych technológií, ktoré budú znižovať negatívne dopady klimatických zmien, bude spočiatku pôsobiť kontraproduktívne na ekonomický rast, pretože budú menej produktívne ako existujúce technológie a zároveň budú zvyšovať jednorazové fixné náklady a celkové adaptačné náklady spojené s riešením klimatických zmien. Potrebné investície do nových technológií, zabraňujúcich nezvratným škodám spôsobným zmenami klímy sa však v konečnom dôsledku pozitívne prejavia na kvalite ekonomického rozvoja.

Zmena klímy ovplyvní demografické a sociálno-ekonomické trendy, hlavne prehĺbenie chudoby v dôsledku vyšších cien potravín a znižovania poľnohospodárskej pôdy predovšetkým v Afrike a Ázii (Rozenberg, Hallegatte, 2015). Zároveň rýchlosť a smerovanie budúcich sociálno-ekonomických zmien bude určovať budúce vplyvy zmeny klímy (Hallegatte et al. 2014).

Odhady ekonomických nákladov klimatických zmien sa rôznia. Napr. štúdia OECD (Lanzi, Dellink, 2019) predpokladá, že dlhodobé ekonomické následky zmeny klímy sa budú postupne zväčšovať. V prípade znečistenia ovzdušia približne o 1 % by škody spôsobené zmenou podnebia dosiahli do roku 2060 takmer 3% HDP, pričom v Ázii a Afrike a menej vyspelých regiónoch by tieto škody presiahli 3% HDP a mohli by dosiahnuť úroveň okolo 5%. Analýza dopadov klimatických zmien na ekonomickú výkonnosť (Kahn *et al*., 2019) naznačuje, že pretrvávajúci nárast priemernej globálnej teploty o 0,04° C ročne by (v prípade neexistencie politík na jej znižovanie) mohol znížiť svetový reálny HDP na obyvateľa o 7,22 % do roku 2100. WRI (World Resources Institute) predpokladá nárast emisií aj v ďalších rokoch, pričom

v roku 2019 mali dosiahnuť globálne emisie historicky najvyššiu úroveň (Levin, Lebling, 2019). Správa Global Carbon Project (2019) uvádza, že v roku 2019 dosiahnu emisie CO_2 do atmosféry z priemyselných činností a spaľovania fosílnych palív približne 36,8 mld. metrických ton oxidu uhličitého a celkové emisie uhlíka zo všetkých ľudských činností vrátane poľnohospodárstva a využívania pôdy budú približne 43,1 mld. ton. Avšak realizácia záverov Parížskej dohody (predpokladá obmedzenie zvýšenia teploty na 1,01° C ročne) umožní podstatne znížiť stratu na 1,07 %.

III. Údaje a metodológia

Množstvo oxidu uhličitého, emitovaného do ovzdušia a spotrebu energie sledujeme od roku 1990, teda od obdobia, v ktorom sa globálne spoločenstvo začalo intenzívne venovať klimatickým zmenám. „Emisnú efektívnosť" (spotrebu energie a produkciu CO_2) hodnotíme pomocou množstva emisie CO_2 (bez emisie CO_2 z pôdy) a spotreby primárnej energie, nakoľko významnou mierou množstvo uhlíkovej emisie ovplyvňuje. Údaje za CO_2 a spotrebu primárnej energie sme čerpali z databázy Our World in Data; údaje za HDP z databázy UNCTAD. Predmetom skúmania sú krajiny, ktoré výrazne prispievajú k tvorbe CO_2. Ide hlavne o hospodársky vyspelé krajiny (vrátane všetkých krajín EÚ), krajiny produkujúce ropu a rýchlo rastúce ekonomiky Ázie.

Emisnú efektívnosť skúmaných krajín hodnotíme pomocou metódy dátového obalu (DEA), nakoľko metóda umožňuje na hodnotenie technickej účinnosti procesov využívať množstevné údaje, pre ktoré neexistujú trhové ceny.

Pre potreby analýzy definujeme transformačný proces, pri ktorom sa hodnotenými jednotkami (v DEA literatúre označovanými ako DMU, ich počet je n) na vstupe spotrebúva energia a výstupmi sú HDP ako želateľný a emisie CO_2 ako neželateľný output. V súlade s Korhonen & Luptáčik (2004) možno modelovať neželateľný výstup ako dodatočný vstup do technologického procesu. Údaje o takto redefinovaných premenných sú usporiadané do dátových matíc vstupov a výstupov ($\mathbf{X} \in \mathbf{R}^{m \times n}$ a $\mathbf{Y} \in \mathbf{R}^{s \times n}$) s elementmi x_{ij} a y_{rj}. V našom prípade je $m = 2$ a $s = 1$. Ak predpokladaným cieľom je znižovanie emisií a spotreby energie na jednotku vytvoreného HDP ako vzájomne podmienených veličín, volíme pri hodnotení vstupnú orientáciu modelu. Ukazovateľ efektívnosti bude určený podľa Tone (2001) hodnotou účelovej funkcie ρ v nasledujúcom optimalizačnom programe.

$$\textit{(SBM)} \qquad \min_{\boldsymbol{\lambda},\mathbf{s}^+,\mathbf{s}^-} \rho = \frac{1 - \frac{1}{m}\sum_{i=1}^{m} s_i^- / x_{i0}}{1 + \frac{1}{s}\sum_{r=1}^{s} s_r^+ / y_{r0}} \qquad (1)$$

pri obmedzeniach $\mathbf{x_0} = \mathbf{X}\boldsymbol{\lambda} + \mathbf{s}^-$, $\mathbf{y_0} = \mathbf{Y}\boldsymbol{\lambda} - \mathbf{s}^+$, $\boldsymbol{\lambda} \geq \mathbf{0}$, $\mathbf{s}^- \geq \mathbf{0}$, $\mathbf{s}^+ \geq \mathbf{0}$.

Premennými sú intenzitné veličiny $\boldsymbol{\lambda}$ modelujúce tzv. hranicu efektívnosti ako množinu možných benchmarkov a odchýlkové premenné (slacky) $\mathbf{s}^-$ a $\mathbf{s}^+$ prislúchajúce jednotlivým vstupom a výstupom. Riešenia optimalizácie pre každú DMU (indexovanú pomocou „0") určujú relatívnu efektívnosť pri $\rho = 1$ alebo neefektívnosť pri $\rho < 1$ DMU (krajiny). Predstavenú mieru využívame aj na posúdenie pokroku v ekologickosti technológie od roku 1990. Ak máme k dispozícii údaje o aktivite (kombinácii vstupov a výstupov DMU_0) v dvoch obdobiach (1 a 2), na posúdenie medzičasovej zmeny je možné využiť Malmquistov index celkovej produktivity (MI) vzťahujúcej sa k definovanému transformačnému procesu.

$$MI = \left[\frac{d_o^1(\mathbf{x}_0,\mathbf{y}_0)^2}{d_o^1(\mathbf{x}_0,\mathbf{y}_0)^1} \times \frac{d_o^2(\mathbf{x}_0,\mathbf{y}_0)^2}{d_o^2(\mathbf{x}_0,\mathbf{y}_0)^1} \right]^{1/2} = \underbrace{\frac{d_o^2(\mathbf{x}_0,\mathbf{y}_0)^2}{d_o^1(\mathbf{x}_0,\mathbf{y}_0)^1}}_{C} \underbrace{\left[\frac{d_o^1(\mathbf{x}_0,\mathbf{y}_0)^1}{d_o^2(\mathbf{x}_0,\mathbf{y}_0)^1} \times \frac{d_o^1(\mathbf{x}_0,\mathbf{y}_0)^2}{d_o^2(\mathbf{x}_0,\mathbf{y}_0)^2} \right]^{1/2}}_{F}, \qquad (2)$$

kde d_o predstavuje skóre efektívnosti z výstupne orientovaného modelu a indexy 1 a 2 určujú referenčnú hranicu pre výpočet efektívnosti (technológia obdobia 1 resp. 2). Färe et al. (1998) ukázali dekompozíciu MI na dve zložky. Efekt dobiehania (C, catch-up) a efekt posunu hranice (F, frontier-shift) zodpovedajú dvom „pohybom" (zmenám v čase) – smerom/od hranice, t.j. zmene efektívnosti a pohybu samotnej hranice, t.j. zmene technológie. Pri interpretácii platí, že veličiny C, F, alebo MI > 1 znamenajú medzičasové zlepšenie.

IV. Výsledky

Napriek prijatým výzvam a globálnym iniciatívam v oblasti klimatických zmien a varovným signálom v podobe otepľovania emitovanie CO_2 do ovzdušia každoročne stále stúpa. Od roku 1990 sa bolo produkovaných do ovzdušia priemerne vyše 28 mld. ton emisií ročne, v dôsledku čoho ich množstvo vzrástlo z 22 mld. v roku 1990 na vyše 36 mld. v roku 2017. V sledovanom období sa kumulatívne množstvo emitovaných emisií do ovzdušia zvýšilo takmer 36 krát. K najvýraznejšiemu nárastu produkovaných emisií medzi rokmi 1990 a 2017 prispel Katar (viac ako 11 násobné zvýšenie) a ďalšie krajiny ťažiace ropu (Omán o 5,77%, Spojené arabské emiráty o 4,48 %, Irak o 4,15%) a ďalšie ázijské krajiny, najmä Čína, India, Malajzia.

Produkcia emisií CO_2 či už v dôsledku výroby alebo spotreby je v globálnom rozmere rozložená veľmi nerovnomerne. Z hľadiska ekonomickej vyspelosti na emitovaní emisií CO_2 tak vo výrobe ako aj spotrebe dominujú predovšetkým hospodársky vyspelé krajiny, pričom ich podiel na globálnych emisiách vysoko prevyšuje ich podiel na svetovej populácii. Z regionálneho hľadiska najhlbšiu uhlíkovú stopu zanecháva Ázia (tabuľka 1).

Tabuľka 1 Štruktúra globálnych emisií z hľadiska pôvodu

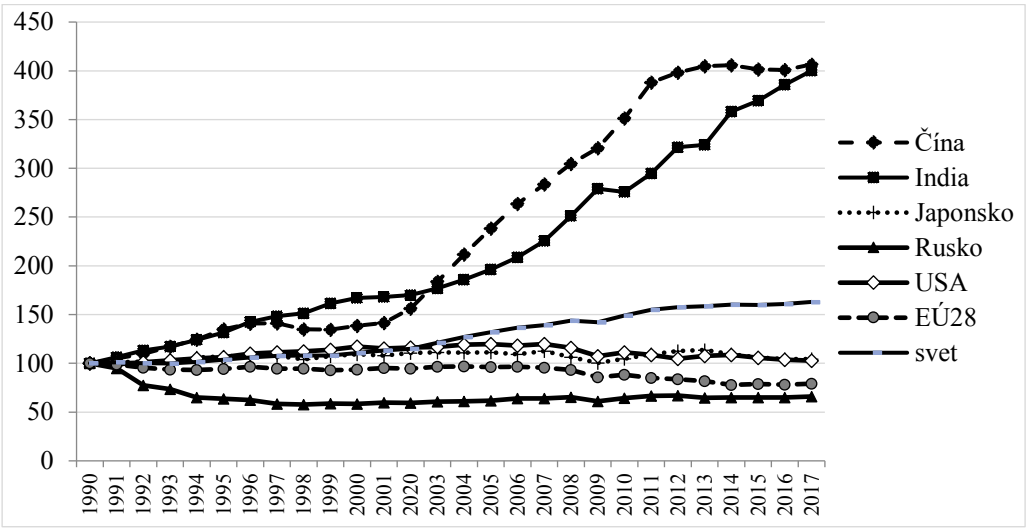
	Podiel na počte obyvateľov (v %)	Podiel na emisiách CO_2 vyvolaných výrobou	Podiel na emisiách CO_2 vyvolaných spotrebou
Hospodársky vyspelé štáty	16 %	39 %	46 %
Krajiny so stredne vysokým príjmom	35 %	48 %	41 %
Krajiny so stredne nízkym príjmom	40 %	13 %	13 %
Nízko príjmové ekonomiky	9 %	0,4 %	0,4 %
Severná Amerika	5 %	17 %	19 %
Európa	10 %	16 %	18 %
Latinská Amerika a Karibik	9 %	6 %	6 %
Ázia	60 %	56 %	52 %
Afrika	16 %	4 %	9 %
Oceánia	0,5	1,3 %	1,3 %

Zdroj: Ritchie, H. - Roser, M. (2019)

Vysoký nárast Ázie na emisie globálneho oxidu uhličitého je v ostatnom období najviac ovplyvnený Čínou a Indiou, ktoré vyprodukovali v priebehu rokov 1990-2017 viac ako 198 mld. ton a prispeli tak výraznou mierou k jeho celosvetovému rastu. V rámci rozhodujúcich emitentov uhlíkových emisií vidieť pozitívny vývoj predovšetkým v Rusku, ktoré v porovnaní s rokom 1990 produkovalo v roku 2017 iba necelých 66 % CO_2. Oproti roku 1990 sa znížilo

množstvo oxidu uhličitého taktiež v Európskej únii. V USA a Japonsku je v ostatnom období emisia CO_2 mierne nad úrovňou roku 1990 (obrázok 1).

Obrázok 1 Vývoj emisií oxidu uhličitého vo vybraných krajinách (rok 1990 = 100%)



Zdroj: our world in data, 2019, vlastný výpočet

Stagnujúca, resp. klesajúca úroveň produkcie CO_2 vo vyspelých uvedených krajinách však nemusí objektívne zobrazovať pozitívnu realitu, nakoľko mohla byť do určitej miery podmienená presunom výrob s vysokou uhlíkovou náročnosťou do krajín, v ktorých nie je vyžadované tvrdé dodržiavanie environmentálnych záväzkov. Úbytok emisií fosílneho CO_2 vo vyspelých krajinách tak môže byť pomerne rýchlo nahradený ich tvorbou v hospodársky menej vyspelých štátoch. Zároveň znižovanie emisií CO_2 vyvolaných výrobou sa v konečnom dôsledku môže presunúť do rastúcich emisií z dopravy tovarov na miesto spotreby, čo dokumentuje aj rastúca uhlíková náročnosť medzinárodnej dopravy, ktorá sa v priebehu rokov 1990 – 2017 zdvojnásobila. Uvedené skutočnosti sa odrážajú aj v mierne rastúcom trende globálnych emisií v ostatných rokoch.

Z pohľadu globálnej emisie CO_2 síce Európska únia pôsobí ako „slabý hráč“, nakoľko produkuje rámcovo „iba“ 10%, avšak v priebehu sledovaného obdobia vyprodukovala takmer 157 mld. ton oxidu uhličitého. Najväčšími producentmi CO_2 v EÚ sú Nemecko, Francúzsko, Taliansko, Poľsko a Španielsko[4] (tabuľka 2). Uvedené krajiny však neprodukujú najviac emisií na obyvateľa, tu dominujú Luxembursko a Estónsko, ktoré na jedného obyvateľa produkujú viac ako 15 ton emisií ročne.

Tabuľka 2 Emisná a energetická náročnosť vybraných krajín EÚ

	Podiel na produkcii CO_2 EÚ 28 (v %)	Emisia CO_2 (v mil. ton)	Emisia CO_2 na obyvateľa (v tonách)	Spotreba energie (v terawatt hodinách)	Energetická náročnosť HDP (v kilowatt hodinách)
EÚ28*	100,00	3 543,68	6,9	19951,94	1,94
Nemecko	22,56	799,37	9,7	3 883,30	1,06
Veľká Británia	10,86	384,71	5,7	2 246,91	0,84
Francúzsko	10,05	356,30	5,3	2 761,87	1,06

[4] V roku 2017, za ktorý sú posledné dostupné údaje, k nim patrila aj Veľká Británia.

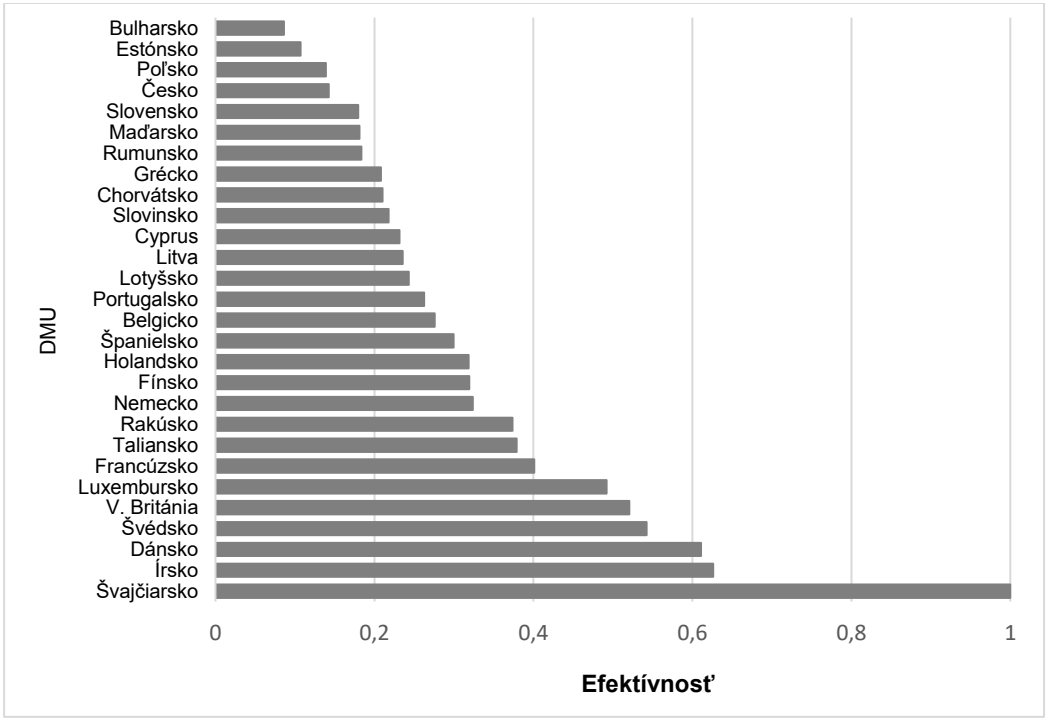
Taliansko	10,03	355,45	5,9	1 817,30	0,93
Poľsko	9,22	326,60	8,6	1 202,71	2,28
Španielsko	7,94	281,42	6,0	312,68	1,23
Česko	3,04	107,90	10,1	485,70	2,25
Slovensko	1,00	35,39	6,5	194,34	2,04

**Bez Malty, nakoľko údaje o spotrebe primárnej energie v databáze nie sú k dispozícii.*
Zdroj: Our World in Data, 2019, vlastný výpočet.

Ako vidieť z tabuľky 2, celková energetická náročnosť hrubého domáceho produktu v EÚ28 je ovplyvnená hlavne jej úrovňou v krajinách strednej a východnej Európy - najvyššia je v Bulharsku, Estónsku, Poľsku, Česku a na Slovensku. Uvedené krajiny majú v rámci EÚ taktiež najvyššiu produkciu emisií CO_2 na jednotku hrubého domáceho produktu.

Emisná efektívnosť skúmaných krajín hodnotená pomocou metódy dátového obalu naznačila pomerne veľké rozdiely medzi krajinami. Hospodársky vyspelé krajiny, ktoré produkujú v porovnaní s ekonomicky menej výkonnými krajinami väčšie množstvo emisií, dokážu vďaka vyspelejším technológiám emisne efektívnejšie produkovať výstup. Ak sa pozrieme na úroveň nami zadefinovanej emisnej efektívnosti, tak v rámci súboru hodnotených krajín (príloha 1) žiadna z krajín EÚ nedosiahla hranicu efektívnosti (hodnota 1), vyjadrujúcu efektívnu transformáciu spotreby energie a produkcie CO_2 do hospodárskeho výsledku (hrubý domáci produkt). Tú v roku 2017 dosiahlo iba Švajčiarsko. Najúspešnejšími krajinami v rámci EÚ boli Írsko a Dánsko s vyše 60% efektívnosťou transformácie, viac ako 50 % efektívnosť dosiahlo Švédsko a Veľká Británia. Emisne najnáročnejšie krajiny EÚ (Bulharsko, Estónsko) nedosiahli ani 10% efektívnosť. Iba mierne efektívnejšie boli Poľsko a Česko, ktoré zhodnotili svoje emisné a energetické vstupy pri tvorbe HDP pod hranicou 15 % (obrázok 2).

Obrázok 2 Efektívnosť transformácie emisných parametrov do hospodárskeho výstupu



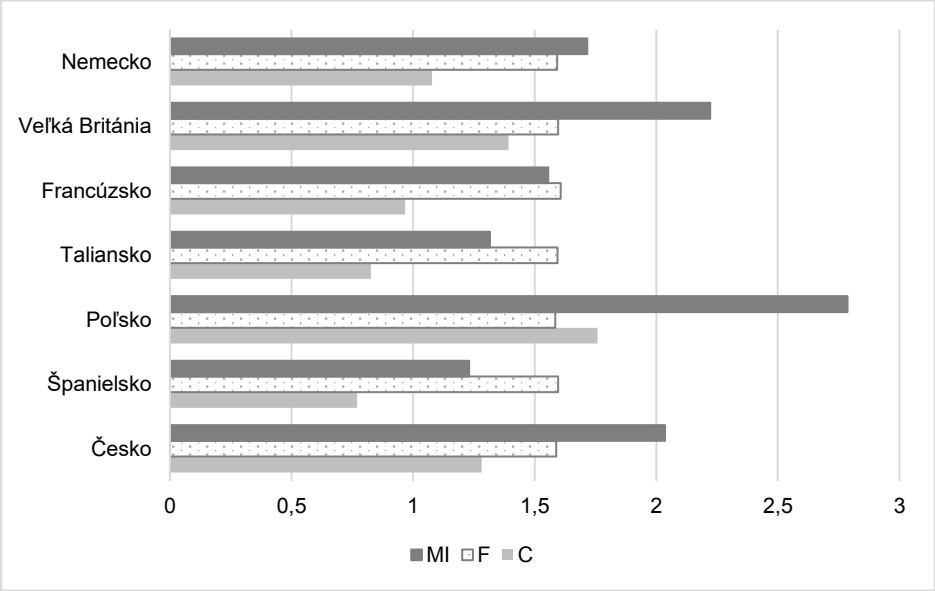
Zdroj: UNCTADstat, Our World in Data,, vlastný výpočet.

Pohľad na vývoj v čase poskytuje intertemporálna analýza. Pri výpočtoch bola použitá tzv. *exclusive scheme* (Cooper et al., 2007, s. 333), pri ktorej je hodnotená jednotka vyňatá

z množiny DMU generujúcej referenčnú hranicu. Hodnota efektívnosti tak môže prekročiť 1 a zodpovedá tak tzv. super-efektívnosti podľa Andersen & Pedersen (1993). Zvýšenú diskriminačnú silu tohto prístupu vidno na hodnote C pre Švajčiarsko. Táto DMU bola efektívna v oboch obdobiach, čo by implikovalo pomer efektívnosti 1. Hodnota 0,829 z tabuľky A1 (príloha) hovorí o tom, že od roku 1990 sa „náskok" zmenšil.

Kompletné výsledky za všetky analyzované krajiny sú v prílohe (tabuľka A1). Priemerný MI naznačuje zlepšenie všeobecné technológie v období 1990–2017. Európske krajiny sú všetky „zelenšie" s európskym priemerom MI na úrovni 2,0. Celosvetový priemer 1,698 nie je interpretovateľný, keďže v datasete nemáme všetky krajiny sveta. Efekt dobiehania (C) je v priemere 1,056 a vykazuje značný rozptyl. K zhoršeniu prichádza v krajinách vyvážajúcich ropu, európskych PIGS, ale i Japonsku, Argentíne alebo Brazílii. Týmto krajinám sa relatívne vzdialila *best practice* (Švajčiarsko), ktoré sa zlepšilo o 76,8%. Efekt posunu hranice bol približne 1,6 pre všetky krajiny

Obrázok 3 Rozklad Malmquistovho indexu pre emisne náročné krajiny EÚ



Zdroj: UNCTADstat, Our World in Data,, vlastný výpočet.

Pre vybrané európske krajiny je na obrázku 3 zobrazený rozklad MI na zložky C a F. Je zrejmé, že zmena technológie (F) určená Švajčiarskom je približne rovnaká pre všetky DMU. Celkový výkon je potom daný zlepšením efektívnosti, t.j. priblížením sa k vzorovej krajine. Veľké individuálne zlepšenie zaznamenáva Poľsko. Naopak pri Francúzsku, Taliansku a Španielsku zaznamenávame $C < 1$, a teda zhoršenie efektívnosti.

IV. Záver

Produkcia oxidu uhličitého sa neustále zvyšuje, jeho objem sa zvýšil v priebehu rokov 1970 až 2017 o viac ako 2,4 krát z úrovne 14,8 mld. ton na 36 mld. ton ročne a kumulatívne sa od roku 1990 do ovzdušia dostalo viac ako 794 mld. ton. Veľmi mierna dynamika globálneho rastu produkcie CO_2 a jeho stagnácia, prípadne pokles vo vyspelých krajinách v ostatných rokoch vytvára priestor pre miernu dávku optimizmu, avšak skutočnosť je oveľa pesimistickejšia. Každá nová emisia oxidu uhličitého totiž nasycuje atmosféru, pričom súčasné tempo vypúšťaných emisií je dvakrát rýchlejšie, než je ho príroda schopná absorbovať. Preto ani mierne klesajúce tempo produkcie CO_2 v ostatných rokoch nevytvára predpoklady pre znižovanie množstva CO_2 ale naopak, jeho množstvo sa zvyšuje, ale iba miernejším tempom. Na podstatnejšie zníženie CO_2 v ovzduší by bol potrebný razantnejší pokles pretrvávajúci

niekoľko desiatok rokov. Očakávania, ktoré sa spájajú s poklesom globálnych emisií v dôsledku pandémie COVID-19 (odhadovaný medziročný pokles o 4 až 7 %), nemusia z pohľadu zníženia znečistenia ovzdušia priniesť dlhodobejší efekt. Hlavným dôvodom je, že daný pokles je spôsobený utlmením ekonomickej aktivity (obmedzením výroby, prepravy, cestovania a ďalších ekonomických a sociálnych aktivít) a nie systémovými a štruktúrnymi zmenami smerom k udržateľnému rozvoju. Krátkodobé zníženie produkcie CO_2 nemusí ovplyvniť jeho dlhodobú koncentráciu v atmosfére rovnako, ako zníženie emisie v určitej krajine alebo regióne, pokiaľ nepríde ku globálnemu zníženiu objemu dopravy, emisne náročnej produkcie a presmerovaniu výroby energie zo zdrojov, ktorých emisia skleníkových plynov je nízka. Na zvrátenie súčasného stavu by museli do roku 2030 museli klesnúť celosvetové emisie oxidu uhličitého takmer o polovicu oproti súčasným hodnotám.

Určité zlepšenie môže priniesť emisná efektívnosť. V rámci nami sledovaných 67 krajín dokázalo v roku 2017 efektívne transformovať emisné parametre do hospodárskeho výstupu iba Švajčiarsko. Mierne nadpriemernú, resp. priemernú efektívnosť dosiahli Írsko, Dánsko, Švédsko a Veľká Británia. Ostatné krajiny EÚ sa pohybujú pod úrovňou priemeru, pričom v rámci EÚ najhoršiu efektívnosť dosiahli nové členské štáty. Napriek skutočnosti, že Rusko patrí medzi krajiny, ktoré v porovnaní s rokom 1990 dokázalo výrazne znížiť emisiu oxidu uhličitého, z hľadiska emisnej efektívnosti patrí spolu s Ukrajinou, Turkmenistanom a Iránom medzi najmenej efektívne krajiny. Pri medzičasovom porovnaní sai všetky štáty Európy v emisnej efektívnosti zlepšili. Švajčiarsko je celosvetovým benchmarkom. Hoci sú emisie a spotreba energie silno korelované, výhodou DEA modelu je, že z detailnejších výsledkov pre jednotlivé krajiny dovoľuje určiť, či je pre krajinu efektívnejšie ceteris paribus znižovať emisie, t.j. znižovať emisnú náročnosť spotreby energie, alebo zvyšovať ekonomickú hodnotu spotreby energie.

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Príloha Tab A1: Dekompozícia Malquistovho indexu ekologickej efektívnosti (1990-2017)

	C	F	MI		C	F	MI		C	F	MI
Argentína	0,750	1,594	**1,196**	Indonézia	0,688	1,590	**1,095**	Rumunsko	2,168	1,593	**3,454**
Austrália	0,961	1,588	**1,527**	Irán	0,441	1,592	**0,702**	Rusko	1,079	1,595	**1,721**
Rakúsko	0,861	1,600	**1,377**	Irak	0,612	1,587	**0,972**	Saudská Arábia	0,437	1,596	**0,697**
Azerbajdžan	2,748	1,590	**4,369**	Írsko	1,780	1,675	**2,982**	Singapur	1,316	1,618	**2,129**
Bielorusko	2,031	1,593	**3,236**	Izrael	0,952	1,590	**1,513**	Slovensko	1,879	1,596	**2,998**
Belgicko	1,001	1,603	**1,605**	Taliansko	0,826	1,594	**1,316**	Slovinsko	1,060	1,596	**1,692**
Brazília	0,505	1,608	**0,812**	Japonsko	0,792	1,592	**1,260**	Južná Afrika	0,861	1,583	**1,363**
Bulharsko	1,397	1,591	**2,222**	Luxembursko	1,578	1,588	**2,507**	Južná Kórea	0,813	1,596	**1,296**
Kanada	0,878	1,605	**1,409**	Kazachstan	1,520	1,582	**2,405**	Španielsko	0,770	1,597	**1,230**
Čína	1,744	1,585	**2,765**	Kuvajt	0,483	1,579	**0,762**	Švédsko	1,369	1,816	**2,486**
Chorvátsko	0,926	1,597	**1,479**	Lotyšsko	1,810	1,597	**2,892**	Švajčiarsko	0,829	1,768	**1,465**
Cyprus	0,851	1,591	**1,353**	Litva	2,097	1,600	**3,355**	Taiwan	0,965	1,596	**1,540**
Česko	1,281	1,589	**2,036**	Malajzia	0,630	1,593	**1,004**	Thajsko	0,475	1,591	**0,756**
Dánsko	1,178	1,645	**1,938**	Mexiko	0,753	1,591	**1,198**	Turecko	0,752	1,594	**1,198**
Egypt	0,728	1,597	**1,162**	Maroko	0,661	1,586	**1,048**	Turkmenistan	0,565	1,581	**0,893**
Estónsko	1,609	1,586	**2,551**	Holandsko	1,031	1,601	**1,650**	Ukrajina	1,184	1,592	**1,884**
Fínsko	1,071	1,604	**1,717**	Nový Zéland	0,946	1,607	**1,520**	SAE	0,516	1,603	**0,827**
Francúzsko	0,968	1,608	**1,555**	Nórsko	0,938	1,627	**1,526**	UK	1,392	1,596	**2,222**
Nemecko	1,077	1,593	**1,716**	Omán	0,273	1,595	**0,435**	USA	1,095	1,594	**1,745**
Grécko	0,757	1,588	**1,202**	Pakistan	0,618	1,593	**0,985**	Uzbekistan	2,205	1,595	**3,518**
Hongkong	0,817	1,605	**1,312**	Poľsko	1,758	1,585	**2,787**	Venezuela	0,530	1,597	**0,847**
Maďarsko	1,194	1,596	**1,906**	Portugalsko	0,650	1,595	**1,037**				
India	0,850	1,586	**1,349**	Katar	0,677	1,600	**1,084**	***priemer***	***1,059***	***1,603***	***1,698***

Zdroj: vlastný výpočet

IMPLEMENTATION OF INDUSTRY 4.0 IN SLOVAK REPUBLIC FROM THE PERSPECTIVE OF EMPLOYERS

Adriana Grenčíková[1], Dagmar Petrušová[2], Vladislav Berkovič[3]

Abstract

Based on today's knowledge of Industry 4.0 as the next stage of technical revolution, it can be stated that of the knowledge known by now, it will be the fastest implementing industrial revolution we have seen so far. This phenomenon will affect only production lines, but also will change the way society is working. It will affect not only business processes, but also the way in which communication between employees and employers, customers and manufacturers, or service providers will take place. Due to the speed and complexity of changes brought by the Fourth Industrial Revolution, it will be necessary to respond appropriately flexibly to this challenge. The aim of the presented study is to determine the state of implementation of the Industry 4.0 concept in Slovak Republic from the point of view of employers and draw conclusions based on the analysis of the workforce within the labor market as well as in creating concepts of study programs at universities.

Keywords

Industry 4.0, Employers, Skills, Employees, Content of Education

I. Úvod

Štvrtá priemyselná revolúcia je pojem, ktorý vychádza z nemeckého konceptu Industry 4.0. Odborníci sa nie celkom zhodujú čo bude výsledkom zavedenia tejto koncepcie. Základom štvrtej etapy je internet vecí. V najbližších desiatich rokoch budú všetky stroje i niektoré súčiastky v nich schopné spolu komunikovať. V spojení s ďalšími technológiami ako digitálnym podnikom, inteligentnými robotmi spolupracujúcimi s ľuďmi, obrovským množstvom dát, strojovým učením či prvkami umelej inteligencie získa výroba schopnosť *samoriadenia a samoorganizácie (Hellebrandt, 2017; Kuhnová, 2017).* Podľa Masárová, Kordoš, Sokol (2019) a Sochuľáková (2019) pôjde o systém s decentralizovaným riadením a autonómnym rozhodovaním – vznikne inteligentná fabrika, ktorú odborníci označujú pojmom *kybernetícko-fyzikálny systém*. Tieto zmeny ovplyvnia zásadne život ľudskej spoločnosti preto je nutné zmeny očakávať vo všetkých oblastiach života spoločnosti. Priemyselné podniky na Slovensku reprezentované svojim manažmentom dlho nebrali výzvy Industry 4.0 do úvahy. Videli ich skôr ako západný módny trend a implementácia platforiem ako internet vecí, Big Data a ich analytika, cloudové výpočtové operácie, virtuálna realita a 3D tlač neboli nasadzované takmer do žiadnych domácich priemyselných podnikov (Jurina, 2016, Schwab, 2017). Inak to bolo so zahraničnými investormi, a to najmä v automobilovom priemysle a v sieti ich dodávateľov. V posledných dvoch rokoch sa však situácia mení, podniky sa o platformu Priemyslu 4.0 začali intenzívnejšie zaujímať. Problémom zostáva neistota v spôsobe akým postupne Priemysel 4.0 so všetkými svojimi zložkami efektívne implementovať. Koncom roka 2016 na výzvy Priemyslu 4.0 zareagoval aj štát a vo svojom uznesení s názvom „Koncepcia inteligentného priemyslu pre Slovensko“ popisuje súčasnú situáciu a ukladá príslušným ministerstvám zriadiť „Platformu inteligentného priemyslu

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a vypracovať akčný plán inteligentného priemyslu SR (Grenčíková, Petrušová, Sokol, 2019; Hlušková, 2016). Oblasť kde sa očakáva podpora zo strany štátu je pretrvávajúca malá pridaná hodnota v oblasti najmä automobilového priemyslu. Výskum a vývoj v podmienkach SR je na nízkej úrovni a trvalo podfinancovaný. Inovácie vznikajú mimo našej krajiny a priemyselné podniky u nás umiestňujú len výrobnú časť. Akčný plán inteligentného priemyslu na Slovensku by mal obsahovať výraznú podporu výskumno-vývojových aktivít a podporovať najmä investície z tejto oblasti pôsobenia zahraničných investorov. V najväčšej miere sa očakáva podpora domácich inovačných projektov (Čierny, 2017; Marr, 2018).

Ako uvádzajú FinStat (2020) a Jurík (2012) základom na akom sa táto zmena smerom k inteligentnému priemyslu môže uskutočniť je zmena vzdelávania, a to nie pre potreby súčasného, ale pre potreby budúceho priemyslu. Rýchlosť akou sa táto transformácia priemyslu a nielen jeho deje dáva do pozornosti ďalšiu výzvu pri ktorej musí štát aktívne pristupovať, a to je celoživotné vzdelávanie. Nové technológie budú stále viac vytláčať najmä fyzickú prácu a novovznikajúce pracovné úlohy budú klásť stále vyššie požiadavky na ľudský intelekt (Urbanovičová, a kol. 2019; Záležáková, 2018).

Prebiehajúce diskusie o dopadoch (nepriaznivých) zmien na zamestnanosť vnášajú často zásadne rozdielne názory medzi tých, ktorí očakávajú v novovznikajúcich druhoch pracovných miest neobmedzené príležitosti a vyhliadky na zvyšovanie produktivity pracovníkov a oslobodenia ich od fyzickej a rutinnej práce, a tých, ktorí predpokladajú masívnu náhradu práce človeka a premiestňovanie pracovných miest do iných krajín (Marešová, et al. 2018; Vojtovič, 2012).

Akademici, výkonní riaditelia a vedúci pracovníci majú svoje pevné, ale zároveň rozdielne pohľady na diskusiu, rovnako tak ako tvorcovia politík zamestnanosti. Zo zverejňovaných údajov je zrejmé, že zatiaľ čo sa prognózy líšia vzhľadom k odvetviam a regiónom, prebiehajú významné zmeny. V konečnom dôsledku sú to ale naše dnešné kroky, ktoré ovplyvnia či táto zmena spôsobí predovšetkým masívny odliv pracovníkov, alebo vznik nových pracovných príležitostí Kruliš, 2018; Maťovčíková, 2017). Podľa Tupá, Vojtovič, Strunz (2019) a Vaňo (2019) bez súčasných naliehavých a cielených opatrení na riadenie krátkodobého prechodu a formovania pracovnej sily so zručnosťami budúcnosti, budú musieť vlády krajín čeliť stále viac narastajúcej nezamestnanosti a sociálnej nerovnosti a tiež podnikom so zužujúcou sa spotrebiteľskou základňou.

Zbierané údaje majú za cieľ priniesť osobitosť do diskusie a otvoriť možnosti pre ďalšie kroky, a to poskytnutím perspektívy vedúcim pracovníkom v oblasti ľudských zdrojov u strategických zamestnávateľov, ktorí patria medzi popredných predstaviteľov nových trendov a sú kľúčovými aktérmi pri implementácii budúcich stratégií pracovnej sily. Z uvedených dôvodov sa zaoberáme už viac rokov toto problematikou a sme riešiteľmi výskumnej úlohy Vega č. 1/0430/18 „Vplyv Industry 4.0 na zmeny v štruktúre pracovných miest“.

Zaujímajú nás názory zamestnávateľov na skutočný vývoj v podnikoch. V počiatočnej fáze riešenia sme sa zameriavali hlavne na priemyselné podniky, ale postupne sme svoj záujem rozšírili aj o ostatné odvetvia, vzhľadom na to, že rozvoj internetu veci ovplyvňuje všetky procesy ľudskej činnosti. Výskumy, ktoré boli robené sa zameriavali najmä na technické problémy a riešenia a práve pohľady, ktoré sme na Slovensku vniesli do uvedenej problematiky upriamili pozornosť iným smerom na oblasť dopadov na trh práce a na súvislosti so zmenami, ktoré to prinesie. Našim významným partnerom v tejto oblasti je spoločnosť Sova Digitál, ktorá je lídrom v propagácii Priemyslu 4.0. na Slovensku.

II. Cieľ a metódy prieskumu

Na zisťovanie aktuálneho stavu a očakávaní zamestnávateľov v priemysle sme zvolili prieskum názorov a použili sme dotazníkovú metódu zisťovania. Dotazník bol vytvorený riešiteľským kolektívom projektu Vega 1/0430/18 a následne distribuovaný respondentom prostredníctvom študentov FSEV TnU AD. Výsledky boli zozbierané a prvotne spracované pomocou dotazníka GoogleForms. Prieskum prebiehal v mesiacoch marec – apríl 2019. Prostredníctvom dotazníka študenti osobne oslovili podniky na Slovensku a požiadali ich o vyjadrenie sa k jednotlivým otázkam. Pôvodnou podmienkou, alebo skôr zámerom výberu vzorky respondentov bolo pôsobenie podniku v oblasti priemyslu. Z dôvodu, že túto podmienku sa nepodarilo dodržať, sme získali informácie aj z iných oblasti ako priemysel, čo v konečnom zisťovaní bolo prínosom a preto sme tieto podniky nevylúčili zo skúmanej vzorky. Výskumná vzorka bola teda získaná náhodným výberom. Každý podnik, ktorý dostal pozvánku zúčastniť sa výskumu, musel byť zapísaný v obchodnom registri niektorého zo súdov Slovenskej republiky. Kontakty z celého Slovenska sme získavali pomocou známych študentov TnUAD.

V členení dotazníka je často využívaným kritériom delenie podľa veľkosti podniku. Pre jednoznačnosť kritériá pre mikropodnik, malý podnik, stredný, a veľký podnik sme veľkosti definovali v zmysle členenia Štatistického úradu Slovenskej republiky, ďalej ŠÚ SR. Podniky do 9 zamestnancov sú zadefinované ako mikropodnik, podniky od 10-49 ako malý podnik, podniky od 50-249 ako stredný podnik a podniky od 250 zamestnancov ako veľký podnik. Pri tomto členení pre zjednodušenie sme nebrali ohľad na obrat podniku, a to aj z dôvodu, že výskum sa zameriava na predpokladané zmeny v množstve a kvalifikovanosti pracovníkov v podnikoch. Oslovili sme 250 podnikov. Odpovede na dotazník poskytlo 229 podnikov Dotazník dostal názov *„ Vplyv Industry 4.0 na tvorbu pracovných miest“* a obsahoval 12 otázok. Cieľom bolo zistenie aktuálneho stavu poznania koncepcie priemyslu 4.0 v priemyselných podnikoch Slovenskej republiky, mieru jeho aplikovania, zistenie súčasnej štruktúry výrobných a nevýrobných pracovníkov a pohľad týchto podnikov na budúcu potrebu pracovníkov, ako aj na potreby prípravy pracovnej sily v súvislosti s nástupom Priemyslu 4.0

Dotazníkovým šetrením sa nám podarilo osloviť najmä veľké podniky, avšak tentokrát nie je rozdiel až taký výrazný oproti malým a stredným podnikom, čo hovorí o tom, že Industry 4.0 sa dostáva do povedomia pomerne rýchlo. Túto skutočnosť považujeme za dôležitú, pretože, malé a stredné podniky (MSP) sú neoddeliteľnou súčasťou celého spektra firiem vo väčšine krajín vo svete. V krajinách Organizácie pre hospodársku spoluprácu a rozvoj (OECD) reprezentujú viac ako 95 % celkového počtu všetkých podnikov, pričom ich podiel na zamestnanosti sa pohybuje v priemere okolo 75 % a podiel na HDP až 80 %. V Slovenskej republike je kvantitatívny podiel malých a stredných podnikov porovnateľný s vyspelými krajinami, pričom ich podiel na zamestnanosti bol v roku 2006 viac ako 70 %. Sektor malého a stredného podnikania predstavuje svojou produkciou na Slovensku pri tvorbe HDP približne 3/5 z celkového objemu výroby (Haviernikova, Kordos, 2019a; Haviernikova, Kordos, 2019b).

Táto kategória podnikov je v rámci rozvinutých ekonomík považovaná za najpružnejšiu, najefektívnejšiu, najprogresívnejšiu a teda aj najdôležitejšiu súčasť ekonomiky. Z tohto dôvodu krajiny Európskej únie, ale aj iné rozvinuté krajiny ako USA a Japonsko, venujú stavu malého a stredného podnikania maximálnu pozornosť a sústavne prijímajú opatrenia na jeho rozvoj. V týchto krajinách sa podpora malého a stredného podnikania stala v posledných 30-ich rokoch významnou súčasťou celkovej hospodárskej stratégie (Kordos, 2019).

III. Výsledky prieskumu

Pre hlavnú oblasť pôsobenia sme si vybrali činnosti podľa odvetvovej kvalifikácie priemyslu, teda oblasť pôsobenia podniku. Pôvodne sme chceli skúmať len priemyselné podniky, ale

dotazníky sa vrátili aj z iných oblastí pôsobenia podniku, čo poukazuje na fakt, že zavádzanie nových komunikačných platforiem Priemyslu 4.0 ovplyvňuje všetky oblasti života spoločnosti a z tohto dôvodu sme sa rozhodli tieto odpovede zahrnúť do výsledkov výskumu.

Obrázok 1 Hlavná oblasť pôsobenia podniku

Zdroj: Vlastné spracovanie

Technologické zmeny v duchu Industry 4.0 sú reakciou na požiadavky trhu, tlak týchto požiadaviek nie je možné zvládnuť bez rýchlych inovácií a skracovania času potrebného na uvedenie produktu na trh. Úspešný podnik v tomto ponímaní bude teda ten, ktorý bude rýchlejší. Procesy implementácie prebiehajú paralelne, a preto je nevyhnutnosťou mať kvalitný tím, premyslený postup, sled krokov, ktoré zmapujú strategické príležitosti a nastavia spracovanie pilotného projektu. Po jeho vyhodnotení nastavia realizačný program na ďalšie obdobie. To bude prinášať efekty v podobe zvyšovanie produktivity, flexibility, kvality, či znižovania nákladov. Z uvedených dôvodov nás zaujímal názor oslovených podnikov na stav zavádzania Industry 4.0.

Oproti predchádzajúcemu roku môžeme konštatovať značný posun v zavádzaní Priemyslu 4.0. V roku 2018 sa z celkovej vzorky vyjadrilo 23,5 podnikov, že intenzívne zavádzajú koncepciu Industry 4.0 a 26,5, že zavádzajú prvky inteligentného priemyslu čo spolu predstavovalo 50%. V roku 2019 je vidieť značný posun vo veľkých podnikoch je to až 84,5% opýtaných, v stredných podnikoch je to 71,1% opýtaných a v malých podnikoch je to 62,4% opýtaných.

Zaostávajúcou skupinou sú však mikropodniky, ktoré majú do 9 zamestnancov. Za pozitívny trend však považujeme, že už 39,3% z nich sa zavádzaniu prvkov inteligentného priemyslu začína venovať. Predpokladáme, že v budúcom roku sa nám opäť zvýši záujem o zavádzanie prvkov inteligentného priemyslu. Považujeme to za nevyhnutný trend.

Tabuľka 1 Hlavná oblasť pôsobenia podniku

Hlavná oblasť pôsobenia podniku	Všetky podniky	Mikro podnik	Malý podnik	Stredný podnik	Veľký podnik
bez odpovede	68	29	20	9	10
CA výroba potravín, nápojov a tabakových výrobkov	17	5	4	4	4
CB výroba textilu, odevov, kože a kožených výrobkov	4			2	2
CC výroba drevených a papierových výrobkov, tlač	8	3	2	1	2
CF výroba základných farmaceutických výrobkov a farmaceutických prípravkov	1				1
CG výroba výrobkov z gumy a plastu a ostatných nekovových minerálnych výrobkov	19	1	3	4	11
CI výroba počítačových, elektronických a optických výrobkov	10		3	1	6
CJ výroba elektrických zariadení	14		2	1	11
CK výroba strojov a zariadení inde nezaradených	8		1	3	4
CL výroba dopravných prostriedkov	8	1			7
CM ostatná výroba, oprava a inštalácie strojov a zariadení	20	9	3	4	4
E - Dodávka vody; čistenie a odvod odpadových vôd	1			1	
F - Stavebníctvo	4	2	1	1	
H - Doprava a skladovanie	3	2	1		
CH výroba kovov a kovových konštrukcií okrem strojov a zariadení	27	6	10	4	7
I - Ubytovacie a stravovacie služby	1	1			
L - Činnosti v oblasti nehnuteľností	1		1		
S - Ostatné činnosti	12	2	5	3	2

Zdroj: Vlastné spracovanie

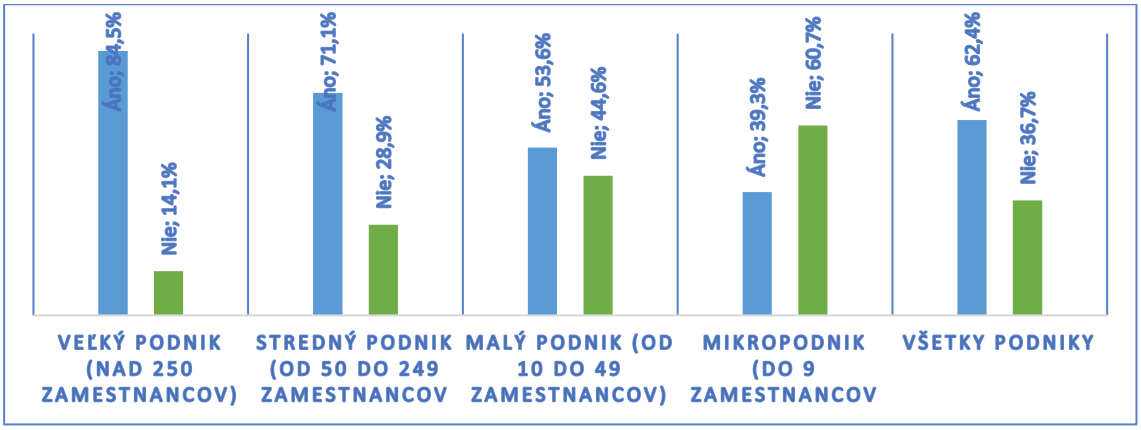
Celkové zvýšenie záujmu o túto problematiku odhadujeme približne okolo 30 % za rok, vzhľadom na rôznorodosť podnikov ho nie je možné presne vyčísliť.

Na prvý pohľad môže Industry 4.0 vyzerať ako automatizácia výroby smerujúca k znižovaniu predovšetkým personálnych nákladov. To je však iba veľmi zúžený pohľad, ktorý nezodpovedá realite. Implementácia zásad Industry 4.0 je totiž o jednote naprieč celým biznisom presahujúcim hranice samotnej spoločnosti. Jde o zmenu myslenia, ktoré by malo viesť k zme

ne doterajších zaužívaných postupov – a nie o produktoch, ktoré nesú nálepku Industry 4.0 ready. Najmä schopnosť zmeny myslenia manažmentu môže byť kľúčovou. Pôjde o komplexnú zmenu biznisu, ktorá predstavuje výzvu pre dnešné podľa nášho názoru už nielen výrobné spoločnosti.

O tom, že ide o skutočne zásadnú zmenu, svedčí i fakt, že digitálna transformácia priemyslu si podľa odhadov len do roku 2020 vypýta v Európe investície presahujúce 700 miliárd eur. Ciele zavádzania Industry 4.0 môžu byť totiž v každej firme iné, komplexné i parciálne. Môže ísť o rast konkurencieschopnosti spoločnosti ako takej, no aj o rast jej atraktivity na trhu. Parciálnym cieľom zas môže byť zavedenie mobilnej alebo prediktívnej údržby, ktorá zvýši plynulosť výroby a predĺži životnosť strojov, alebo zvýši efektivitu poskytovanej služby v konečnom dôsledku bude viesť k čoraz väčšej personalizácií produktov uvádzaných na trh. Z uvedených dôvodov nás zaujímalo kto iniciuje zavádzanie prvkov inteligentného priemyslu v nami skúmaných podnikoch.

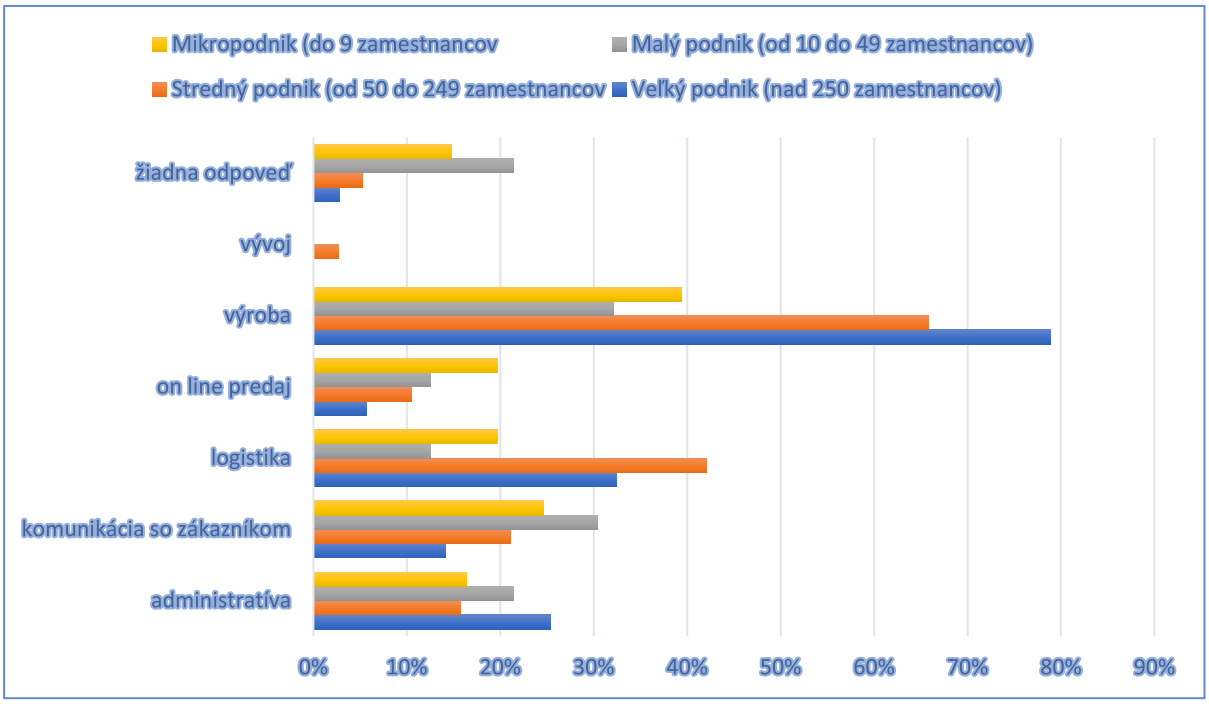
Obrázok 2 Miera zavádzania Industry 4.0



Zdroj: Vlastné spracovanie

Všeobecne sa očakáva, že zavádzanie prvkov inteligentného priemyslu sa dotkne najmä výroby. Autori, ktorí publikujú v tejto oblasti sa sústreďujú najmä týmto smerom. Dnes už však vieme, že výrazne ovplyvní napr. obchod alebo služby.

Obrázok 3 Do ktorých oblastí sa zavádza Industry 4.0

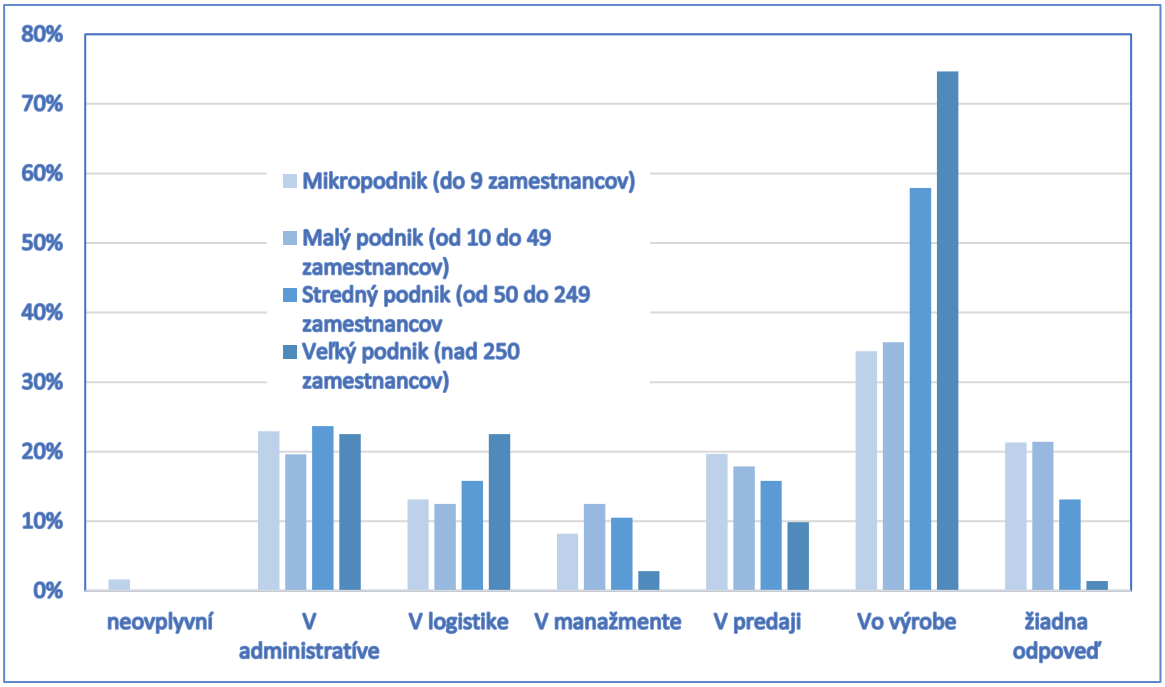


Zdroj: Vlastné spracovanie

Vďaka nástupu nových komunikačných technológií sa napríklad výrazne zmenil segment cestovného ruchu, kde konečný produkt sa stáva naozaj personalizovaný na požiadavky zákazníka. Zautomatizoval sa predaj leteniek ako aj pobytov, čo v konečnom dôsledku viedlo k nárastu predaja v cestovnom ruchu. Našim pôvodným zámerom bolo skúmať len priemyselné podniky ale vzhľadom na to že sme našu vzorku rozšírili aj o podniky z iných segmentov môžu byť výsledky zaujímavejšie. Nasledujúce grafy uvádzajú odpovede podľa veľkosti podnikov. Obrázok 2 uvádza mieru zavádzania Industry 4.0 v % podľa veľkosti podnikov výskumnej vzorky.

Ako je zrejmé zo zobrazenia na grafoch na otázku „Ktoré oddelenie iniciuje zavádzanie prvkov inteligentného priemyslu,“ vo významnejšej miere nevedeli odpovedať najmä mikro a malé podniky. Ich podiel bez konkrétnej odpovede bol asi štvrtinový. Zväčšovaním podniku sa miera znalosti v otázke zavádzania Industry 4.0.znateľne zvyšuje. Kým u stredných podnikov nevie, alebo nemá oddelenie zaoberajúce sa Industry 4.0 takmer jedna šestina respondentov, u veľkých podnikov sú to už len necelé tri percentá. Naopak, miera zainteresovanosti vlastníckej štruktúry podniku sa zväčšovaním znižuje. Kým u mikro a malých podnikov zavádzanie prvkov inteligentného priemyslu je výhradne agendou vlastníkov, u stredných podnikov sa tento pomer viditeľne mení v prospech manažmentu podniku. U veľkých podnikov je zavádzanie prvkov Industry 4.0 v takmer šesdesiatych percentách prípadov agendou manažmentu podniku, majiteľská štruktúra tu riadi len niečo cez jedenásť percent. Vo všetkých skúmaných podnikov sa ostatné vymenované oddelenia významne neangažujú pri iniciovaní zavádzania prvkov inteligentného priemyslu, ich miera zapojenia predpokladáme, skôr súvisí s čiastkovým plnením úloh pri implementácii Industry 4.0.

Obrázok 4 Kde ovplyvní Industry 4.0 počet zamestnancov



Zdroj: Vlastné spracovanie

Podniky zavádzanie prvkov inteligentného priemyslu podľa zobrazených výsledkov očakávajú v najväčšej miere v oblasti výroby. Toto očakávanie môžeme okrem iného pripísať aj dvom dôležitým faktorom. Prvým z nich je vzorka oslovených podnikov, kde v skúmanej vzorke významne dominujú priemyselné výrobné podniky u ktorých je prirodzené, že zavádzanie prvkov inteligentného priemyslu sa bude týkať ich ťažiskového pôsobenia. Druhým nemenej dôležitým faktorom je samotné pomenovanie pre zavádzanie technologických inovácií názvom: Priemysel 4.0, medzinárodne v anglickom jazyku: Industry 4.0, a pre nemecky hovoriace krajiny: Industrie 4.0. Ďalšími oblasťami, kde podniky očakávajú uplatnenie prvkov inteligentného priemyslu sú logistika, komunikácia so zákazníkom a oblasť administratívy. Tieto oblasti činností podnikov budú tie, ktorých sa z hľadiska štruktúry zamestnanosti bude Industry 4.0 týkať najviac.

Na druhej strane je však zaujímavé, že oblasť vývoja v rámci implementácie prvkov inteligentného priemyslu zostal na chvoste záujmu všetkých podnikov. Pritom odborníci očakávajú, že práve vo fáze vývoja môže byť Priemysel 4.0 najviac nápomocný a to hneď v niekoľkých aspektoch.

Aspekty uplatnenia Industry 4.0 vo vývoji:

- Identifikácia potrieb zákazníka.
- Citeľnosť zavádzania inovácií produktov.
- Skrátenie času vývoja.
- Zníženie nákladovosti vývoja nového produktu.

Oblasť on-line predaja je u celkovej vzorky nižšia no neznamená to, že je menej dôležitá. Zmenu v pohľade na jednotlivé nám podrobnejšie ukáže členenie podľa veľkosti podnikov ako vidíme nižšie.

Veľmi diskutovanou otázkou sa stáva otázka nahrádzania pracovnej sily technikou. Podľa štúdie, ktorá bola spracovaná pre vládu SRN sa hovorí o tom, že zanikne 500.000 pracovných miest ale, 900.000 vznikne. V štúdii ktorá bola spracovaná pre Slovenskú republiku sa hovorí

o tom, že každé druhé pracovne miesto prejde určitými zmenami. Zaujímal nás názor na túto otázku priamo v podnikoch a preto sme sa pýtali či zavádzanie prvkov inteligentného priemyslu ovplyvní počet zamestnancov.

Z celkových výsledkov vyplýva, že skutočne najviac zmien na pracovných miestach sa predpokladá vo výrobnom procese, ale aj v administratíve, v logistike a online predaji.

Podľa technologických pesimistov boli kritické prínosy digitálnej revolúcie už dosiahnuté, teda vplyvy na produktivitu sú skoro vyčerpané. Technologickí optimisti naopak deklarujú, že nové technológie a inovácie ešte len stoja pred inflexným bodom a v dohľadnej dobe sa prejavia v náraste produktivity a vo vyššom hospodárskom raste. Štvrtá priemyselná revolúcia sa považuje za takzvanú „cestu k inovačnej ekonomike“ a to z toho dôvodu, že implementácia digitálnych prepojení nielenže povedie k zlepšeniu efektivity, ale tiež k zrýchleniu inovácií a zavádzaniu nových obchodných modelov, ktoré by mohli byť realizované omnoho rýchlejšie (industry4.sk).

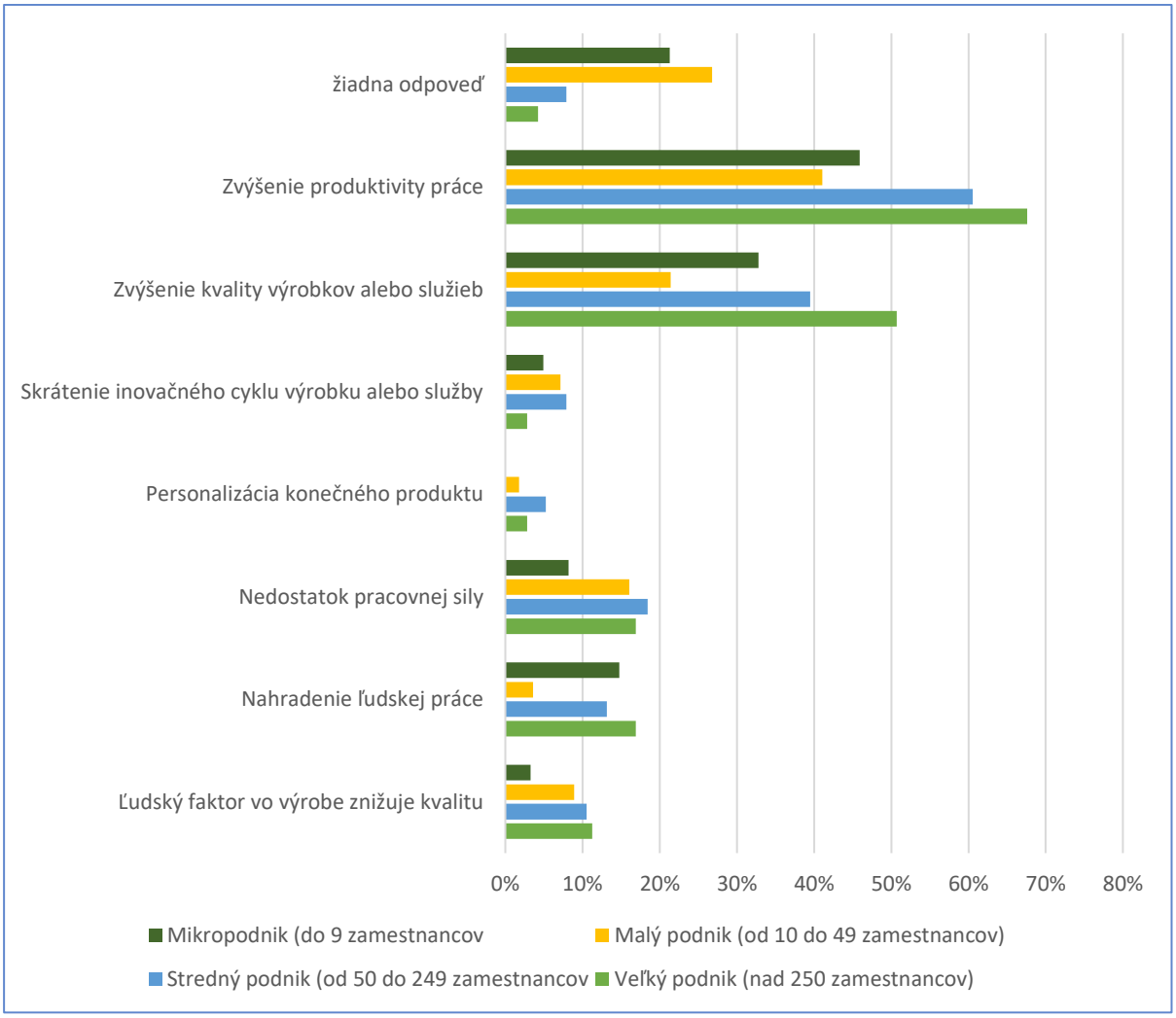
Zmeny súvisiace s implementáciou koncepcie Industry 4.0 by sa mali pozitívne prejaviť v zvyšovaní konkurencieschopnosti podnikov, zvýšením flexibility výroby, teda všeobecne získaním lepšieho postavenia podnikov na trhu ako výsledku vyššej efektivity procesov v podnikoch.

Očakávané pozitívne dopady možno zhrnúť nasledovne:

- *Vyššia produktivita* (eliminácia chýb a rizík, produkcia väčších množstiev výrobkov, skracovanie pracovných časov).
- *Vyššia flexibilita* (individualizované produkty, efektívnejšia výroba, široká variantnosť v kontrolných procesoch).
- *Vyššia konkurencieschopnosť* (nižšie výrobné náklady, implementácia inovácií a inovačných riešení, pružné reakcie na výkyvy dopytu).
- *Vyššia ziskovosť* (masová produkcia, optimalizácia procesov, nižšie skladové zásoby, hospodárnejšia výroba).
- *Bezpečnosť* (obmedzovanie defektov a chýb – softvér, ochrana bezpečnosti pracovnej sily senzormi, okamžité reakcie a zásahy).
- *Ekológia* (vypínanie nevyužívaných objektov, využívanie takzvaných „green“ riešení, obnoviteľné zdroje energie (Schmueckle, 2014).

Zástancovia koncepcie Industry 4.0 očakávajú, že optimalizované funkcie a procesy stredne veľkého závodu povedú k zvýšeniu jeho príjmov o niekoľko miliónov dolárov ročne (industry4.sk). Príkladom pozitívnych vplyvom digitalizácie a robotizácie je napríklad spoločnosť Siemens, ktorá svoju výrobu vďaka implementácii koncepcie Industry 4.0 zvýšila sedem násobne a vo výrobných procesoch bola dosiahnutá 99,9966 % presnosť, čo predstavuje svetový rekord v rámci porovnateľných podnikoch (Maťovčíková, 2017). Z uvedených dôvodov nás zaujímalo aké dôvody vedú slovenské podniky k zavádzaniu konceptu Industry 4.0

Obrázok 5 Dôvody zavádzania Industry 4.0 v podnikoch podľa veľkosti podnikov



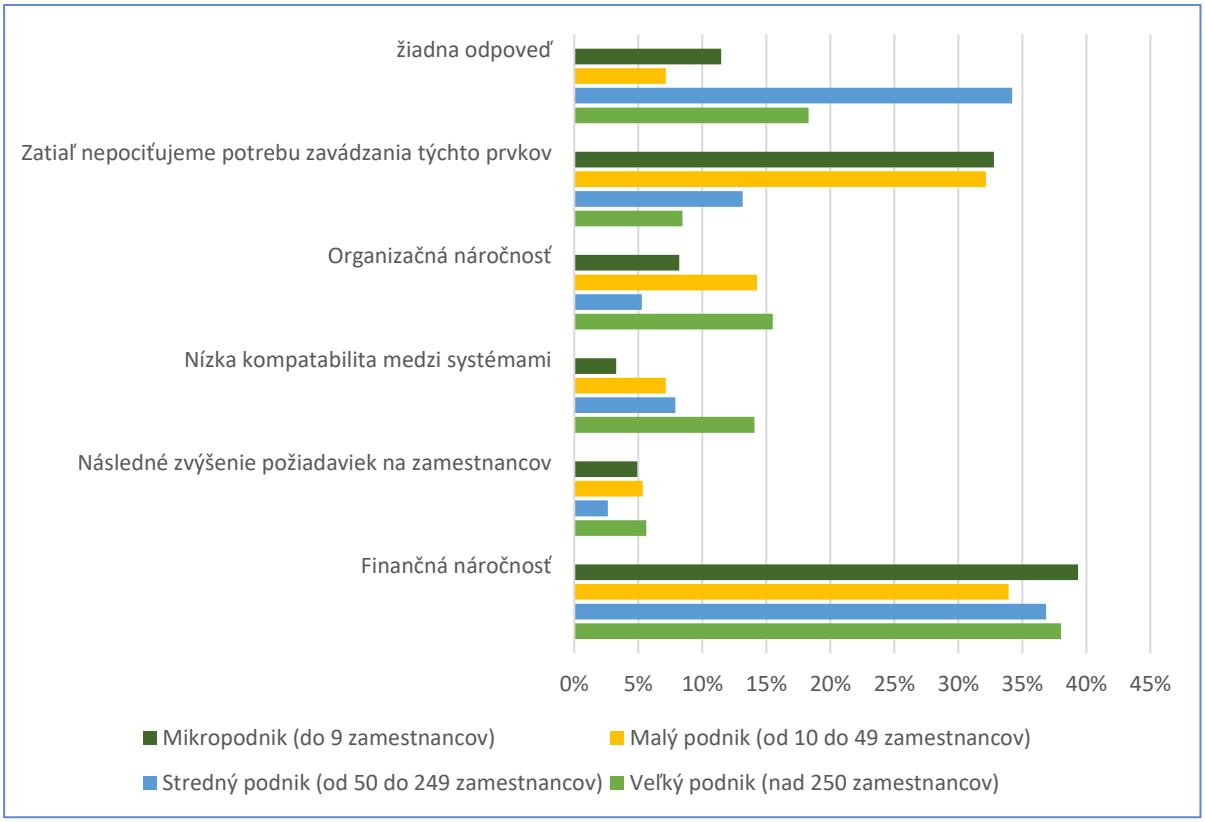
Zdroj: Vlastné spracovanie

Z našich zistení vyplýva, že najčastejšie dôvody pre zavádzanie koncepcie Industry 4.0 je zvýšenie produktivity práce, zvýšenie kvality výrobkov, alebo služieb a nedostatok pracovnej sily.

Nie všetky firmy sú však stotožnené so zavádzaním prvkov inteligentného priemyslu, preto nás zaujímali aj dôvody nezavádzania týchto prvkov.

Z našich zistení jednoznačne vyplýva, že najčastejší dôvod nezavádzania prvkov inteligentného priemyslu je finančná náročnosť a to, že firmy zatiaľ nepociťujú potrebu zavádzať tieto prvky. Domnievame sa však, že týmto prístupom takéto firmy výrazne stratia flexibilitu na trhu a nebudú konkurencieschopné. Súčasná situácia vo svete (apríl 2020) výrazne zasahuje do života všetkých firiem a ukazuje sa, že ekonomická kríza spôsobená pandémiou korona vírusu výrazne urýchli zavádzanie prvkov inteligentného priemyslu vo všetkých sférach života spoločnosti. Výrazne sa mení kontakt so zákazníkom ako aj doručovanie tovaru, mení sa flexibilita firiem. Firmy ktoré sa zaoberali zavádzaním týchto prvkov budú mať jednoznačne konkurenčnú výhodu.

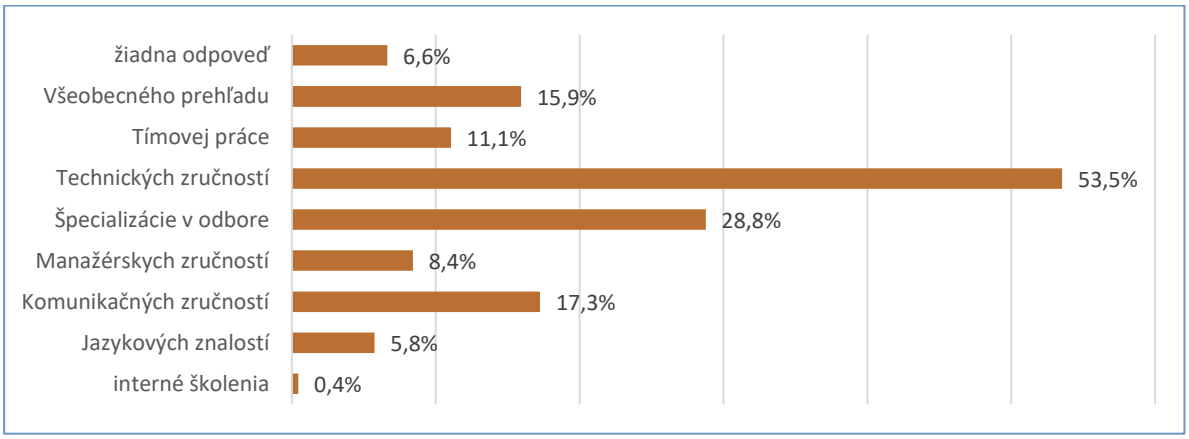
Obrázok 6 Dôvody nezavádzania Industry 4.0 v podnikoch podľa ich veľkosti



Zdroj: Vlastné spracovanie

V súvislosti s koncepciou rozvoja inteligentného priemyslu v podmienkach Slovenskej republiky v gescii Ministerstva hospodárstva SR (MH SR) zameranej na vzdelávanie boli predstavené kroky vedúce k zmene vzdelávacieho systému. Jedným z odporúčaní je podľa MH SR „vytvorenie inovatívnych štátnych vzdelávacích programov pre študijné a učebné odbory na všetkých úrovniach vzdelávania. Obrázok 7 uvádza návrhy zamerania vzdelávania na základe odpovedí respondentov.

Obrázok 7 Návrh na zameranie vzdelávania vzhľadom na Industry 4.0

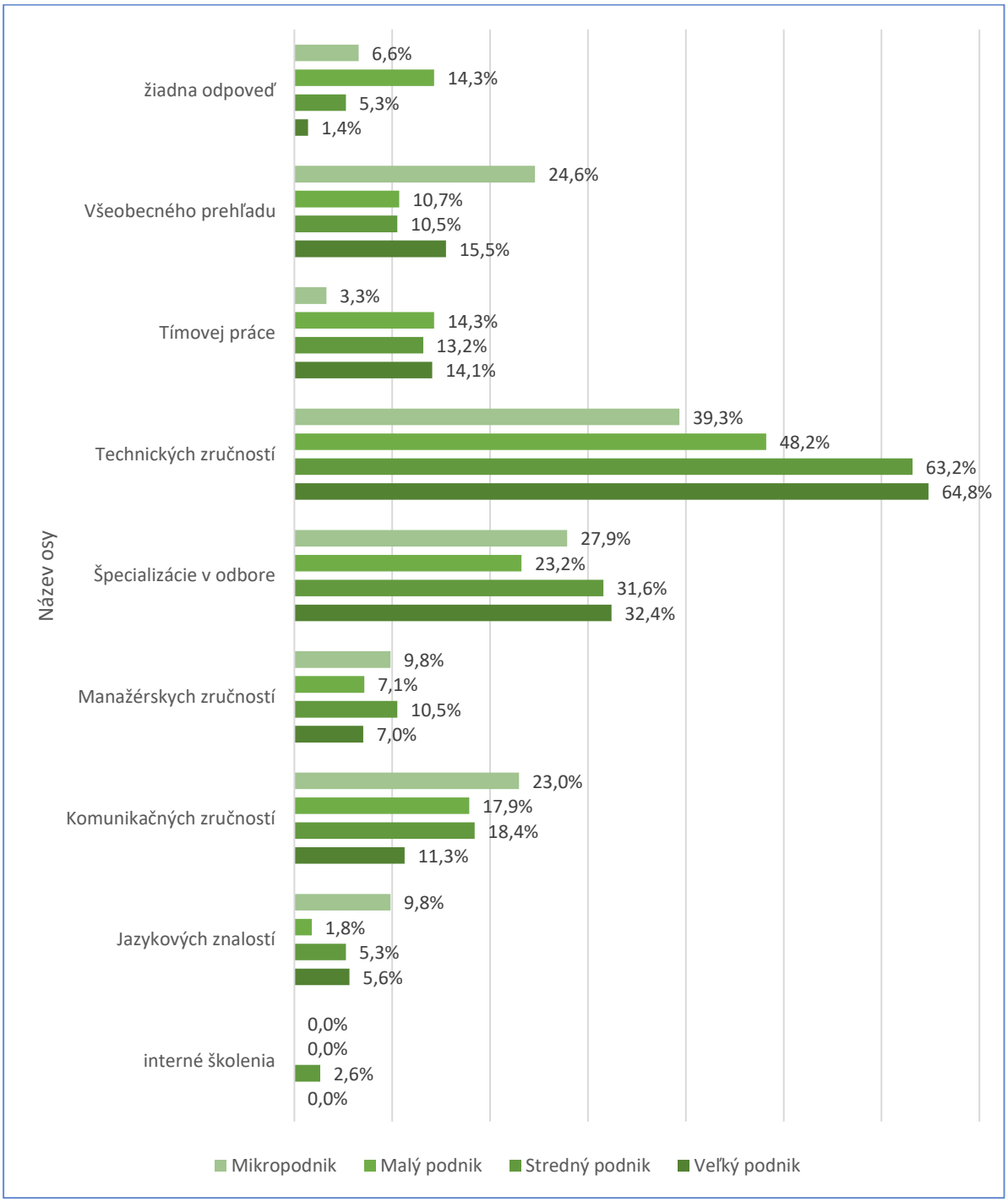


Zdroj: Vlastné spracovanie

S cieľom riešiť nedostatok odbornosti v konkrétnych oblastiach a prispôsobiť vzdelávací systém realite prítomnosti a budúcnosti musíme do popredia vzdelávania na všetkých úrovniach postaviť nový obsah vzdelávania s vysoko špecializovanými zručnosťami, ako napríklad robotika, zavádzanie IoT, otvorené dáta, programovanie, umelá inteligencia, bezpečnosť a

ochrana súkromia, digitálne zručnosti, predmety skupiny STEM (veda, technika, inžinierstvo, matematika), tvorivé navrhovanie“.

Obrázok 8 Návrh na zameranie vzdelávania – podľa veľkosti podnikov



Zdroj: Vlastné spracovanie

Dôraz by mal byť kladený na aplikovanú informatiku s praktickým využitím napríklad v oblasti informačných technológií, spracovania dát, data miningu a pod. Zmena vzdelávacieho systému na Slovensku bude musieť zahŕňať aj zmenu učebných metód, postupov i osnov zo strany pedagógov. Ako ďalej uvádza MH SR v koncepcii rozvoja, „Je nevyhnutné, aby sa pedagogickí zamestnanci na všetkých úrovniach vzdelávania prispôsobovali technologickým trendom. Štúdium učiteľstva informatiky musí skúmať nové trendy a vhodnú metodiku výučby pre nové trendy, najmä s využitím tvorivosti, konštruktivizmu, bádateľského prístupu. Využívanie

otvorených IT technológií vo vzdelávaní a využívanie verejných licencií pre vzdelávacie zdroje by sa malo stať štandardom“. V súčasnosti už prebieha snaha o obnovenie tzv. duálneho vzdelávania, cieľom ktorej je umožniť študentom už počas štúdia paralelne pracovať v organizáciách zodpovedajúcich ich študijnému zameraniu, a tak zvýšiť praktickú výučbu jednotlivých profesií.

Ďalším cieľom by malo byť ešte väčšie prepojenie vzdelávacích inštitúcií, najmä stredných škôl, vysokých škôl a univerzít s podnikateľskými subjektami a priemyslom. Potrebné bude zvýšiť flexibilitu obsahu učebných osnov s ohľadom na dynamicky sa meniace požiadavky zo strany zamestnávateľov. Dôležitým faktorom skvalitnenia vzdelávacieho procesu na všetkých úrovniach bude samotná zainteresovanosť veľkých podnikov a priemyselných odvetví prostredníctvom ich know-how, vedomostných kapacít a zdrojov.

Spôsob a zameranie vzdelávania výrazne ovplyvní prípravu pracovnej sily pre potreby zamestnávateľov, je všeobecne známe, že školský systém v súčasnej podobe nie je dostatočne flexibilný, aby sa prispôsoboval potrebám trhu práce. Zaujímalo nás čoho by sa mal dotýkať obsah vzdelávania z pohľadu zamestnávateľov.

Z odpovedí jednoznačne vyplýva, že zamestnávatelia požadujú najmä technické zručnosti a špecializáciu v odbore, ktorá je však veľmi diskutabilná, pretože nepoznáme obsah pracovnej náplne vznikajúcich pracovných miest, preto ďaleko dôležitejšie bude podľa nášho názoru sústrediť pozornosť na všeobecné znalosti a doplnenie vzdelania v špecializácií bude viac presunuté na zamestnávateľov. Predpokladá sa, že špecializácií bude oveľa viac, ako bolo doteraz zvykom a nebude možné v oficiálnom systéme vzdelávania týmto požiadavkám vyhovieť. Dosť výrazne nám prieskum poukazuje na potrebu vzdelávania v komunikačných zručnostiach a tímovej práci. V nasledujúcom grafe sú zobrazené odpovede podľa veľkosti podnikov.

Podľa nášho očakávania veľkosť podniku ovplyvňuje požiadavky na vzdelávanie. Malé a stredné firmy tiež preferujú technické zručnosti, ale skôr preferujú všeobecný prehľad oproti veľkým firmám. Zamestnanec v malej a strednej firme musí byť viac flexibilný a preto takýto obsah vzdelávania môže byť viac prínosný. Zaujímavé je, že interné školenia nie sú vôbec preferované. Zamestnávatelia sa však ďaleko viac budú musieť preorientovať na dovzdelávanie zamestnancov vo svojom prostredí, pôjde o špecifické znalosti a zručnosti, ktoré nebude možné naučiť v systéme vzdelávania.

IV. Záver

Na základe dnešného poznania Priemyslu 4.0 ako ďalšieho stupňa technickej revolúcie je možné konštatovať, že z doteraz poznaných, bude najrýchlejšie sa implementujúcou priemyselnou revolúciou akú sme doteraz zaznamenali. Tento fenomén sa zďaleka nebude týkať len výrobných liniek, ale zmení spôsob chodu celej spoločnosti. Zasiahne nielen podnikové procesy, ale významne aj spôsob akým bude prebiehať komunikácia medzi zamestnancami a zamestnávateľmi, zákazníkmi a výrobcami, alebo poskytovateľmi služieb. Pre rýchlosť a komplexnosť zmien, ktoré štvrtá priemyselná revolúcia so sebou prináša, bude potrebné primerane pružne na túto výzvu reagovať.

Z uskutočneného dotazníkového zisťovania vyplynulo, že len desatina priemyselných podnikov na Slovensku problematiku Industry 4.0 nepozná, alebo sa ňou nezaoberá. Ostatné podniky analyzujú možnosti zavádzania prvkov inteligentného priemyslu do svojich procesov, alebo ich priamo v menšej, či väčšej miere práve implementujú. V podmienkach Slovenskej republiky u priemyselných podnikov dominuje oblasť automobilového priemyslu a práve transformačné procesy v tejto oblasti budú mať najväčší vplyv na zmeny, ktoré sa budú týkať v neposlednom rade aj štruktúry pracovných miest. Už dnes sa priemyselné podniky stretávajú

s nedostatkom pracovnej sily vôbec. V tomto kontexte aj pracovná sila, ktorá je voľná a dostupná na trhu práce už nie je v štruktúre, ktorá by zodpovedala požiadavke zamestnávateľov v priemysle.

V súčasnosti podniky pociťujú nedostatok odborníkov bez rozdielu výšky vzdelania najmä z technických odborov, ale predovšetkým úplného stredného a vysokoškolského vzdelania. Medzi ďalších najviac hľadaných pracovníkov v sektore priemyslu patria absolventi vysokých škôl zameraných na vzdelávanie v informatických vedách, kde takého pracovníka hľadá každý druhý podnik. Priemyselné podniky vo veľkej miere hľadajú aj zamestnancov bez dôrazu na odbor vzdelania, čo poukazuje na dve dôležité skutočnosti. Jednou je absolútny nedostatok pracovnej sily a tou druhou schopnosť podnikov dovzdelávať pracovníkov z iných odborov na pracovníkov vyhovujúcich pre hľadanú pozíciu.

Priemyselné podniky na Slovensku ako najväčšie prínosy implementácie inteligentného priemyslu vidia na popredných priečkach najmä zvýšenie efektivity výrobných procesov a tiež zdokonalenie toku informácií vo vnútri podniku. Ako významný benefit od zavádzania Industry 4.0 podniky očakávajú tiež zníženie výrobných a prevádzkových nákladov (Kordos, 2020; Kordos, Sokol, 2020).

Medzi očakávanými prínosmi podnikov sme v dotazníkovom zisťovaní sledovali najmä to, aký budú mať podniky v súvislosti s Industry 4.0 názor na vyriešenie problémov s nedostatkom pracovníkov. Podľa priemyselných podnikov zúčastnených na prieskume implementáciou Industry 4.0 nebola otázka vyriešenia problémov s nedostatkom pracovníkov na popredných miestach. Podniky od zavádzania inteligentného priemyslu očakávajú skôr zvýšenie efektivity výroby a nedostatok pracovníkov vidia ako omnoho komplexnejší problém, ktorý sa nebude riešiť primárne zavedením Industry 4.0.

Zodpovednosť za implementáciu Industry 4.0 do stratégie podnikov na seba vo väčšine prípadov preberá najvyšší manažment a to je samé o sebe znakom, že sa jedná o kľúčové zmeny. Podniky zavádzajú prvky inteligentného priemyslu primárne do výrobných procesov. Tieto zmeny budú podmieňovať zmeny aj v ostatných oblastiach ako sú logistický systém podniku a na neho naviazaný dodávateľský reťazec. Implementácia inteligentného priemyslu sa nakoniec nevyhne ani oblasti komunikácie so zákazníkom a mnohým administratívnym činnostiam (Ansip, a kol. 2015; Blštáková, 2018).

Priemyselné podniky uvedomujúc si nutnosť a prospešnosť zavádzania Industry 4.0 sú ochotné a schopné intenzívne sa podieľať a spolupracovať na vzdelávaní a rekvalifikácii pracovníkov tak, aby boli vo vhodnej vzdelanostnej štruktúre pripravení na výzvy inteligentného priemyslu. Pohľad na súčasný vzdelávací systém zo strany podnikov je kritický, vidia ho ako nepripravený čeliť výzvam Industry 4.0. Školský systém aktuálne produkuje nedostatok absolventov s technickým vzdelaním po ktorých je na trhu práce najväčší dopyt.

Nástupom Industry 4.0 do priemyselných podnikov bude stále naliehavejšia otázka štruktúry pracovných miest. Z nášho výskumu vyplynulo, že podniky budú klásť dôraz na odbornú pripravenosť pracovníkov, aby čo najlepšie zvládli prácu s novými technológiami. U týchto pracovníkov nie je do budúcnosti dôvod obávať sa o uplatnenie na trhu práce. V súčasnej dobe tomu prispieva aj situácia s akútnym nedostatkom akejkoľvek pracovnej sily. Dopad na pracovné miesta sa bude líšiť aj v závislosti na veľkosti podnikov, kým malé podniky očakávajú udržanie zamestnanosti, stredné a najmä veľké podniky budú redukovať pracovné miesta najmä z radov robotníckych profesií bez uplatnenia vo vyštudovanom odbore.

Industry 4.0 však už niekoľko rokov vytvára nové pracovné miesta a už dnes sa ľudia zamestnávajú na pozíciách, ktoré pred desiatimi rokmi neexistovali. Inteligentný priemysel bezpochyby prinesie revolučné zmeny v chápaní spoločnosti, komunikácii a pracovných

miestach. Prinesie však aj množstvo nových príležitostí a je povinnosťou spolupráce vlád a podnikov sa na tieto výzvy čo najlepšie pripraviť.

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LITERATURE OVERVIEW OF UTILITY REGULATION: WATER PRICING MODELS IN EUROPE

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Abstract

Water issues are drawing major attention concentrating on water scarcity and water regulation. Water pricing regulation may serve as a one-of-a-kind multi-dimensional tool to achieve an effective demand-supply equilibrium in the context of natural monopoly while incorporating the water scarcity and water stress factors and motivating the innovative approach to water management. Thus, the aim of the paper is to provide a comprehensive literature overview of water pricing models and their rationales and to establish their ordered systematisation. Besides, the aim is extended to classify and to qualitatively assess (with respect to the rationales) water pricing regulation approaches of the selected member states of the European Union and the United Kingdom (England and Wales). Three common elements of the applied approaches/models were identified in the selected states: (1st) the hybrid model application, (2nd) the cost recovery principle and (3rd) the importance of water affordability. Extensive heterogeneity of models defends the general conclusion about the assessment of the model suitability in the context of the individual country environment. Still, the obsolescence of traditional cost-of-service regulation is detected as well as the importance of national characteristics to water pricing model success.

Keywords

Cap Regulation, Cost-of-Service, Rationales, Water Pricing, Water Regulation

I. Introduction

Water is an essential and vital commodity. According to Rios et al. (2018), water is a finite and vulnerable resource that has an economic value and social importance. People should be entitled to a minimal quantity and quality of safe water (United Nations, 2010). Thus, its price is a subject of both public and academic discussion which aims to influence and create a socially acceptable model of its regulation (e.g. Maxwell, 2010; Tsur and Zemel, 2018; Tsur, 2020). Water pricing models are undergoing a constant dynamic development just as the goals that the regulation is intended to achieve. The starting point for the regulation is the fact that water utilities are natural monopolies, so the marginal costs are usually lower than average costs. Simple solutions of the natural monopoly problem in the context of the water sector, such as to leave the natural monopoly alone, or to reach and maintain perfect competition, may not achieve required efficiency (Clark and Mondello, 2002). Hence, the regulation of prices and produced quantities may take place to provide both consumers and the general society interests with benefits while balancing the interests of water companies' stakeholders.

The water pricing regulation should reflect many factors which may be summarised to six major recommendations presented by OECD (2016). The following recommendations should be taken into account in the process of water price setting:

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1) Setting abstraction charges for surface water and groundwater that reflect water scarcity and cover administrative costs of managing the system.
2) Setting water pollution charges for surface water and groundwater pollution and charges for wastewater discharge at a sufficient level to have a significant incentive effect of preventing and controlling water pollution.
3) Setting consumers' payments for water services that cover the operation, maintenance and renewal costs of infrastructure and an increasing proportion of capital costs.
4) Accounting for redistributive consequences and priority water uses for vulnerable social groups and providing them with the right to safe drinking water and sanitation.
5) Phasing out price-distorting policy measures and general subsidies that affect water availability, quality, and demand.
6) Considering transaction costs, including administrative costs, when designing pricing instruments and revenue management schemes.

Previous studies have focused on case studies of water pricing models in the context of specific countries, e.g. Zhong and Mol (2009) in China, Crew and Kahlon (2014) in California, Urdiales and García-Valinas (2014) in Spain or Brea-Solis et al. (2017) in England and Wales. Theoretical views on water pricing models are mainly focused on specific approaches (e.g. Kim and Horn, 1999; Newbery, 2002) or do not reflect contemporary movements in society perspectives, e.g. Leland (1974), Liston (1993) or Kearney and Favotto (1994). Despite the authors' interest, a comprehensive overview of the current water pricing models that could be used by policy-setters in the process of policy formulation is not specified in the European region. Therefore, the aim of this paper is to provide a comprehensive literature overview of existing water pricing models (in terms of natural monopoly regulation) and their rationales and to establish their ordered systematisation. Besides, to find out whether and how the models are applied in the European states, the aim is extended to classify and to qualitatively assess (with respect to the rationales) water pricing regulation approaches of the selected member states of the European Union (the Czech Republic, Austria, Germany, France, Portugal, and Hungary) and the United Kingdom (England and Wales). These states were selected based on economic (the most economically powerful states and states less powerful, demographically comparable with the Czech Republic), geopolitical (connection to the European Union – founding states, accession before and after 2004 and secession), topographical and geographical criteria (water stress level and water exploitation index).

II. Water pricing models background and criteria of their assessment

The water sector is a typical example of a natural monopoly, making a single company the most efficient producer due to substantial economies of scale, and thus lowering unit costs (Sherer, 1980). Huge investment costs and network supply characteristics inevitably lead to the diminishing of competitiveness and in the end, the survivorship of only one company that may independently determine the price of its goods (Yarrow, 1994). Hence, the market failed to allocate resources efficiently. Moreover, the natural monopoly situation in the water sector is intertwined with the issue of public goods, positive and negative externalities or information asymmetry.

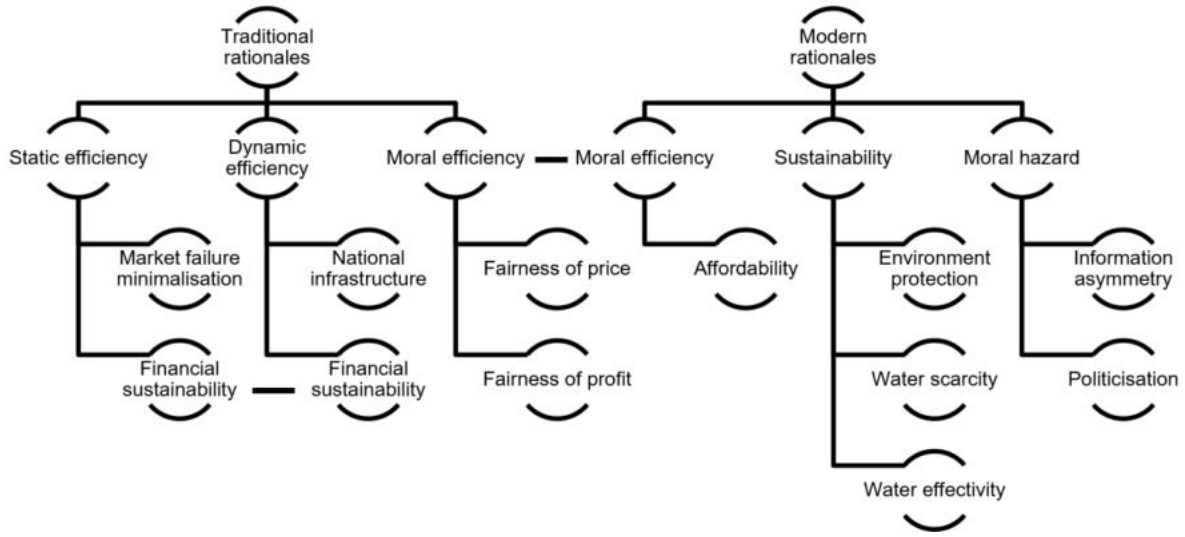
Regulation and nationalisation are logical solutions. The primary goal of natural monopoly regulation in the water sector is to find the equilibrium between the efficient prices (meaning negative profit) and monopolist prices (meaning the Pareto inefficiency) and minimise the market failure (Kim and Horn, 1999). The market failure is commonly considered as a static efficiency problem. However, the regulation motivation may also be caused by the dynamic

efficiency considerations, i.e. the investment necessary to offer the quality of service appropriate to the country's changing needs over time (Bradbur, 1992). Hence, the second goal of natural monopoly regulation in the water sector is to ensure sufficient investments into the monopolies' services to promote the overall country's growth. Both these goals may be reflected to guarantee financial sustainability, through the ability to cost recovery and economic and technology effectivity. The third regulation consideration is based on "moral" assumptions (moral efficiency) and points to such criteria as the fairness of prices and profits (Kim and Horn, 1999).

Shifting perspectives, technology development and current environmental concerns (water scarcity, climatic changes or sustainability) incorporated social and environmental dimensions into considerations and defined the modern goals of water regulations. The moral efficiency was extended by social issues represented by affordability (Hart et al., 2017), the right to water and sanitation was introduced (United Nations, 2010) and the environment and ecosystems protection, water efficiency and sustainability assessment are nowadays taking into account (Hart et al., 2017; European Commission, 2020). The moral hazard is seen in both information asymmetry and the vulnerability of water sector regulation to changes in the political environment, pointing to the possible politicisation of the regulation model choice (Estache et al., 2016).

Figure 1 shows a schematic overview of traditional and modern rationales forming the regulation approaches and model application.

Figure 1 Schematic overview of water regulation models rationales



Source: authors' own processing

III. Overview and systematisation of models

Theoretical approaches to the water pricing regulation materialised into different regulation models. Over the years of application, the original view on water pricing regulation changed as well as the academic capture, and the definitions and systematisation experienced periodical variations. Current knowledge and development require revision of the standard way of the presentation of the models. Thus, a literature review of standard approaches to water pricing models and their brief description is followed by the authors' comprehensive systematisation.

The basic framework for model systematisation may be found in Breyer and MacAvoy (1991) dividing regulation approaches into four categories: government ownership, issuing permits, rate-of-return, and price cap. Even though this structure was the basis for many studies (e.g.

Kearney and Favotto, 1994), government ownership and issuing permits cannot be considered as a standard water pricing regulation. This conclusion is consistent with Newbery (2002) recognising only two branches (cost-of-service regulation and price/incentives regulation), Liston (1993) also recognising two branches (cost-of-service regulation and price-cap regulation), or with Sappington (1994) presenting cost-of-service regulation and performance-based regulation. The difference between cap regulation and performance-based regulation is not clear, as some authors class cap regulation as performance-based regulation and some authors consider cap regulation to be an independent category (i.e. Machek and Hnilica, 2010, who in addition recognise the yardstick competition). Sappington (1994) recognises two branches, rate-of-return regulation and incentives-based regulation which the author further divides into earning sharing regulation, revenue sharing regulation, rate case moratoria, price cap regulation, partial deregulation, yardstick regulation and options (Sappington, 2000). Sappington's (1994) two branches are also proposed by Joskow (2007) who adds the category of alternative regulation represented by franchise regulation. On the other hand, Berg (1997) and the Australian Treasury (1999) divide models into five branches, cost-of-service regulation (consisting of direct price setting and rate-of-return), price cap regulation (avoiding return cap regulation), performance-based regulation, franchise regulation and yardstick regulation. Performance-based regulation may be divided into sliding scale regulation, profit sharing regulation and output floor scheme (Australian Treasury, 1999), or can be an equivalent to earnings sharing regulation (Hauge and Sappington, 2010). Besides, according to the Australian Treasury (1999), the hybrid scheme may be recognised.

The category of *cost-of-service regulation* covers two traditional approaches. The model known as the *direct price setting* is characterised by the government full control of the prices setting. It consists of utilities operated by either the government department or agency/commission. Formerly common price regulation is sharply criticised mainly due to the lack of clear objectives and the principal-agent problem (Australian Treasury, 1999). The political and social context, as well as the lack of transparency, information asymmetry and conflict of interests, determine the failure of the model as an efficient regulation. The second cost-of-service model *rate-of-return* is the most established water pricing model, which can be described using equation (1) derived from Jamison (2007) as follows:

$$\frac{p(y)\cdot y-(E+d+T)}{B} \leq r \tag{1}$$

where:

- p is the price;
- y is the quantity expected to be sold;
- E is operating expenses, i.e. the costs;
- d is the annual depreciation costs;
- T are all taxes not counted as operating expenses and not directly charged to customers;
- B is the designated rate base, which is the amount of capital or assets the utility dedicates to providing its regulated service;
- r is the allowed rate of return which is the cost the utility incurs to finance its rate base, including both debt and equity.

Its foundation lies in costs recognition and fair rate of return limitation, which are both its strengths and weaknesses. While the proponents argue for the ability to control the maximum return on investment, the opponents identify several significant problems, e.g. determination of allowable costs, depreciation expenses, lack of incentives to efficiency maximisation and to

minimise costs for the certainty of passing them on consumers while maximising the profit, the rate base and allowed return, Averch-Johnson effect (Averch and Johnson, 1962; Petersen, 1975), regulatory capture and politicisation.

While *cost-of-service regulation* may provide a standard and well-established way of price regulation, its difficulties and constraints force regulatory authorities to leave it gradually. The successor introduced in the 1980s is *price-based regulation* (also known as *cap regulation*), which may be further divided into *price-cap* and *return-cap models*, both trying to ensure the incentives to cost minimising and efficiency promoting. The *price cap model* is based on a maximum allowed inter-temporal path for the price depending on factors that are beyond the control of the regulated company. Factors may consist of exogenous variables such as price index or another benchmark, or endogenous variables such as expected efficiency growth or technology development, expressed by parameter X (reflects expected price reductions or increase). According to Littlechild (1983), the approach does not require arbitral determination and valuation of capital base or fair rate of return, and at the same time, eliminates the need to allocate only pre-defined costs. Thus, the maximisation of the equation (2) defines the model:

$$p(y) \leq \bar{p} \tag{2}$$

where:

- $\bar{p}$ is the allowed price, price cap.

Hence, the function RPI-X defining the price is introduced, which corresponds to the expected changes in the specified time interval on the market of the given sector. An alternative is to add an adjustment to inflation-permitted yields depending on consumption (Machek and Hnilica, 2010). Most authors consider this regulation to be more successful than the original rate-of-return, other previous forms of regulation or complete liberalisation. The motivation to increase efficiency is based on the simple principle: profits can be increased by reducing costs and increased by increasing consumption. However, some papers proposed that imperfect determination of the price cap, which is based on similar information as used for the rate-of-return model, also causes the Averch-Johnson effect. Other problems may be the determination of parameter X, the determination of the primary price base and ensuring the quality of water and infrastructure. *Revenue-cap model* is based on the determination of maximal allowed intertemporal path for the revenue similarly determined as the price in the price-cap model. Thus, the maximisation of the equation (3) defines the model:

$$p(y) \cdot y \leq \bar{R} \tag{3}$$

where:

- $\bar{R}$ is the allowed revenue, revenue cap.

The substitution of the price for revenue enables the regulator to change parameters without model deformation flexibly. A company can determine its tariff structure or differentiate consumer groups, such as households and industry (Kuosmanen and Nguyen, 2018). The motivation to increase efficiency is assessed as high: profits can be increased by reducing costs, and in case of reducing the consumption prices can be increased (loss reduction). The model should include in the calculation the factor of expected efficiency growth (Sappington, 1994).

Performance-based regulation may be considered the next generation of incentives-based models promoting the efficiency maximisation by linking the profit (or directly the employee reward) with the performance measuring unit. The *sliding scale model* is characterised by the

inverse relationship between price and dividends; the *revenue sharing model* distributes unexpected changes in revenue between shareholders and employees and in some cases to customers also. Similarly, the *earnings sharing model* distributes unexpected changes in earnings. In the case of setting the redistribution at a low level (i.e. profit stays in the company), the model is close to the cap regulation (high incentives), while in the case of a significant redistribution, it is close to the classic rate-of-return model. Problematic parts of the implementation are the determination of a suitable performance indicator and the insufficient control of cost growth, which can be passed on to customers.

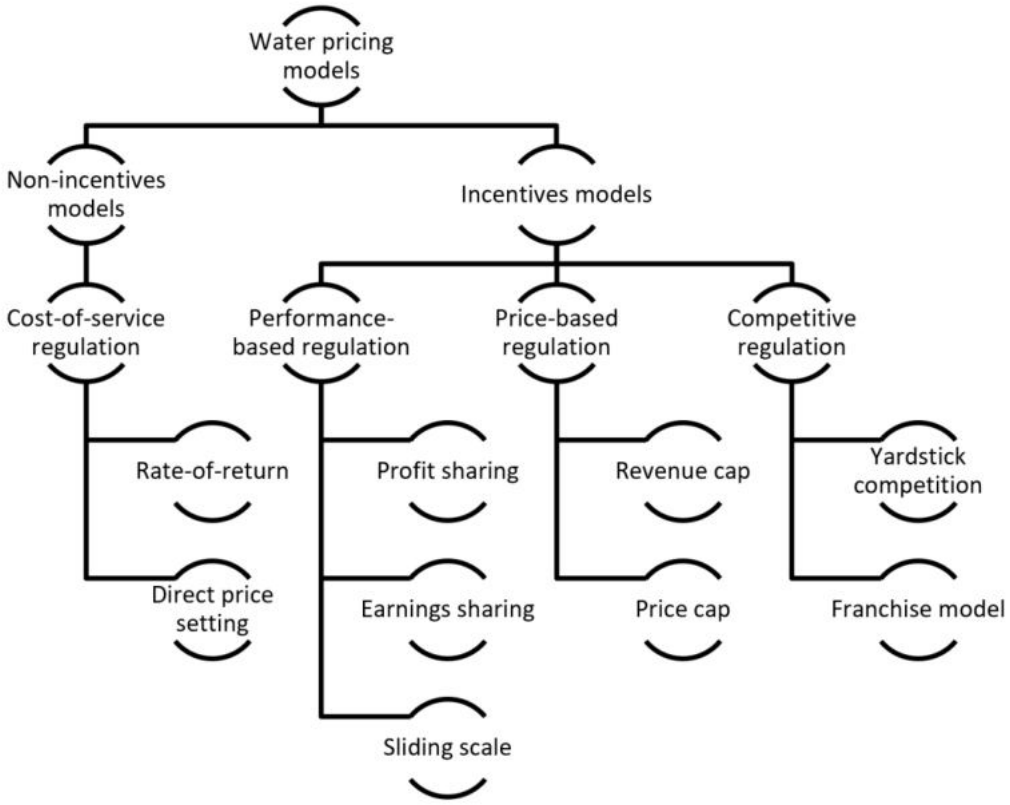
The *competitive regulation* may be understood as a slightly different approach to water pricing models as it incorporates the element of competition into pricing decision both directly and indirectly. The direct competition introduction is in the *franchise regulation model* (also known as the *auction*, *tender* or *contractual model*). The contract determines the quality and scope of services provided, as well as the responsibility for investments and the method of negotiations with the owner. The contract also specifies the conditions under which it is possible to change the price. This regulation model is discussed due to its requirement on auction complexity, determination of the contractual length and attraction of a sufficient number of bidders. A successful example is an application in Buenos Aires (Argentina), where it resulted in a 27% reduction in the price of water and a tenfold increase in investment compared to the previous situation when water supply was run by the state (Klein, 1999).

The indirect competition is introduced by the *yardstick regulation* (or *yardstick competition*), which is a regulatory tool to compare the performance or costs of the selected company with that of companies in other regions of the country or with international norms to enable the regulator to set strict performance targets or tariff adjustments at the time of regulatory review (Foster 1992; Carrington et al. 2002). The first step is to determine performance indicators (financial or non-financial). These indicators must be comprehensible, identifiable, useful and lasting over time, while in small numbers, they should provide a sufficient picture of the functioning of the company as a whole. This method is facing considerable criticism from regulated companies arguing for the uniqueness of each of them and the specific circumstances that shape their performance and thus, make valid comparisons impossible. Other problems are also the possible collusion of the monitored companies. However, it is considered a suitable tool as a complement to another model for ensuring efficiency and effectiveness in the regional, national or international comparison.

All the above mentioned are, to some extent, intertwined and may be further connected, what is called the *hybrid model*. It is very popular to add the yardstick competition or performance-based regulation to the initially used mechanism (Australian Treasury, 1999). Besides, a variant of the hybrid model is the incorporation of specific tools targeting designated goals such as environment protection and water efficiency.

Based on the literature review, the water pricing models might be divided into two groups, i.e. *non-incentive models* represented by cost-of-service regulation, which are to some extent based on the sum of costs, and *incentive models* introducing different types of incentives to reach requested efficiency, cost minimalisation or environment protection. Competitive models incorporating specific efficiency incentives can be considered incentive models as well. The systematisation of the models established by the authors is shown in Figure 2.

Figure 2 An overview of theoretical water pricing regulation models



Source: authors' own processing

IV. Methodology

To fulfil the extended aim of the paper, seven European states based on the following criteria were selected:

- economic criterion: the most economically powerful countries (Germany, France and the United Kingdom) and states less powerful, demographically comparable with the Czech Republic (Hungary, Portugal, Austria and the Czech Republic);
- geopolitical criterion: membership in the European Union, i.e. founding states (France, Germany), accession before 2004 (Portugal, Austria), after 2004 (Hungary, the Czech Republic), and secession in 2020 (United Kingdom);
- topographical and geographical criteria: prevailing water stress level (European Environment Agency, 2016a) with respect to the water exploitation index (European Environment Agency, 2016b), i.e. low (Hungary, Austria), medium (the Czech Republic, France, Portugal), and high values (Germany, England and Wales from the United Kingdom).

The applied water pricing approach (a model or the combination of the models) in the selected states was identified and further analysed based on information provided by regulation authorities. Specific criteria reflecting the rationales are introduced to assess applied water pricing models in the selected countries. Given the possibility to measure and compare the data, only *moral efficiency*, *sustainability*, and *moral hazard* were chosen for the analysis.

Moral efficiency representing both traditional and modern rationales is connected to fairness and social availability. Its characteristics are expressed by the average price of water per cubic metre (EUR/m^3) and gross operating margin (in %). Gross operating rate is an indicator of profitability that corresponds to the share of gross operating surplus in turnover. The gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed and turnover represents the total of all sales (excluding VAT) of goods and services carried out by the company (Eurostat, 2017). *Sustainability* is represented by average leakage per capita (in %) and average consumption per capita in cubic metre to illustrate the ability to promote water efficiency while reflecting the water scarcity. *Moral hazard* is in a simplified way assesses by prevailing ownership of water supply infrastructure in the selected states.

The data was obtained particularly from the open-access database of Eurostat (2020), reports published by regulatory authorities of the selected states and OECD (2020). The gross operating rate and average consumption per capita are presented as a mean value for the period 2015-2017. Other variables are due to unavailability of data stated only for the year 2017. Microsoft Excel was used to perform the calculations.

V. Water pricing models in the selected states and their assessment

Table 1 presents applied water pricing models in the selected states. The results show that the approach of the selected countries to the water regulation shows considerable heterogeneity, which could be caused by specific historical, geographical, geopolitical and topographic characteristics. The performed analysis indicates that examined countries might be divided into two groups with similar water regulation characteristics, except for Portugal representing a particular case.

Table 1 Applied water pricing models in selected countries

State	Rate of return	Direct price setting	Performance-based regulation	Price cap	Revenue cap	Franchise regulation	Yardstick competition
Czech Republic	X		X				
Austria					X		
Germany				X		X	X
France	X					X	
Portugal	X			X	X		
Hungary		X					X
England and Wales				X			X

Source: authors' own processing

The *first group of countries* consisting of the Czech Republic, Hungary and France still apply the cost-of-service regulation, even though in the hybrid form. Despite being recognised as a member of the same group, all these countries apply unique price regulation approach. The Czech Republic still adheres to the rate-of-return regulation since the transformation of its economy in the 1990s. However, it has tried to introduce some incentive tools in the regulation, but these attempts have been limited by considerable heterogeneity in size, ownership, infrastructure quality and foreign investment influence on the water supply companies. Thus, the discussion about the model innovation is still in progress. On the other hand, Hungary revolutionary changed the water sector environment in 2012 to achieve higher economies of scales. The Hungarian Water Utility Supply Act from the year 2011 set the minimal requirement

of 150,000 customers per company to operate in the water industry. Hence, from 400 original companies operating in Hungary in 2011 remained only 41 after the Act came into effect (Kisvardai, 2015). Concurrently, it accepted to some extent to *direct price setting* on the government level to maintain the water affordability (the maximal price is set by the law and oscillates around 90% of the price in 2013, HEA, 2015). France traditionally tends to *franchise regulation*. From the perspective of contractual price determination, this approach is in many cases based on the same mechanism as cost-of-service regulation but directly incorporates into the model a competitive element. Despite the long history, the data from the year 2002 show that the average number of tender participants is only 2.2 and 28% of tenders attracts only one participant (Prasad, 2008). Only in the marginal case of municipality water supply self-management in France, the standard cost-of-service regulation is commonly used (Salvetti and Canneva, 2017).

The *second group* represented by Austria, Germany, England and Wales left the traditional way and decided to apply the incentive-based models. Austria has such a plentiful supply of quality groundwater that there is no need to treat it specially and 10% of the population can supply itself, which significantly reduces costs (The European Federation of National Associations of Water Services, 2018). Applied *revenue cap model* constraint expected revenue to a maximum of twice the annual financial needs of water suppliers. Authorities are entirely in charge of the rate of return (i.e. municipal bodies, associations, etc.). Germany gives its municipalities a significant level of autonomy –each municipality may decide the water pricing model and water regulation itself. However, the *combination* of price cap model with benchmarking (yardstick competition) and the franchise regulation (sufficient competition is necessary) prevails. Regulation approaches in Austria and Germany are similar mainly due to historical, cultural and geographical proximity. Both countries emphasise the autonomous and liberal municipal water management and municipal ownership of water infrastructure. England and Wales underwent rapid privatisation in the 1980s and 1990s to restore the superannuated infrastructure and to reach financial sustainability of newly established publicly traded companies. The water sector in England and Wales is regulated and supervised by the independent state authority OFWAT, which controls the application of *price cap regulation* while incorporating the *yardstick regulation* (OFWAT, 2020). As the number of water companies is relatively low (32), their business plans are regularly analysed in detail. This fact enables OFWAT to take specifics of each company into account individually and set price cap, performance-based incentives or investment support for each company.

Portugal is a specific example of the country currently passing through a transitional phase in the water industry. Therefore, it might be considered a bridge between the first and the second group of counties. The *price cap regulation* is gradually replacing the traditional *rate of return* model*,* and pilot application of the *revenue cap model* is planned soon. Heterogeneity in the management and regulation causes significant price differences, and in some areas, the price exceeds the level of social affordability. Portugal has been prosecuted for failing to meet the framework conditions for water quality; in many cities, the standard for polluted water treatment is not met. However, according to da Cunha (2018), the situation is rapidly improving. A national fund is planned to balance uneven costs in some areas, redistributing revenues to regions with higher water abstraction and treatment costs, which would at least partially unify the currently highly differentiated prices.

To sum up, based on the analysis of water pricing applied approaches, three common elements were identified in the selected states: (1st) the hybrid model application, (2nd) the cost recovery principle and (3rd) the importance of water affordability. It should be stated that the pure cost-of-service regulation (in case of both the direct price setting and the rate of return models) is not capable of meeting the rationales, which led either (i) to the addition of an original model with some incentive tools or its combination with an incentive model to obtain the benefits of

a hybrid mechanism, or (ii) directly to switch the cost-of-service regulation with the price-based regulation (as the results show in Austria, Germany, Portugal, England and Wales).

Further, the selected criteria in these countries, reflecting some of the identified regulation rationales, were compared (see Table 2). Although some specific characteristics might be pointed out for the countries, it is not possible to divide the countries into the same groups as above. Taking into account the average wage in individual countries (see Eurostat, 2020), it can be stated that the price of water in selected countries is affordable for the population, which is consistent for instance with Hutton (2012).

Table 2 Comparison of chosen criteria representing the regulation rationales in the selected states

State	Moral efficiency		Sustainability		Moral hazard
	Average price in EUR/m^3 (2017)	Gross operating rate in % (avrg. 2015-2017)	Average leakage per capita in % (2017)	Average consumption per capita in m^3 (avrg. 2015-2017)	Prevailing ownership of infrastructure
Czech Republic	3.27	13.80	18%	30.45	private
Austria	3.67	18.47	16%	43.6	municipality
Germany	1.69	22.37	6%	44.56	municipality
France	3.92	7.93	20%	54.02	municipality
Portugal	1.82	26.10	22%	55.48	state/municipality
Hungary	2.65	10.40	21%	34.3	state
England and Wales	3.54	36.77	24%	51.1	private

Source: authors' own processing based on Eurostat (2020); National Infrastructure Commission (2019); CIEAU (2018); The European Federation of National Associations of Water Services (2018); OECD (2020)

Moral efficiency and *sustainability* are assessed together due to their connectedness. Despite the lowest average price in Germany and Portugal, both developed western countries with incentive-based water pricing models, the proximity of current state of the water sector cannot be confirmed as the average leakage per capita significantly differs. In terms of leakage, Germany could be pointed out as an example of efficient state (only 6% leakage per capita) while Portugal and England and Wales as a significantly inefficient (22% leakage, 24% respectively). The reason for this fact consists of long-term and well-managed investments and introducing innovative technologies in the water infrastructure in Germany led by experienced severe water stress in the country (European Environment Agency, 2016a). Low price in Portugal does not point to transport efficiency (the water efficiency and environment protection as well) but to a high level of average consumption which pushes the prices down. This may be changed in the near future as Portugal experiments with different price settings to fight the projected water stress level in 2050 (European Environment Agency, 2016a).

The Czech Republic represents the opposite of Portuguese high consumption. Its average water price, average leakage and average consumption per capita are rather low, which could be caused by society attitude to water scarcity and environment protection. The similar situation might be seen in Hungary sharing a similar history with the Czech Republic. Austria can be considered a bridge among the countries mentioned above with relatively low average consumption and leakage but higher average consumption per capita. The last region, England and Wales, shows the highest leakage and also one of the highest average consumption per capita. Concurrently, this region has the highest level of the gross operating rate which may be explained by the catastrophic state of the water supply infrastructure in the 1990s forcing the companies into huge investments in infrastructure, which may deform the current gross

operating rate (turnover has to be higher to cover depreciation), but as the average leakage still remains high further investments are expected. This fact is also supported by the severe water stress experienced by these regions of the United Kingdom. On the other hand, France has a significantly lower gross operating rate than other countries. This could be explained by the particular properties of the *franchise regulation* concerning various approaches to participation in investment financing set by the law.

The *moral hazard rationale* is discussed with ownership criteria results showing the Czech Republic and England and Wales as the only countries where the ownership of infrastructure is allowed to be private. Both countries decided to privatise the infrastructure but ended up with different results. England and Wales thanks to establishing of publicly traded companies managing relatively large regions are under systematic public and regulatory supervision. On the other hand, the Czech Republic privatisation ended up in a huge amount of heterogeneous companies, both in size and performance, preventing their easy supervision. Moral hazard connected to the ownership of the infrastructure consists of the possibility to apply public interest in the process of the price-setting – municipalities and states are often more willing to generate losses than private companies. On the other hand, the most discussed problem of privately-owned infrastructure is the neglecting of investments in order to generate higher profit.

To sum up, the analysed water pricing models applied in the selected countries are not easy to assess in the context of the fulfilment of the rationales illustrated by the selected criteria. Even though some states show the features of a functional model for all examined criteria (Germany, Austria), these results cannot be generalised because of the influence of unique characteristics of the states, such as availability of water sources or cultural and historical specifics. In the light of the national characteristics, selected criteria may provide only limited explanatory power and serve as an outline for future research. Hence, the general conclusion about the water pricing models ability to effectively accomplished their economic rationales cannot be stated. Nevertheless, it can be concluded that cost-of-service regulation cannot meet the expectations on the ideal regulating model, but incorporating some incentive tools, affecting the society attitude to water efficiency and environmental protection or even experimenting with a pilot of price-based regulation may provide a feasible way to get closer to the ideal model.

VI. Conclusion

Water represents final and vulnerable economic good that should be accessible and price affordable to all people. Due to the existence of natural monopolies typical in the water utility industry, the regulation precedes market failure. Despite considerable academic interest in water pricing models, comprehensive overview, and their systematisation reflecting current social requirements are not clearly stated. Therefore, this paper aimed to provide a comprehensive literature overview of existing water pricing models (in terms of natural monopoly regulation) and their rationales and to establish their ordered systematisation. Besides, to find out whether and how the models are applied in the European states, the aim was extended to classify and to qualitatively assess (with respect to the rationales) water pricing regulation approaches of the selected member states of the European Union (the Czech Republic, Austria, Germany, France, Portugal, and Hungary) and the United Kingdom (England and Wales only).

Based on the literature review, traditional and modern rationales forming the water pricing regulation were identified. While the traditional rationales proceed from the classic economic theory (static, dynamic, and moral efficiency problem), modern rationales reflect current changes in technology, society and environment (sustainability, affordability and moral hazard). Water pricing models were systemised into non-incentive models (cost-of-service

regulation) and incentives models (price-based regulation, performance-based regulation and competitive regulation). The analysis of the applied water pricing approaches/models showed three common elements in all selected states: (1st) the hybrid model application, (2nd) the cost recovery principle and (3rd) the importance of water affordability. On the other hand, selected criteria reflecting the rationales do not provide enough certainty to formulate a general conclusion, which specific model is able to meet the rationales most efficiently. However, the cost-of-service regulation models (direct price setting and rate-of-return model) cannot succeed in comparison to incentive models. Still, some states rely on these models as the standard process of a water pricing model selection depends mainly on national, political, and historical particularities, while disregarding water scarcity indicators, such as water stress level. In general, Germany, facing severe water stress with projected further deterioration, may serve as an inspiration for authorities of other states to achieve the efficient water pricing model.

The paper provided the literature review devoted to water pricing models (their rationales and systematisation) and their qualitative analysis in the selected European countries. An overview of existing models could make it possible to assess possible ways of regulating the water price in their complexity. Future studies should extend the literature review presented in the paper by mathematical-statistical analysis of the models and their effects on the national economy, including the national characteristics of both European and non-European countries. Combination of a qualitative and quantitative approach could create a comprehensive basis for policy-setters to meet recommendations formulated by OECD (2016) which should be taken into account in the process of water price setting.

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LEGAL REGULATION IN TIMES OF PANDEMIC

Libuše Halfarová[1]

Abstract

The purpose of this paper is to compare the comprehensibility of legal regulation passed in times of legislative emergency as opposed to that which is passed in standard procedure of creating and passing legal regulation. The paper focuses on comprehensibility as an attribute of legal regulation and the possibility to measure it. The paper analyses comprehensibility based on objective measuring of given elements of the text, using a comparison of two legal statues concerning care-giver's allowance, namely Act No. 187/2006 Coll., on Sickness Insurance and Act No. 133/2020 Coll., on certain adjustments in social security in connection with extraordinary measures during the epidemic in 2020. As regard the analysis method, the paper employs the Mistrík pattern in connection with the KWords application, which forms part of the Czech National Corpus. Using the Mistrík pattern, both texts were evaluated as texts of difficult comprehension. Based on the analysis of key words, measuring of their frequency the theme concentration using the KWords application, the text passed in times of legislative emergency was found to have low degree of theme concentration of text.

Keywords

Legal Regulation, Comprehensibility, Mistrík Pattern, KWord

I. Úvod

Během bezmála tří měsíců byly vládou České republiky schváleny a vydány desítky právních předpisů souvisejících s opatřeními proti koronavirové pandemii. Mnohé z nich vzbuzovaly u laické i odborné veřejnosti řadu otazníků týkajících se nejen legitimity vlády vydávat některá nařízení podle zákona o krizovém řízení, ale také jejich transparentnosti a srozumitelnosti. Tyto námitky byly fakticky podpořeny také rozhodnutím Městského soudu v Praze ze dne 23.4.2020, který rozhodl o zrušení čtyř mimořádných opatření Ministerstva zdravotnictví.[2] Soud tak vyhověl žalobě, ve které byla mimořádná opatření charakterizována jako „chaotická, nesrozumitelná, neodůvodněná a rovněž nepřiměřená", obsahující „mnohé nejasnosti", a to z důvodu „překročení věcné působnosti k jejich vydání v době vyhlášeného nouzového stavu".[3]

Tento příspěvek nahlíží na problematiku právních textů vzniklých v době koronavirové pandemie z lingvistického hlediska. Zabývá se tím, do jaké míry autoři těchto normativních textů naplnili požadavek na srozumitelnost a konkrétní zásady tvorby těchto textů vycházející jednak z pravidel obecného jazyka, jednak z Legislativních pravidel vlády, která mj. jasně formulují požadavek, že předpis musí být „koncipován přehledně a formulován jednoznačně, srozumitelně, jazykově a stylisticky bezvadně" [čl. 2, odst. 2 písm. d) LPV].

Cílem předkládané stati je srovnání srozumitelnosti právních předpisů na často diskutované a pro nepřehlednost kritizované téma ošetřovného, dominující v době pandemie COVID-19 především v souvislosti s rozhodnutím vlády o uzavření škol. Konkrétně se jedná o text § 39 zákona č. 187/2006 Sb. o nemocenském pojištění a text § 3 a § 4 zákona č. 133/2020 Sb. ze dne 25. března 2020 o některých úpravách v sociálním zabezpečení v souvislosti s mimořádnými opatřeními při epidemii v roce 2020 týkajícího se nároků na ošetřovné.

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[2] č. j. MZDR 16193/2020-2/MIN/KAN ze dne 17.4.2020, č. j. MZDR 16195/2020-1/MIN/KAN ze dne 15.4.2020, č. j. MZDR 13361/2020-1/MIN/KAN ze dne 26.3.2020 a č. j. MZDR 12745/2020-1/MIN/KAN ze dne 23.3.2020.

[3] Rozsudek Městského soudu v Praze ze dne 23.4.2020, č. j. 14 A 41/2020.

Pro analýzu srozumitelnosti výše uvedených textů jsou zde použity objektivní metody měření srozumitelnosti, jimiž se analyzuje rozložení výskytu určitých elementů v textu, resp. je zde aplikován Mistríkův vzorec podpořen aplikací KWords, která je součástí Českého národního korpusu.

Srozumitelnost právního předpisu je zde načrtnuta ve dvou rovinách, od problematiky srozumitelnosti právního jazyka k možnostem analýzy srozumitelnosti právního textu aplikované na výše uvedené právní předpisy.

II. Srozumitelnost jako atribut právního předpisu

Kritika nesrozumitelnosti právního jazyka a snahy o jeho reformu mají dlouholetou tradici především v anglosaské kultuře, kde se ujal výraz *plain language*, tj. jasný a srozumitelný jazyk, se kterým jsou spojena díla uznávaných autorů z první poloviny 20. století obsahujících různá jazyková doporučení pro psaní jasným a srozumitelným stylem[4].

Obecně je tento požadavek zcela pochopitelný – mají-li být texty právních předpisů pro své adresáty závazné a mají-li je dodržovat, musejí jim rozumět.

Požadavek na srozumitelnost právních předpisů vyplývá jednak z funkčního stylu a funkcí právního jazyka následkem funkční diferenciace v rámci spisovného jazyka, jednak z jejího chápání v českém právním systému.

Při posuzování funkčního stylu právního jazyka je patrné variování jeho některých rysů u různých jazykových stylů. Na průnikové oblasti administrativního, resp. administrativně-právního stylu[5], např. se stylem odborným nebo publicistickým, poukazuje Jelínek (1996), který se pokouší o povšechnou stylistickou analýzu administrativně právních textů.

Průnik s jinými funkčními styly zaznamenává administrativně-právní styl i v jejich funkcích, z nichž následně vyplývají požadavky, které jsou v rámci daného stylu na právní jazyk kladeny. Se stylem odborným spojují administrativní styl požadavky na "věcnou správnost spolu s výstižností a snahu po maximální objektivnosti" (Čechová 2008, s. 233), z hromadného charakteru právních textů a úsilí o ekonomičnost pak vyplývají požadavky „přesnosti, srozumitelnosti a stručnosti" (Hladiš 1995, s.105, Gerloch 2013, s.111).

V právním systému plní právní jazyk funkci normativní (regulativní, preskriptivní) a informativní (deskriptivní). Informativní funkce spočívá v informování adresáta o jemu uložených povinnostech a dovoleném chování, normativní funkce v jazykovém vyjádření právních norem.

Z preskriptivní funkce vyplývá požadavek jednoznačnosti a přesnosti právního jazyka, deskriptivní funkce je spjata s požadavkem jeho srozumitelnosti (Holländer 2006, s. 215 ff). V právní literatuře lze v tomto ohledu vysledovat konsensus autorů v tom, že by právní předpisy měly být svým adresátům srozumitelné. Podle Fullera je na jasnosti a srozumitelnosti pravidel založena sama povaha právního systému, pokud není zákonodárce schopen srozumitelné právo sdělovat, není takové „právo" vůbec možné za právo považovat (Fuller 1998, s.41 ff).

Na druhou stranu požadavek srozumitelnosti nemůže být vždy zcela naplněn současně s požadavkem právní jednoznačnosti a přesnosti. Tento jev, kdy „zvyšování jednoznačnosti, přesnosti právního jazyka, a tedy zvyšování stupně jeho exaktnosti, vede k jeho nesrozumitelnosti, a opačně" (Holländer 2006, s. 217) je označován jako paradox právního jazyka.

[4] Např. filozof Jeremy Bentham, spisovatel a novinář George Orwell nebo autoři příruček úředního stylu H. W. Fowler a E. Gowers.

[5] Někteří lingvisté hovoří o stylu administrativně-právním, např. Jelínek (1996:241), Minářová (2010:53).

Požadavek srozumitelného práva je zdůrazňován v řadě dokumentů jak na úrovni Evropské unie[6], tak v České republice, kde je výslovně zmiňován v Legislativních pravidlech vlády (LPV), která v čl. 2 odst. 2 stanoví, že „při přípravě právního předpisu je třeba dbát, aby právní předpis byl (...) koncipován přehledně a formulován jednoznačně, srozumitelně, jazykově a stylisticky bezvadně[7]". Podle metodologického dokumentu doplňujícího LPV pak výše uvedený požadavek jednoznačnosti a srozumitelnosti obnáší tyto dílčí požadavky na jednotlivá ustanovení právního předpisu, která musejí být: z věcného i právního hlediska formulována jednoznačně; mezi sebou vzájemně provázána a nesmějí mezi nimi být vzájemné rozpory; členěna a formulována přehledně, aby z nich byl zcela zřejmý smysl a účel právní úpravy a provázána s ostatními právními předpisy, se kterými nesmějí být v rozporu, zejména nemohou obsahovat neurčité odkazy, např. na postup dle jiného právního předpisu, pokud je daný postup upraven několika jinými právními předpisy (Kněžínek et al. 2010, s.13).

V pojetí LPV je tedy chápán požadavek srozumitelnosti s ohledem na vnější a vnitřní členění textu, tedy na jeho strukturu, vnitřní provázanost a určitost právního předpisu. Tyto vlastnosti textu jsou v lingvistickém pojetí srozumitelnosti rozšířeny o dimenzi jednoduchosti větné stavby, poměr vynaložených jazykových prostředků a informačního cíle a stimulující „přísady" textu, které podněcující zájem o text (Langer et al. 2013, s.17 ff).

Metody pro měření srozumitelnosti textu lze obecně rozdělit na dvě základní skupiny:

objektivní metody, jimiž se analyzuje rozložení výskytu určitých elementů v textu, z něhož se vypočítává stupeň srozumitelnosti a metody subjektivní, psychologické, jimiž se hodnotí určité vlastnosti textu na základě výroků posuzovatelů.

Způsobů objektivního měření srozumitelnosti textu, na jehož základě je v této stati demonstrována srozumitelnost právního textu, je mnoho. Jednotlivé metodiky jsou využívány pro různé účely a jsou buď univerzální, tedy použitelné pro různé jazyky, nebo zpracovány s ohledem na specifičnost textů určitého jazyka.

Pro jazyk český existují pouze tři takovéto vzorce pro měření obtížnosti textu: *FOG Index, Mistríkův vzorec a Komplexní míra obtížnosti textu*, které jsou na rozdíl od většiny vzorců pro anglický jazyk s automatickým zpracováním určeny pro zpracování manuální.

Pro posouzení míry srozumitelnosti právních textů v tomto článku se primárně vychází z Mistríkova vzorce, využit je ale také korpusový nástroj KWords.

Mistríkova metoda byla sice původně vyvinuta pro slovenský jazyk, ale verifikována i pro jiné slovanské jazyky, které s ohledem na jejich flexi při uplatnění tohoto vzorce nevykazovaly žádné odchylky. A tak je *Mistríkův vzorec* použitelný pro český jazyk bez jakýchkoliv úprav (Mistrík 1968, S.178).

Pro reprezentativnost vzorku měření Mistríkovou metodou označovanou jako „Míra srozumitelnosti" (R) je doporučován vzorek textu s minimálním počtem 300 slov. Měření se provádí podle následujícího vzorce (1):

$$R = 50 - S \cdot V \cdot \frac{L}{N} \qquad (1)$$

a zohledňuje tyto parametry:

[6] Např. Interinstituciální dohoda ze dne 22. 12. 1998, o společných pokynech k redakční kvalitě právních předpisů Společenství. In: EUR-Lex [právní informační systém]. Úřad pro publikace Evropské unie.
[7] Čl. 2 odst. 2 Legislativní pravidel vlády. Vláda ČR [online].

V– průměrnou délku vět ve slovech, která je příznakem složitosti vyjadřovaných myšlenek,

S –průměrnou délku slov v počtu slabik, tedy příznak pojmové zatíženosti textu a

I – index opakování slov, který představuje charakteristiku lexikální variability textu.

Index opakování slov se počítá pomocí vzorce I = N/L, kde „N“ vyjadřuje celkový počet slov v textu a „L“ vyjadřuje počet rozdílných slov (Mistrík 1968, s.165 ff, Průcha 2013, s. 285).

Škála obtížnosti textu se dle Mistríka nachází v rozmezí 0-50 bodů, texty s nejnižší obtížností mají hodnoty 40-50 bodů, texty s nejvyšší obtížností 0-10 bodů jsou na hranici srozumitelnosti (Průcha 2013, s. 285 ff), celkově se texty dělí do následujících pěti kategorií obtížnosti (Tab. 1).

Tabulka 1 Interpretace srozumitelnosti textu

Body	Interpretace srozumitelnosti
nav	Text je na hraně srozumitelnosti
10–20	Text je těžko srozumitelný, stylizovaný, vhodný ke studiu, nikoli ke čtení
20–30	Text je výkladový, náročný, ale srozumitelný
30–40	Text je průměrně obtížný, lehce srozumitelný, čte se plynně
40–50	Text je velmi lehký, konverzační a narativní

Zdroj: Mistrík (1968: 177), vlastní překlad

Druhým nástrojem využitým pro analýzu srozumitelnosti textu v tomto článku je aplikace KWords, která je součástí Českého národního korpusu. Původně byla vyvinuta jako nástroj pro analýzu politických projevů, dále rozvíjena a dnes poskytuje základ pro interpretaci textů do cca 20 tisíc slov tím, že analýzou slov v zadaném textu a porovnáním jejich frekvence s referenčním korpusem identifikuje klíčová slova, tzv keywords (Cvrček, Vondřička 2013).

Velikost korpusu je udávána v tzv. tokenech, v jejichž opozici se vyděluje jako vyšší rovina abstrakce tzv. typ. Typ a token jsou jednotky korpusové lingvistiky, tokenem se míní vždy konkrétní výskyt jednotky v určitém kontextu, typ je jednotka na kontextu nezávislá, nejčastěji chápána jako slovní tvar nebo lemma, která je schopna nabývat takových vlastností, jako je frekvence (Cvrček, Richterová 2014).

Poměr počtu různých slov nebo lemmat (typů) k celkovému počtu všech slov v korpusu se nazývá typ-token ratio (TTR). Pokud je tento poměr vysoký, můžeme mluvit o textu s velkou lexikální bohatostí (užívá mnoho různých jednotek), malý poměr značí velkou míru opakování (Cvrček, Richterová 2014).

III. Výběr právního předpisu a analýza jeho srozumitelnosti

Využití Mistríkova vzorce a korpusového nástroje KWords pro hodnocení srozumitelnosti právního textu je v tomto příspěvku aplikováno na právní text z oblasti jazyka právních předpisů, ve které jsou dlouhodobě realizovány kroky pro optimalizaci právního jazyka.

Pro potřeby předkládaného článku je dovozován požadavek srozumitelnosti právního předpisu také z Legislativních pravidel vlády a judikatury Ústavního soudu[8], a tato jeho vlastnost je zde analyzována a porovnána na příkladu dvou předpisů týkajících se problematiky *ošetřovného*, kdy ovšem jeden z textů (TEXT 2) vznikl v době legislativní nouze. Konkrétně byly zvoleny následující texty:

[8] Viz „Výňatky z relevantních nálezů Ústavního soudu a Evropského soudu pro lidská práva, které výslovně konstatují nutnost srozumitelnosti právních předpisů“(Kněžínek et al. (2010:20 ff).

TEXT 1: Zákon č. 187/2006 Sb. o nemocenském pojištění.

§ 39

(1) Nárok na ošetřovné má zaměstnanec, který nemůže vykonávat v zaměstnání práci z důvodu

a) ošetřování

1. dítěte mladšího 10 let, pokud toto dítě onemocnělo nebo utrpělo úraz, nebo

2. jiného člena domácnosti, jehož zdravotní stav z důvodu nemoci nebo úrazu vyžaduje nezbytně ošetřování jinou fyzickou osobou, nebo členky domácnosti, která porodila, jestliže její stav v době bezprostředně po porodu vyžaduje nezbytně ošetřování jinou fyzickou osobou, nebo

b) péče o dítě mladší 10 let, protože

1. školské zařízení nebo zvláštní dětské zařízení, popřípadě jiné obdobné zařízení pro děti, v jehož denní nebo týdenní péči dítě jinak je, nebo škola, jejímž je žákem, jsou uzavřeny z nařízení příslušného orgánu z důvodu havárie, mimořádného opatření při epidemii nebo jiné nepředvídané události,

2. dítě nemůže být pro nařízenou karanténu v péči školského zařízení nebo zvláštního dětského zařízení, popřípadě jiného obdobného zařízení pro děti, v jehož denní nebo týdenní péči dítě jinak je, nebo docházet do školy, nebo

3. fyzická osoba, která jinak o dítě pečuje, onemocněla, utrpěla úraz, nastaly u ní situace uvedené v § 57 odst. 1 písm. b) nebo c), porodila nebo jí byla nařízena karanténa, a proto nemůže o dítě pečovat.

(2) Podmínkou nároku na ošetřovné je, že osoba uvedená v odstavci 1 žije se zaměstnancem v domácnosti; to neplatí v případě ošetřování nebo péče o dítě mladší 10 let rodičem.

(3) Zaměstnanec nemá nárok na ošetřovné z důvodu ošetřování dítěte nebo péče o ně, jestliže jiná fyzická osoba má z důvodu péče o toto dítě nárok na výplatu peněžité pomoci v mateřství nebo má nárok na rodičovský příspěvek podle zvláštního právního předpisu; to neplatí, pokud tato jiná osoba onemocněla, utrpěla úraz, nastaly u ní situace uvedené v § 57 odst. 1 písm. b) nebo c), porodila nebo jí byla nařízena karanténa, a proto nemůže o dítě pečovat. Zaměstnanec nemá nárok na ošetřovné z důvodu ošetřování osoby uvedené v odstavci 1 písm. a) nebo z důvodu péče o dítě podle odstavce 1 písm. b), jestliže jiný pojištěnec má z důvodu poskytování dlouhodobé péče osobě uvedené v odstavci 1 nárok na výplatu dlouhodobého ošetřovného.

TEXT 2: Zákon č. 133/2020 Sb. o některých úpravách v sociálním zabezpečení v souvislosti s mimořádnými opatřeními při epidemii v roce 2020.

§ 3

(1) Nárok na ošetřovné má též zaměstnanec, který nemůže vykonávat v zaměstnání práci z důvodu péče o osobu ve věku nad 10 let, která je umístěna v zařízení uvedeném v § 2 odst. 2, pokud toto zařízení bylo uzavřeno na základě mimořádného opatření při epidemii.

(2) Nárok na ošetřovné má též zaměstnanec, který nemůže vykonávat v zaměstnání práci z důvodu péče o dítě ve věku od 10 let, které nedovršilo 13 let věku, pokud jsou splněny podmínky uvedené v § 39 odst. 1 písm. b) bodě 1 nebo 2 zákona o nemocenském pojištění, nebo z důvodu péče o nezaopatřené dítě, které je závislé na pomoci jiné osoby aspoň ve stupni I (lehká závislost) podle zákona o sociálních službách a nemůže navštěvovat školu z důvodu jejího uzavření na základě mimořádného opatření při epidemii. Nezaopatřenost dítěte se posuzuje podle zákona o důchodovém pojištění.

(3) Pro nárok na ošetřovné podle odstavců 1 a 2 platí jinak zákon o nemocenském pojištění.

§ 4

(1) Podpůrčí doba u ošetřovného se prodlužuje o dobu, po kterou trvalo uzavření zařízení nebo školy z důvodu mimořádného opatření při epidemii.

(2) Podle odstavce 1 se postupuje i v případě, že podpůrčí doba uplynula přede dnem nabytí účinnosti tohoto zákona.

(3) V rámci podpůrčí doby stanovené podle odstavce 1 je možné vystřídání podle § 39 odst. 4 věty první zákona o nemocenském pojištění i vícekrát, přičemž vystřídání není možné v jednom kalendářním dnu; podmínky nároku na ošetřovné a rozhodné období se přitom u každého oprávněného posuzují ke dni prvního převzetí péče. V případě vystřídání podle věty první se ošetřovné vyplácí každému oprávněnému za jednotlivé kalendářní měsíce, a to za dny jeho péče vykázané na předepsaném tiskopisu; na tomto tiskopisu se uvádějí též dny, v nichž o dítě (osobu) pečoval druhý oprávněný.

(4) Při výplatě ošetřovného za dobu podpůrčí doby prodloužené podle odstavce 1 se postupuje obdobně podle § 110 odst. 3 zákona o nemocenském pojištění, pokud se nestanoví jinak v odstavci 3.

Výsledky měření srozumitelnosti

1. Mistríkův vzorec

Na základě manuálně zpracovaných výsledků zobrazených v tabulce 1 lze konstatovat, že text 1 obsahuje 345 slov, text 2 slov 324, a tak lze oba texty považovat za reprezentativní soubor mírně přesahující minimální počet 300 slov.

Tabulka 2 Data pro výpočet Mistríkova vzorce

Výpočet	TEXT 1	TEXT2
N: Počet slov	345,00	324,00
L: Počet rozdílných slov	131,00	128,00
I: Index opakování	0,38	0,39
V: Průměrná délka vět (ve slovech)	86,25	36,00
S: Průměrná délka slov (ve slabikách)	2,44	2,35

Zdroj: vlastní zpracování

Jedním ze základních činitelů majících vliv na srozumitelnost textu je podle Mistríkova vzorce index opakování slov. Nejedná se o obecnou frekvenci slova uváděnou ve frekvenčních slovnících či korpusech, ale o ukazateli bohatosti slovníku v tomto konkrétním textu, který se vypočítá pomocí vzorce I = N/L, kde „N“ vyjadřuje celkový počet slov v textu a „L“ vyjadřuje počet rozdílných slov. Jako stejná slova jsou chápána slova se stejným kořenem bez ohledu na morfologické afixy, případně pravopisné varianty a s ohledem na slovní druhy, např. tvary *osoba, osobou* nebo *tento, tato, toto* nejsou rozdílná slova. Čím častěji se slova v textu opakují (čím vyšší je I), tím srozumitelnější a jednodušší text je, index opakování je totiž ukazatelem prediktibility: čím je vyšší, tím vyšší je prediktibilita.

Index opakování I, jehož hodnota leží v intervalu <0,01; 1>[9], je v případě našich textů srovnatelný, činí 0,38 (TEXT 1) a 0,39 (TEXT 2).

Další srovnávanou kategorií je průměrná délka slov ve slabikách. Vzorec vychází z předpokladu, že neobvyklá a zřídka se vyskytující slova jsou pojmově náročná a v průměru delší (Mistrík 1968, s. 174 ff), a proto signalizuje délka slov pojmovou náročnost textu. Tuto tezi lze doložit údaji z frekvenčního seznamu Českého národního korpusu[10]: nejfrekventovanějších 30 slov v češtině má slabikový průměr 1,16, dalších 30 slov 1,33 a zbývajících čtyřicet slov v první stovce nejčastěji se vyskytujících slov má průměr 1,8. Čím je tedy slovo v jazykové praxi vzácnější, tím je delší.

Průměrná délka slov vypovídá také o struktuře textu, pro právní texty je příznačná atrofie sloves, nominální kondenzační konstrukce se šíří na úkor úbytku kondenzátorů slovesných (Jelínek 1996), přičemž pomocná slova a slovesa jsou v průměru kratší než substantiva.

Texty analyzované v tomto příspěvku mají průměrnou délku slov 2,44, resp. 2,35, což lze označit za srovnatelné při přípustné odchylce ± 5 % (Mistrík 1968, s.177).

Výraznou odchylku (více než 50 %) vykazují texty v délce vět[11], tedy ve složitost vyjadřované myšlenky, která je v nepřímém poměru ke srozumitelnosti textu. První text je vyjádřen ve čtyřech souvětích obsahujících celkem 32 vět, průměrná délka větného celku tohoto textu činí 86,25 slov, zatímco v případě textu druhého jde o devět větných celků s celkem 26 větami, přičemž jedno souvětí se skládá v průměru z 36 slov. Porovnávané texty se tedy zásadně liší délkou vět, TEXT 1 je stylizován v delších větách než TEXT 2.

Na základě výše uvedených kritérií byla vypočítána míra srozumitelnosti předmětných textů podle následujícího vzorce (2):

$$R = 50 - S \cdot V \cdot \frac{L}{N} \qquad (2)$$

kdy S je průměrný počet slabik ve slově, V průměrný počet slov ve větě, L počet různých slov ve vzorku a N počet všech slov ve vzorku textu.

Výsledná míra srozumitelnosti TEXTU 1 dosahuje zápornou hodnotu (-29,3), u TEXTU 2 byla na základě změřených podkladů zjištěna hodnota 16,6.

TEXT 2 je tedy dle dané klasifikace těžce srozumitelný, stylizovaný, vhodný spíše ke studiu.

[9] Pro ilustraci teoretické maximální a minimální hodnoty indexu opakování I vyjděme z textu o délce N = 100 slov. V případě, že by se celý takový text skládal pouze z jediného slova, které by se stokrát zopakovalo, by platilo L/N= 1, což je hodnota maximálně „chudého“ slovníku. Na druhou stranu, pokud by se každé slovo v textu vyskytlo pouze jednou, tj. index opakování slov by byl nejmenší a slovník nejbohatší, platí pro nejnižší teoretickou hodnotu I v tomto textu L/N= 0,01.

[10] Referenční korpus SYN2015, dostupné z : www.korpus.cz.

[11] Jedná se o počet větných celků, tedy konstrukcí ve formě věty jednoduché i ve formě souvětné.

TEXT 1 dosáhl dokonce hodnot pod hranicí srozumitelnosti, a to především díky velmi složitým syntakticky přetíženým souvětím.

2. Korpusový nástroj KWords

K posouzení srozumitelnosti a verifikaci výsledků její analýzy pomocí Mistríkova vzorce poslouží také nástroj KWords, pomocí něhož lze posoudit tematické zaměření textu na základě klíčových slov.

Do aplikace KWords byly postupně nahrány oba zkoumané texty, do stop-listu, tzn. mezi slova, jež mají být z analýzy vyloučena, byla zařazena čísla, a program byl nastaven tak, aby ignoroval velikost písmen. Jako referenční korpus byl vybrán nejnovější reprezentativní korpus SYN2015 tvořený třemi textovými makrotypy – beletrií, odbornou literaturou a publicistikou (Cvrček, Richterová 2016). Byla vybrána také metoda pro stanovení klíčových slov, hodnoty nejnižší frekvence (3) a procento vypsaných klíčových slov (10 %). Po výše uvedeném upravení textů a nastavení programu byly vygenerovány následující výsledky:

Tabulka 3 Shrnutí: Typy a tokeny

	TEXT 1	TEXT 2
Tokeny	399	366
Typy	142	145
TTR	43,77 %	48,15 %

Zdroj: vlastní zpracování tabulky z aplikace KWords

Oba texty vykázaly srovnatelnou velikost a 142, resp. 145 typů, TEXT 1 ovšem obsahuje v poměru více tokenů (399) oproti TEXTU 2 (366). Tato skutečnost se projevila v tzv. TTR, což je poměr typů a tokenů, tedy počtu různých slov k celkovému počtu slov, který TEXT 2 vykazuje o něco vyšší, což je signálem větší lexikální bohatosti.[12]

V rozporu s hodnotou TTR bylo vygenerováno v TEXTU 1 více klíčových slov, a to 25, v případě TEXTU 2 aplikace vygenerovala o dvě klíčová slova méně, tedy 23. Rozložení klíčových slov ilustrují obrázky 1 a 2.

Obrázek 1: Word Cloud klíčových slov v TEXTU 1

Zdroj: aplikce KWords

[12] Viz tabulka 3.

Obrázek 2: Word Cloud klíčových slov v TEXTU 2

Zdroj: aplikace KWords

Hlavní téma textů – *ošetřování*, příp. *ošetřovné* se v TEXTU 1 objevuje desetkrát, a to především v kontextu jeho *důvodu*, případně *nároku*, přičemž oba tyto výrazy jsou také identifikovány jako klíčová slova[13].

Slovo *důvod* je v tomto analyzovaném textu navíc vyznačen žlutým podbarvením[14] jako slovo nesoucí tematickou koncentraci[15].

Tabulka 4 Kontext klíčového pojmu „ošetřovné“ („ošetřování“) v TEXTU 1

vykonávat v zaměstnání práci z důvodu a)	**ošetřování**	**1. dítěte mladšího 10 let, pokud toto**
stav z důvodu nemoci nebo úrazu vyžaduje nezbytně	**ošetřování**	jinou fyzickou osobou , nebo členky domácnosti ,
stav v době bezprostředně po porodu vyžaduje nezbytně	**ošetřování**	jinou fyzickou osobou , nebo b) péče
zaměstnancem v domácnosti ; to neplatí v případě	**ošetřování**	nebo péče o dítě mladší 10 let rodičem
) zaměstnanec nemá nárok na ošetřovné z důvodu	**ošetřování**	dítěte nebo péče o ně, jestliže jiná
. zaměstnanec nemá nárok na ošetřovné z důvodu	**ošetřování**	osoby uvedené v odstavci 1 písm. a)

§ 39 (1) nárok na	**ošetřovné**	**má zaměstnanec, který nemůže vykonávat v zaměstnání**
pečovat . (2) podmínkou nároku na	**ošetřovné**	je , že osoba uvedená v odstavci 1
. (3) zaměstnanec nemá nárok na	**ošetřovné**	z důvodu ošetřování dítěte nebo péče o ně
o dítě pečovat . zaměstnanec nemá nárok na	**ošetřovné**	z důvodu ošetřování osoby uvedené v odstavci 1

Zdroj: Konkordance, aplikace KWords

[13] Klíčová slova jsou označena červeně.
[14] Viz tabulka 4.
[15] K jejich identifikaci se nevyužívá srovnání s referenčním korpusem, ale pouze jejich umístění ve frekvenční distribuci jednotek analyzovaného textu.

Naproti tomu se výše zmíněné klíčové slovo objevuje v TEXTU 2 jen pětkrát, a to převážně v kontextu jeho *nároku*, dalšího klíčového slova[16].

V obou textech se jako klíčové slovo vyskytuje také výraz *péče*, který je v podstatě synonymním s hlavním tématem *ošetřování*. V TEXTU 1 se toto slovo objevuje devětkrát, v TEXTU 2 pouze pětkrát.

Z výše uvedeného tedy není překvapivé, že z TEXTU 2 byla aplikací vygenerována pouze klíčová slova. Druhá skupina prominentních slov, tedy slova nesoucí tematickou koncentraci textu, identifikována nebyla.

Tabulka 5 Kontext klíčového pojmu „ošetřovné“ v TEXTU 2

§ 3 (1) nárok na	**ošetřovné**	**má též zaměstnanec , který nemůže vykonávat v**
při epidemii . (2) nárok na	**ošetřovné**	má též zaměstnanec , který nemůže vykonávat v
pojištění . (3) pro nárok na	**ošetřovné**	podle odstavců 1 a 2 platí jinak zákon
v jednom kalendářním dnu ; podmínky nároku na	**ošetřovné**	a rozhodné období se přitom u každého oprávněného
. v případě vystřídání podle věty první se	**ošetřovné**	vyplácí každému oprávněnému za jednotlivé kalendářní měsíce ,

Zdroj: Konkordance, aplikace KWords

V textech jsou vygenerována jako klíčová slova také odkazy na *odstavce* (shodně v obou textech třikrát), v TEXTU 2 také odkaz na *zákon* dokonce šestkrát.

Shodně je mezi klíčovými slovy identifikováno také substantivum *zařízení*, v TEXTU 1 celkem šestkrát, a to v kontextu se *školským* či *dětským*, v TEXTU 2 se objevuje třikrát, a to vesměs v kontextu s odkazem na jiná ustanovení.

Mezi klíčovými slovy se objevily čtyři způsoby označení osob, z toho tři v TEXTU 1 (*zaměstnanec*, *osoba, dítě*), a pouze jeden v TEXTU 2 (*dítě*).

U nejpočetnějších adjektiv je situace jiná než u nejpočetnějších substantiv, nejsou zde podobnosti. Zatímco se v TEXTU 2 objevují adjektiva z různých sémantických skupin (*nemocenské, mimořádné, podpůrčí*), vyskytují se v TEXTU 1 pouze adjektivní kondenzátory (situace, osoby *uvedené*).

Co se týče sloves, vyskytuje se mezi klíčovými slovy TEXTU 1 čtyřikrát slovesný tvar *má*, a to výhradně ve vazbě s podstatným jménem *nárok*, stejně častý je výskyt tvaru *nemůže* ve spojení s *být, vykonávat* nebo *pečovat*. V TEXTU 2 je mezi klíčovými slovy identifikován jen jeden slovesný tvar, a to *nemůže* ve spojení s *vykonávat* a *navštěvovat*.

Vztahy mezi větami vyjadřuje v TEXTU 1 nejčastěji souřadící spojka *nebo*, která je v tomto textu absolutně nejfrekventovanějším slovem s 21 výskyty, dále pak podřadicí podmínková *jestliže* vyskytující se třikrát.

Pro vyjádření podmínky využívá TEXT 2 z frekventovaných slov spojku *pokud (3x)*, souřadicí spojka se mezi frekventovanými slovy nevyskytuje.

IV. Závěr

Hlavním cílem této stati bylo porovnat srozumitelnost dvou právních předpisů, z nichž jeden, zde označovaný jako TEXT 2, vznikl v době legislativní nouze.

[16] Viz tabulka 5 (červeně jsou označena klíčová slova).

Vybrané texty byly analyzovány nejprve pomocí tzv. Mistríkova vzorce, který pracuje kromě průměrné délky vět a slov i s počtem rozdílných slov. Výpočet srozumitelnosti podle tohoto vzorce ukázal, že oba texty patří do kategorie těžko srozumitelných, přičemž TEXT 1 dosáhl dokonce hodnot pod hranicí srozumitelnosti, a to především kvůli velmi dlouhým větám.

V této souvislosti je třeba poznamenat, že délka vět sama o sobě nemusí být z hlediska srozumitelnosti problematická, jde spíše o jejich komplexitu. České právní předpisy by měly podle LPV, které srozumitelnost chápou s ohledem na jeho strukturu, vnitřní provázanost a určitost právního předpisu, „dávat přednost krátkým paragrafům či článkům", v nichž by nemělo být obsaženo „více než šest odstavců"[17], což předmětný text splňuje.

Tento text (TEXT 1) je také v souladu s dalším požadavkem LPV na obsah právního předpisu, a to, že paragraf, příp. článek, „má obsahovat ustanovení, která se týkají pouze téže věci"[18], což lze naopak vytknout TEXTU 2, kdy se první věta odstavce 3 §4 týká spíše podmínek *nároku na ošetřovné*, které jsou předmětem §3, než v §4 předmětné *podpůrčí doby*.

Tematické zaměření textů bylo posouzeno na základě klíčových slov a tematická koncentrace, k čemuž posloužil nástroj KWords.

V případě TEXTU 2 neoznačila aplikace KWords jako slovo nesoucí tematickou koncentraci lemma žádné, přitom pro právní jazyk je charakteristická „vysoká koncentrace, chudost a nízký rozptyl slovníku" (Kořenský et al 1999, s. 67).

Nízká koncentrace a lexikální bohatost se projevila také v tzv. TTR (typ-token ratio), což je poměr typů a tokenů, tedy počtu různých slov k celkovému počtu slov, kdy TEXT 2 vykazuje o něco vyšší, což je signálem větší lexikální bohatost. Nutno ovšem dodat, že ani u jednoho z analyzovaných textů nepřesahuje pomě typů a tokenů 50 %.

Z hlediska frekvence bylo v TEXTU 1 nejčastěji používáno slovo *nebo*, což není překvapivé, neboť se jedná o typickou spojku pro vyjádření variant v právním textu[19], v TEXTU 2 bylo vygenerováno slovo *zákon*, používané především ve spojení s odkazy na jiné právní předpisy.

Největší rozdíl zaznamenaly texty v použití nejpočetnějších adjektiv. Zatímco se v TEXTU 2 objevují adjektiva z různých sémantických skupin – nemocenské*, mimořádné, podpůrčí*, vyskytují se v TEXTU 1 pouze adjektivní kondenzátory, např. situace či osoby *uvedené,* typické pro právní texty.

Výsledkem kvantitativního rozboru obou textů je tedy skutečnost, že se jedná o texty s obtížnou srozumitelností, nicméně odlišnou syntaktickou skladbou, přičemž obecným kvantitativním požadavkům na srozumitelnost textu v tomto ohledu odpovídá spíše TEXT 2, zatímco TEXT 1 splňuje lépe podmínky LPV.

Co se týče sémantické stránky a tematické koncentrace, lze konstatovat, že na základě zjištěné nízké tematické koncentrace, výpočtu tzv. TTR (typ-token ratio) a analýzy klíčových slov je méně srozumitelný a přehledný text vzniklý v době legislativní nouze.

Na základě výše uvedeného je zřejmé, že texty analyzované v tomto příspěvku vykazují rozdílnosti s ohledem na aspekty ovlivňující jejich srozumitelnost. K vyvození dalších závěrů by bylo potřebné analyzovat větší množství textů, a následně požadavek srozumitelnosti specifikovat. Dle mého názoru by bylo žádoucí stanovit pro tvorbu právních předpisů jasná obecně závazná pravidla (Legislativní pravidla vlády jsou vydána ve formě usnesení vlády a nejsou tedy obecně závazným právním předpisem), na nichž by se podíleli nejen právníci, ale také lingvisté.

[17] Čl. 39 odst. 2 LPV.
[18] Čl. 39 odst. 2 LPV.
[19] Čl. 42 odst. 1 LPV.

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WHY OWN IF WE CAN SHARE? BRINGS SHARING ECONOMY BENEFITS TO EVERYONE OR IS IT ANOTHER FORM OF CAPITALISM?

Nicole Horáková[1]

Abstract

We are sharing cars, coworking spaces, music, apartments, clothes or services: Thanks to the Internet and the stagnant economy, the so-called sharing economy experienced an incredible boom since the 2000s. It has become a popular vision of how to achieve a fairer distribution of finances, how everyone can share profits, how to overcome rigid hierarchies of companies and work collectives. Sharing Economy promises sustainable development, evokes the idea of a functioning neighborhood in smaller cities and the production of a "surplus value" with a human dimension or human interaction. The following paper is a review article and the presented analysis is based to a large extent on theoretical considerations referring to studies of other authors. It aims to present different forms of sharing economy and to think about the opportunities and pitfalls of using them. The article focuses especially on the situation in the Czech Republic and answers the question if our social and state systems from the sociological point of view ready to deal with these new forms and to which extent we need its regulation.

Keywords

Sharing Economy, Sustainable Development, Human Interaction, Sociology of Work

I. Introduction

The Global financial crisis (GFC) in 2007/2008 brought about a new phenomenon that bears different names and has the potential to change not only the economic and financial world as a whole but the economic interaction of every individual. The sharing economy - also known as the collaborative economy, peer-production economy, peer-to-peer economy, gig economy, on-demand economy or crowd economy - has many facets and encompasses different forms of production and work, services and applications. The different concepts have in common that they use new technologies to bring their users together and connect them. In addition to globally known platforms for accommodation and transport - Airbnb and Uber - regional providers or specialized providers in niches have also emerged. The offerings in the sharing economy range from commercial platforms for exchanging music to car sharing or bike-sharing platforms to social projects and neighborhood assistance (Schor; Attwood-Charles 2017).

This new type of economy, initially in the U.S. emerged and has spread from there worldwide, raises a number of questions and problems in different fields: in addition to questions of legal regulation, taxation and control of the platform economy, other areas have recently been increasingly discussed, such as the changes in social coexistence in neighborhoods due to Airbnb rentals, the role of providers of services, who mostly bear the entire entrepreneurial risk and often slip into precarious employment relationships without a legal framework and thus enable new forms of inequality (Srnicek 2017; Schor 2017; Castells 2010).

The sharing economy has also become established in the Czech Republic and has been receiving more attention from politics, business and science for several years (Úřad vlády ČR 2017, budoucnost v sdílení 2018, Deloitte Sdílená ekonomika 2017). However, the analyzes

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published so far mainly relate to the economic and legislative aspects of the sharing economy (Chovanculiak 2020). A critical analysis from a sociological perspective is still pending (Horáková 2019). For different reasons is empirical research on the platform economy limited because of the missing data. This article aims to provide an overview of the current state of sociological research on this topic beginning with a definition and categorization of the terms. The social connection and role of the participants in the sharing economy will be also considered as well as the development and the changes in the Czech Republic caused by the platform economy. Before we dive into the problem description and analysis, there is a brief historical introduction to the beginnings of the sharing economy.

II. The Beginnings of the Sharing Economy

In his book "The World Game" in 1971, Buckmister Fuller formulated the idea that mankind could use its material possessions more sufficiently by sharing them when he writes: "All the beds and bedrooms around the world are empty two-thirds of the time. All the automobiles are empty and motionless five-sixths of the day There are two main causes of this vast uselessness: Firstly, we try to do everything at peak loads. Secondly, we try to "own" too many objects that we use too infrequently to justify ownership" (Fuller 1971). With the help of computers, so Fuller, people will be able to use resources better and make them available to everyone, as peak times and troughs in occupancy will be adjusted. The first peer-to-peer platform was eBay founded in 1995 in the U.S. as a service platform which brings together sellers and buyers for private retail. The rapid development and spread of the Internet and the GFC in 2007/8 led to a boom in the platform economy. The most famous companies, such as Airbnb, Uber or Taskrabbit were founded during this time. Even if the sharing economy includes different services and does not offer a uniform picture, there are common characteristics that apply to the different providers: Even if the sharing economy comprises different services and does not offer a uniform picture, there are common characteristics that apply to the different providers: In principle, the providers can be differentiated into profit and non-profit as well as peer-to-peer and business-to-peer. In the case of peer-to-peer offers, the platform only acts as an intermediary that brings providers and interested parties together, whereby the provider offers his services or his property. With the business-to-peer concept, the group itself owns the items that it then offers to share. The following table shows the different possibilities, supplemented by companies that offer their services in the Czech Republic

Table 1 Type of sharing providers

		TYP OF PROVIDER	
		PEER TO PEER	BUSINESS TO PEER
PLATFORM ORIENTATION	NON-PROFIT	Hearth.net, food bank, time bank, fler.cz	Makerspaces, e.g. fajnadilna.cz
	FOR-PROFIT	Airbnb, Uber, liftago, Zonky.cz, aukro.cz	Rekola, nextbike

Source: Schor, J. (2016) Debating the Sharing Economy, with authors´ own additions

All companies in the platform economy have in common that they use the latest technologies, apps, algorithms and the Internet to offer their services or to bring providers and interested parties together. During the boom period of the sharing economy during the GFC this new type of economy was first seen as a shift in the development of capitalism (Srnicek, Williams 2015,

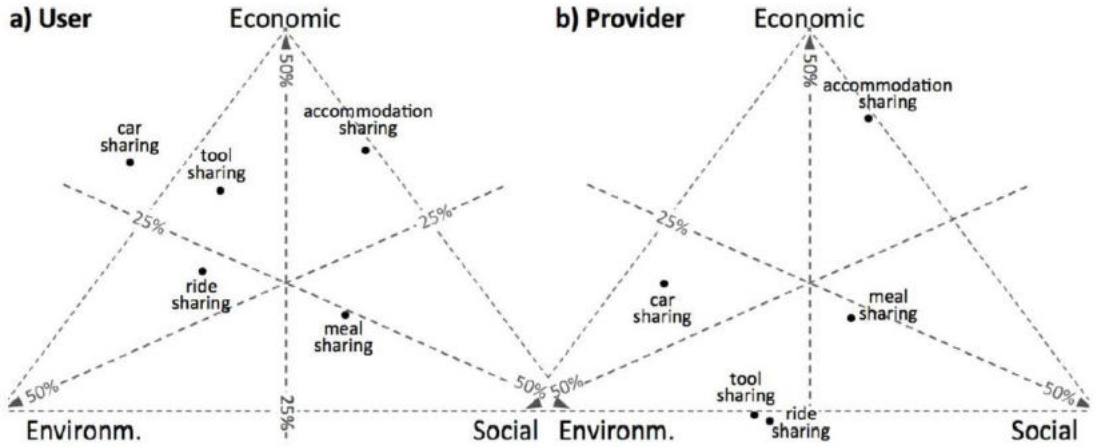
Srnicek, 2017). Sharing economy stands for another even better type of capitalism, which does not put ownership in the foreground, but should enable participating through sharing. This equal access to goods and services should also reduce carbon footprints (e.g. by shared rides) and should have a positive ecological effect. At the same time, sharing economy is supposed to create global and local communities, strengthen social ties founded by mutual trust. When start-up capital no longer plays a major role in affording mobility or a vacation, socially disadvantaged social groups also have the opportunity to participate in the economic process, so was the vision (Schor, Attwood-Charles 2017). It may seem surprising when non-profit and profit enterprises of the sharing economy stick to the same philosophy when offering their services. Sustainable development, the support of local production or the local economy, the creation of communities that goes together with the enhancement of solidarity, the commitment to equality and inclusion as well as the support of innovations are the core elements of the sharing philosophy. No doubt that non-profit companies can represent these principles in a more sustainable and credible way than profit-oriented providers (Schor, Attwood-Charles, 2017).

Regardless of how much enterprises feel committed to this philosophy, we can non-profit and profit companies in the sharing economy distinguish according to the product or service they offer: In the sharing economy we find enterprises specialized on recycling and circulation of (used) products, e.g. eBay on the global or aukro on the Czech market. A large part of the sharing economy is in the category of lending/sharing items or services in the area of housing or mobility. It is no coincidence that the best-known and most controversial representatives can be found here: Airbnb and Uber. The exchange of services (e.g. hlidacky.cz), labour or crowd-working platforms and sharing items or space with the aim to enable production (coworking or makerspaces) are smaller but also very important categories in the sharing economy.

III. Who is taking part in the sharing economy?

Participation in the sharing economy is in principle possible for everyone and is not limited by age, gender or financial opportunities. The only requirement for participation is an internet connection and the necessary hard- and software. The motivation to take part in the sharing economy is diverse but research in the U.S. shows that participants start platform work with high idealistic motivation: they are subconsciously interested in sharing values and creating personalized more humane markets in opposition to the global corporate economy (Schor, Attwood-Charles, 2017, Schor 2016). In addition to this idealistic motivation, ecological, social and not least economic aspects also play an important role. Also, not to be underestimated is the fact that the use of sharing platforms has become part of an urban and modern lifestyle: Making new friends, earning or saving money, getting better quality for less money, reducing the carbon footprint by sharing rides, all these are important aspects to become a part of the sharing economy. In their study, Böcker and Meelen (2017) examined different motivational factors of users and providers of peer-to-peer platforms. A distinction was made between social, economic and ecological motivation (see figure 1). The study shows that economic and social aspects are more important for users than for providers. For providers, social and environmental motivations are in the foreground. An exception is the apartment sharing, as this is also associated with ongoing high costs for the provider.

Figure 1: Motivation to participate in different sectors of the sharing economy (peer to peer)



Source: Böcker, Meelen (2017), p. 34

The promised positive effects in the spheres of environment, economy and social issues are critically discussed by many social scientists: Schor (2016) points out that the sharing economy does not lead to less and more sustainable consumption, but to the opposite behavior: many consumers are buying an expensive high-end product with the idea of selling it as used again only with little loss. On the other hand, many consumers take the opportunity to buy a cheaper, used item. In their case, buying a brand-new product would be beyond their financial means. The cheaper travel options through ride and apartment sharing also mean that people travel not less, but more because the platform alternatives are much cheaper than a hotel or traveling by the own car (if available). More people can, therefore, afford more and cheaper holiday trips.

As figure 1 shows, the social aspect and interaction play an important role for users and providers to participate in the sharing economy. Does the sharing economy support the social interaction between its users and do they have a better, more human relationship to each other than in “normal” economic actions? Does the sharing economy build social capital? This question is not easy to answer unambiguously. Numerous studies (Schor 2016, Schor 2017, Abraho 2017, Parigi / Cook 2015) show that many profit platforms, in particular, emphasize the interpersonal aspect. However, it turns out that with the growing number of users, anonymity grows and the social aspect takes a back seat. Besides, providers are becoming less and less altruistic under the economic pressure that comes from intermediary platforms such as Airbnb and they start focusing on the financial side of their platform engagement.

With the increasing use of sharing platforms, there is also the question of how to create trust between provider and user. Especially when services or very private items such as apartments are shared with strangers, there must be a basis of trust, although the sharing participants initially only get in touch with each other. Sociologists speak of the phenomenon of "stranger sharing": we share goods and services with strangers that we do not know. The resulting risk, e.g. victims of fraud should be reduced through feedback and ratings from other users. This also shows how limited this system is, which often generates itself: “the reputation system of Airbnb, and by extension of sharing-economy sites—the star ratings and the number of reviews—may operate to bridge the gap between institutionally generated trust and the organically grown trust present in social platforms. Although we gathered evidence for the tendency of individuals to trust similar others, by trusting the reputation system, participants in our study were willing to extend trust to those who exhibited a high degree of dissimilarity in the social space“ (Abraho et.al. 2017).

IV. Labor in the Sharing Economy

The sharing economy not only changes the relationship between the consumer and the provider but also influences the forms of work and employment contracts. Those who offer their services or products on the platforms bear a triple risk: the legal risk, the physical risk and the platform risk (Schor, Attwood-Charles 2017). The legal risk includes the lack of labor law regulations for employees, but also the fact that the providers are seen as independent contractors who structure their working hours according to the needs of the platform without complying with legal requirements. At the same time, they are fully responsible for their working materials, services or objects that they need to carry out their work or offer their services (e.g. own car, own apartment, own computer). The workforce is becoming more casualized, they are working often part-time with high mobility in working hours, intensity of work and no stable time-schedule. Because platform workers are self-employed, they alone bear the physical risk: Illness also means loss of earnings, which cannot be compensated for. The insurance is financed solely by the self-employed. Here one could argue that the situation of the platform workers is no different from that of the self-employed, who also insure themselves and have to pay their pensions. This is where the third risk comes into play: the platform risk. The provider platforms, such as Airbnb, Uber and others have great power and an enormous influence on the activity of their users who offer their services through them. Schor (2018) points out that "platforms have very low barriers to entry and attract a wide array of earners". Therefore, they use other measures to discipline their providers. Each provider has to pay the platforms a minimal commission from the earnings. However, if they want a better placement of their offer on the platform to attract more attention, they have to pay a higher commission. At the same time, the platform has the right to block a user account - temporarily or forever - without giving detailed reasons or warning. This can happen if the provider does not pay his commission on time, customers complain about the service or certain requirements of the platform are not implemented on time. In addition, the platform determines the rules under which the provider must sell his service: To attract new customers or retain them, platforms offer various bonus programs (e.g. business program at Airbnb or genius program at booking.com) that the providers have to accept in order to keep their account, but at the same time it gives them lower earnings with the same work performance. It is also important to point out that the working conditions and earning opportunities vary from platform to platform and it is therefore difficult to find a common regulation for all platforms involved in the sharing economy that meet the needs of all providers and improve their situation.

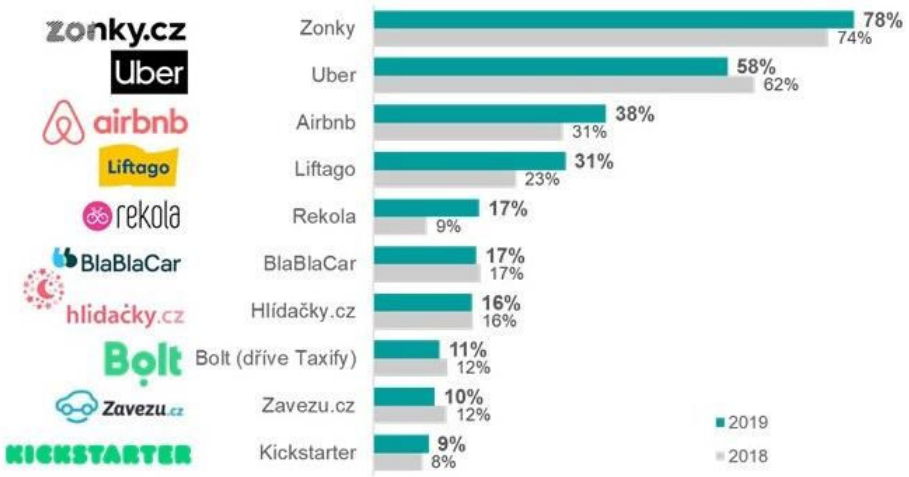
It is also important to show that platform work does not democratize capitalism and does not provide more equitable access to earning opportunities and the distribution of money. Schor points out in her research that in the United States is "an upward redistribution of opportunity and income within the top 80%" (Schor 2018). Platform work is performed disproportionately by well-educated, white college-educated providers who often take on manual work such as cleaning, driving or delivering services that were otherwise performed by unskilled workers. For those who are already financially better off, the platform work is a lucrative additional income. People who are on the lower-income scale do not have the opportunity to offer a nice apartment on Airbnb or to offer a ride with a new high-end car on Uber. „Overall, we suspect that the additional income earned by high educated platform providers worsens the distribution between them and lower educated persons at the bottom of the income scale, " summarizes Schor (2018). Another dimension of inequality relates to the ethnic criteria: various studies have shown that apartments in areas mostly populated by coloured people have received lower ratings, were cheaper and were mainly rented by coloured people. Conversely, coloured users were rejected more often or subsequently rated lower by the providers. (Schor 2018). Platform Work reproduces cultural capital in this way: Users look for offers that correspond to their own

social status since there is a risk of being rejected otherwise. In order to appeal to a certain clientele, the offers are about the “right taste”, the “right offer” and the “right marketing”.

V. The Situation in the Czech Republic

The sharing economy is a dynamically developing economic sector which is subject to rapid changes and for which it is, therefore, difficult to make long-term statements. The international sharing platforms are also represented in the Czech Republic, as are local providers who have adapted to the conditions of the local market or serve special segments (e.g. mojechaty.cz). The most used areas of the sharing economy in the Czech Republic are accommodation, mobility (Uber, but also car-sharing and bike-sharing offers), financial services and music. According to a study by the marketing agency Ipsos, 38% of respondents were familiar with the term "sharing economy", although the level of awareness of certain offers was significantly higher, as the following graphic shows.

Figure 2: Knowledge of shared economy services (Top 10) in the Czech Republic

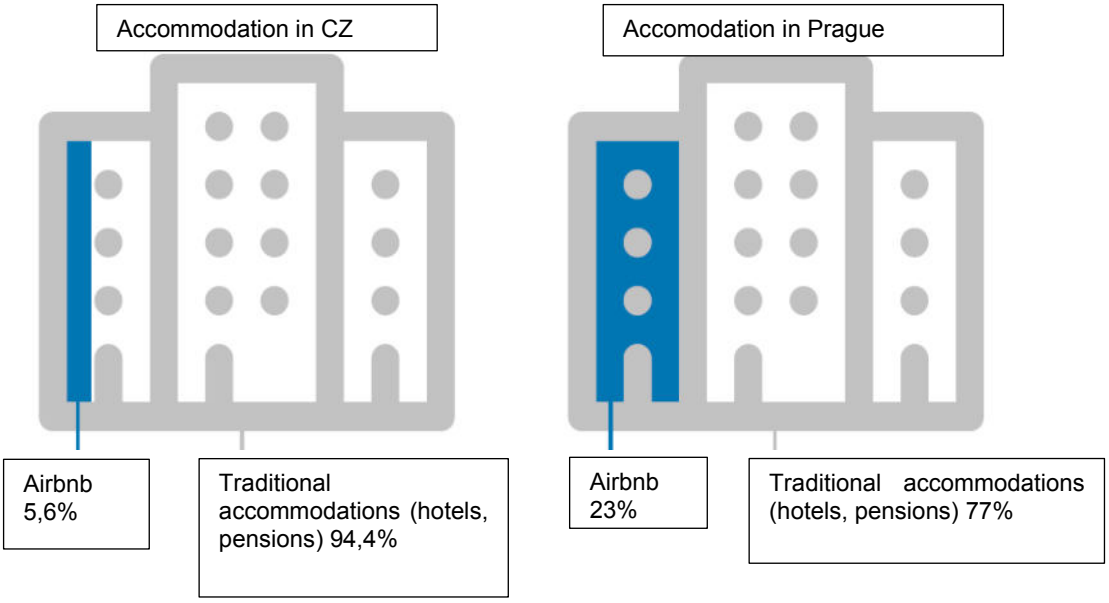


Source: Ipsos, Sdílená ekonomika 2019

The use of sharing economy services has increased since 2018. In 2019 every third Czech (35%) has tried them, most often young people from large cities with more than 100,000 inhabitants. The most used services include Uber (already tested by 14% of the population), Airbnb (11%) and Zonky (10%). While Uber and Airbnb are mainly used by people from the youngest age group 18 - 29, Zonky is popular mainly with people in the productive age of 30 - 39 years (Ipsos 2019). Around 10% of the respondents provide a service to the sharing economy themselves (in 2017 it was 8%) and another 16% say they plan to do so (10% in 2017). Two-thirds of Czechs have no experience with the provision of shared services, nor do they plan to (Ipsos 2019). According to Ipsos research, the main reasons for using platform offerings are a cheaper price (64%) and a better quality of services (25%). 21% of the respondents see in platform work an additional or main income (Ipsos 2019). As a reason for not using a sharing service, respondents stated that it was not available at their place of residence (33%) or that they were afraid of sharing with a stranger (20%).

The Airbnb and Uber services made particularly negative headlines in the Czech Republic and triggered a discussion about stricter regulation. The following text deals with the development of Airbnb in the Czech Republic and the resulting problems and approaches. For the most part, the studies presented served as a starting point for government regulation proposals.

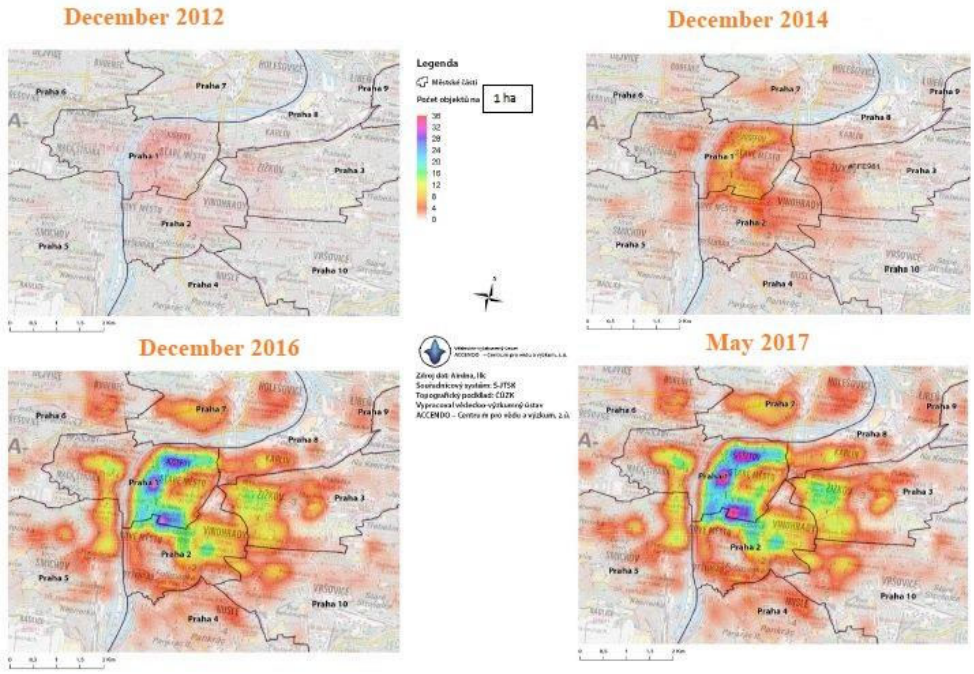
Figure 3: Market of accommodation in the Czech Republic and in Prague 2017



Source: Deloitte (2017) Sdílená ekonomika.

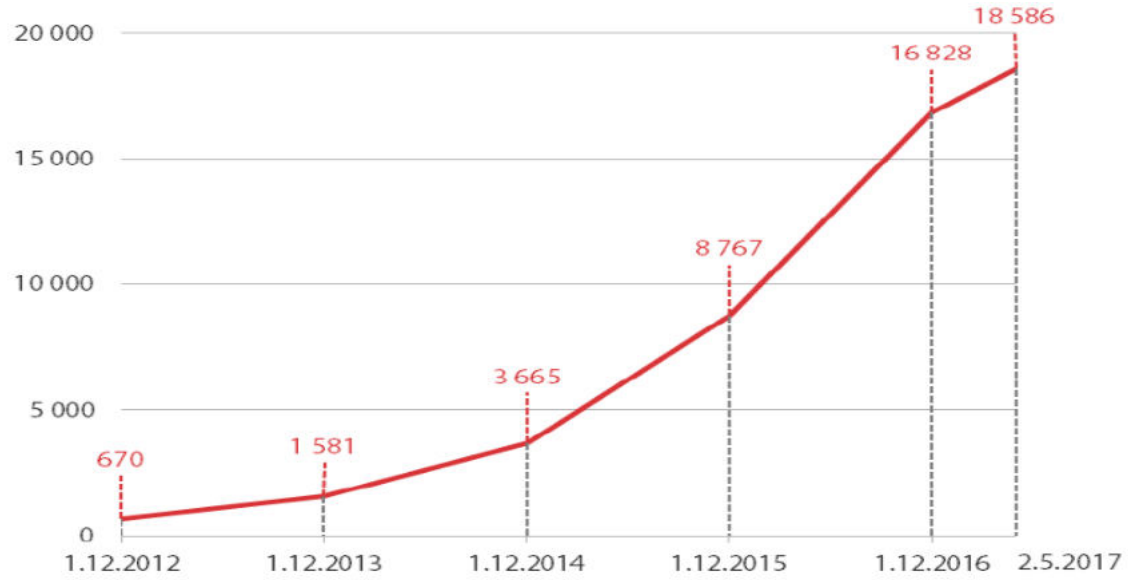
Airbnb's share of short-term overnight stays has grown continuously in recent years, particularly in Prague; in 2018 it was over 40% (novinky.cz 2018). Another study concludes that Airbnb offers over 50% of the accommodation options in Prague through its platform (Veber, Hruška 2016). Airbnb's platform, in particular, offers entire apartments for short-term rental to tourists (77%), shared rooms in a private apartment only make up around 17%. This development particularly affects the Old town of Prague and the neighboring districts, so that residents are increasingly being pushed into the outskirts. The following graphic shows the development and expansion of accommodations offered by Airbnb in Prague from 2012 to 2017.

Figure 4: Development of Airbnb in Prague from 2012 until 2017



Source: Analýza sdílené ekonomiky a platforem, 2017, příloha 1

Figure 5 Development of Airbnb in numbers in Prague from 2012 to 2017



Source: Krajčík, V., Veber, J., Bejček, M., Klučnikov, A. et al. (2017)

Between 2012 and 2017, the number of accommodations offered on the Airbnb platform increased from around 700 to over 18,000. While initially only the immediate center of Prague was affected, there is now a dense range of accommodation options available through Airbnb in almost all Prague districts. This development brings with it a whole series of negative side effects for the residents: in addition to an increased noise level due to tourist groups celebrating, the neighbourhoods are also changing significantly. In connection with the rapid increase in short-term rental of apartments, there is a sharp rise in rents for long-term tenants and a perceived lack of affordable housing. Residents are pushed out of the inner city to the periphery, the shops and the entire infrastructure in the centers adapt to these changes and gentrification occurs. This development can mostly be seen in the capital Prague but Airbnb has expanded to virtually all major tourist sites in the Czech Republic and beyond. After initial operations only in the capital, Airbnb's shared accommodation services gradually spread through the most visited tourist destinations (Český Krumlov and Valtice and Karlovarsko) to almost the entire territory of the Czech Republic (Analýza sdílené ekonomiky a platforem 2017). Uncontrolled growth without regulation can have numerous negative impacts, especially in the area of accommodation. In addition to the already mentioned, precarious working conditions for platform workers and the tightening of the housing market for residents, non-compiled and uncontrolled hygiene regulations can lead to a competitive disadvantage for official providers such as hotels. Since legal regulations for short-term rentals via sharing platforms are completely absent or are just emerging, the state and municipalities experience considerable tax and fee losses as well as possible illegality (grey economy). Other negative side-effects are lower revenues for local hotels or other accommodation facilities and possible discrimination against guests (Ministerstvo pro místní rozvoj 2017). To curb these negative aspects of the accommodation market, in particular, numerous cities around the world that have had a very high number of Airbnb rentals and have been particularly affected by the negative effects have tried to regulate the sharing economy. So e.g. Berlin, which already banned the rental of entire apartments on Airbnb in 2016 under the threat of a heavy fine.

A first attempt to formulate rules for regulating the sharing economy comes from Stephen Miller (2016). In his ten principles, Miller tries to define how the sharing economy is transforming trade. At the same time, he sets out the principles according to which future

regulation, no matter how it will look, should be based.[2] Miller explains in his article that the sharing economy needs completely new approaches to regulation than traditional economies and that in order to create these regulations, lawmakers urgently need the necessary information, which is not always easy to obtain. In addition, the sharing economy should be understood as a change that creates new markets, but at the same time, it should not be forgotten that old markets must also change significantly in order not to be taken over (Miller 2016). What are the possibilities to regulate the sharing economy, especially Airbnb in Prague? A strategy paper by the Ministry of Regional Development states that over-regulation of the sharing economy should be avoided because it creates a lot of positive effects and the regulatory measures should not bring new obstacles to the economy. Instead of relying on radical solutions such as in Berlin, attempts should be made to find a regulation together with Airbnb, such as when occupying rooms or registering guests. The strategy paper concludes that "there are a number of possible regulatory measures for the Czech Republic. The initial solution of the situation could be the beginning of deeper cooperation between the Czech Republic, the city of Prague and the Airbnb service. Such cooperation has proved itself abroad" (Ministerstvo pro místní rozvoj 2017).

So far, Airbnb has not been regulated in Prague or the Czech Republic, even if it has been announced frequently. The temporary closure of all accommodations in the pandemic during springtime 2020 has shown what Prague could look like without a large number of tourists. This positive experience gave new impulses to those responsible, but also to the residents so that the Mayor of the City of Prague would like to introduce new regulations. By curbing short-term rentals through Airbnb, he also hopes to get the problem of affordable housing for families and seniors under control. The proposal provides for the following changes to the law: the platforms should be obliged to provide the municipalities with sufficient information, e.g. how many guests are accommodated to be able to calculate the city tourist tax. At the same time, municipalities should be given the opportunity to react quickly to developments and independently regulate Airbnb's business activities and that of other platforms. A permanent rental of an apartment by Airbnb should only take place with the consent of the house community and at the same time, the structural conditions in the apartments must meet the strict requirements that hotels have to comply with (Pirátská strana 2020).

VI. Conclusion

Sharing economy is a dynamic phenomenon that has spread globally since its emergence during the 2007/8 financial crisis. A critical analysis of the different manifestations of the sharing economy has shown that the profit-oriented platforms, in particular, do not do justice to the vision that has accompanied the sharing economy from its start. Sustainable development, fair access to resources for all participants and a more humane approach between providers and customers are principles from which the profit platforms have long since removed. One of the positive effects of the profit-sharing economy is that there is an added value for the consumer: the direct exchange between the consumer and the provider often gives the customer a higher quality of service at a lower price. At the same time, this new economic form has changed working conditions significantly: The platform worker bears a much higher risk than the self-employed and - due to the lack of regulations and controls - is in danger of constantly exploiting himself. The sharing economy, therefore, does not lead to a more equitable distribution of

[2] The ten principles are the following: 1. The Sharing Economy is differentiated and requires a differentiated regulatory response, 2. The Sharing Economy must be daylighted, 3. Regulating the Sharing Economy requires (the right kind of) information, 4. The Sharing Economy is here to stay (and that is a good thing), 5. The Sharing Economy disrupts and reimagines established markets, 6. The Sharing Economy establishes new markets (that established markets want to take over), 7. The Sharing Economy disrupts and reimagines established regulatory structures, 8. The Sharing Economy requires a response beyond traditional regulation, 9. The harm and the remedy are uniquely challenging to determine the Sharing Economy, 10. Each of whom should be considered in establishing a regulatory response. (Miller, 2016)

income, but does the opposite: the more educated middle class creates a second income through platform work and deprives unskilled workers of their employment opportunities. Another negative aspect is the discrimination of ethnic, religious or sexual minorities through the platforms (either as consumers or as providers), as numerous studies show, especially from the US.

The sharing economy developed later in the Czech Republic than in the US but has great potential. A study shows that more than a third of those questioned use services of the sharing economy, around 10% themselves offer a service via a platform. In addition to the positive effects of the platform economy already mentioned, it is becoming increasingly clear that the lack of regulation can become a problem for platform providers, consumers, but also municipalities and the state. This can be seen in the example of the city of Prague and the rentals on the Airbnb platform. In 2017, these were 28 higher than in 2012. This enormous number of short-term rented housing creates a whole series of problems for residents, but also for the community itself, which could be solved by targeted regulation. However, the municipalities have their hands tied for this, as they have no instruments to regulate the platform offers. Besides, there is currently no strategy on how the apartment platforms should be regulated: a strict regulation such as that in Berlin is perceived as being too restrictive and inhibiting the economy. Close cooperation with the platforms to come to a common solution to the problems seems to be an approach that has already been successfully tried abroad, but has so far been of little use in Prague and other cities. The dynamic development of the sharing economy also makes it difficult to develop legal regulations, since they are usually out of date when they are introduced. However, the closure of the accommodation due to the pandemic in spring 2020 has shown the quality of life cities can have for their residents if the number of tourists is reduced significantly. This could lead to a motivation boost for the political will to regulate in particular accommodation platforms. But the meaningful regulation of other companies in the sharing economy is – except for Uber - still a long way off.

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MINIMUM WAGE SETTING AND THE DYNAMICS OF THE CZECH LABOR MARKET

Jakub Chalmovianský[1], Daniel Němec[2], Vlastimil Reichel[3]

Abstract

The main goal of this paper is to evaluate the impacts of alternative statutory minimum wage settings on the dynamics of the Czech economy and its labor market through the lens of a dynamic stochastic general equilibrium model. Our results are based on a medium-scale model that allows for an analysis of the macroeconomic impacts of the minimum wage. We simulate endogenous variables of the model for a talibration corresponding to the current Czech labor market characteristics and compare them with alternative scenarios for the minimum wage setting and the proportion of unskilled households in the economy. The short-run effects of these alternative scenarios are evaluated with regards to the impulse response functions of selected labor market measures on three exogenous shocks of interest, a technology shock, a shock to the minimum wage setting, and a shock to the unemployment benefits.

Keywords

DSGE Model, Impulse Response Functions, Labor Market, Minimum Wage, Unemployment

I. Introduction

The minimum wage has recently become a highly debated political topic in the European Union. The debate started when the President of the European Commission, Ursula von der Leyen, presented a fair minimum wage for every worker in the European Union as one of its political priorities (Von der Leyen, 2019). As a matter of fact, the second phase consultation of social partners on this topic has already started (European Commission, 2020). Regarding the situation in the Czech Republic, it has a minimum wage policy in place since February 1991. Based on the data from the Czech Statistical Office (CZSO), after a long period of zero nominal growth between the years 2008-2013, the government has raised it gradually in recent years. Since the beginning of 2015, it regularly grows by at least 7.6 % every year and is currently set to a level of 14 600 Czech crowns per month.

Even without the ongoing political debate on the minimum wage and the regular significant increases in its nominal level in the Czech Republic in recent years, the topic of the minimum wage has already been getting attention in the academic discussion for years. Probably the most debated work in this field of research is the paper written by Card and Krueger (1994). In their paper, the authors analyzed the impact of a minimum wage increase on employment in fast-food restaurants in New Jersey in 1992. They found consistent positive employment response to the minimum wage increase. Since then, a considerable amount of studies on minimum wage impact on the economy has been published, yet without a definite conclusion regarding its size and causal direction. The very detailed review explicitly focused on minimum wage theories as well as empirical findings is provided in (Neumark & Wascher, 2008). Often, the minimum wage effects on economic performance are studied only in labor market sectors with a higher proportion of workers with a lower level of human capital (low-skilled workers), e.g. (Bell, 1997; Neumark, 2001; Sabia, 2014; Sabia, 2015). The idea of mutual analysis of both high-

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skilled and low-skilled workers in the environment of partial equilibrium can be found in (Cahuc et al., 2001).

A natural next step in the research on the minimum wage impacts is to look at the changes in the macroeconomic aggregates and the economy as a whole. The idea that minimum wage can affect not only the sectors with a high number of minimum-wage workers but also the rest of the economy leads to the question of the macroeconomic consequences of the minimum-wage setting. The dynamic stochastic general equilibrium (DSGE) framework represents a suitable structural approach where the existence and dynamics of a minimum wage are based on formalized and logically built comprehensive microeconomic foundations. As far as we know, only a few studies are using the DSGE framework for this goal, and none of those focuses on the Czech Republic. Probably the first attempt to explicitly model the minimum wage in the DSGE framework is (Porter & Vittek, 2008), where an introduction of a statutory minimum wage in the Hong Kong economy is discussed and analyzed. Authors conclude that introduction of a statutory minimum wage may potentially elevate macroeconomic volatility and distort the ability of the economy to cope with external shocks. Another example of an analysis regarding the minimum wage setting in the DSGE model can be found in (Bušs, 2017). However, the minimum wage is not modeled explicitly, and the analysis focuses only on studying the effects of a permanent increase in the minimum-to-average wage ratio. One of the most recent contributions to this discussion is the paper by Šauer (2018), which presents a medium-scale DSGE model of a closed economy, with a mechanism allowing for explicit setting of the minimum wage and unemployment benefits, estimated on the US data.

Our contribution aims to evaluate the impacts of alternative statutory minimum wage settings on the dynamics of the Czech economy and its labor market through the lens of a DSGE model. The resulting research questions we try to answer are as follows:

- Does the increase in the minimum wage hinder the impact of a technology shock?
- Does the increased minimum wage provide incentives to the low-skilled workers for improving their participation in the labor market?
- Are there any differences between the impacts of increased unemployment benefits and minimum wage on the labor market dynamics?

The DSGE model we utilize in this contribution is based on the model proposed in (Šauer, 2018). It allows for an analysis of the macroeconomic impacts of several labor market institutions, such as the minimum wage or unemployment benefits, taking into account the complexity of the relations between different economic subjects on the microeconomic level and translating them into the general-equilibrium effects on the macroeconomic level. We simulate endogenous variables of the model for a calibration corresponding to the current Czech labor market characteristics and compare them with alternative scenarios for the minimum wage setting and the proportion of unskilled households in the economy. The short-run effects of these alternative scenarios are evaluated with regards to the impulse response functions of selected labor market measures on three exogenous shocks of interest, a technology shock, a shock to the minimum wage setting, and a shock to the unemployment benefits.

II. Model

In this section, we present the main attributes of the model used in our analysis. The model describes mutual interaction between households, firms, government, and a central bank. The model economy is populated by a $[0; 1]$ continuum of households, with each household consisting of a $[0; 1]$ continuum of individuals. Households can be of one of the following two types: unskilled households, represented by a fraction ω of the whole population; or skilled households, forming the remaining part of the population, $(1 - \omega)$. The main difference

between these two types of households lies in the professional qualification of their members (e.g., attained education, work experience, etc.). The head of each household sends part of its members out to the labor market (i.e., decides on the labor force participation rate), where they are hired by firms operating in a monopolistic competition market. The firms in the modeled economy can perfectly distinguish between skilled and unskilled labor force, thus paying real minimum wage, w_t^{min}, only to the unskilled workers. In contrast, skilled individuals are paid a higher real wage, w_t^s, as a result of a competitive labor market. The government controls the minimum wage setting up to a stochastic shock representing the ability of the government to correctly estimate what would be the wage for unskilled workers in the absence of the minimum wage. The central bank sets the interest rate to follow a simple interest-rate rule controlling for inflation and unemployment rate. In what follows, we briefly describe optimization problems faced by the households and the firms and the role of the government. For a more detailed description of the model, please refer to (Šauer, 2018).

Unskilled households

The optimization problem for an unskilled household h has the following form:

$$\max_{\{L_t^u(h)\}_{t=0}^{\infty}} E_0 \sum_{t=0}^{\infty}(\beta^u)^t \left\{ \ln\left[\zeta^u\left(C_t^u(h)\right)^{\sigma^u} + (1-\zeta^u)\left(X_t^u(h)\right)^{\sigma^u}\right]^{\frac{1}{\sigma^u}} - \frac{\Upsilon^u}{2}\left(\frac{L_t^u(h)}{L_t^{u,Ref}(h)} - 1\right)^2 \right\},$$

(1)

Where E_t is the expectation operator at time t; β^u is the discount factor of the unskilled households; ζ^u and σ^u are parameters of the utility function; Υ^u is a parameter of habit formation. Variable $L_t^u(h)$, representing the household's labor-force participation, is the only variable households decide about when maximizing their utility. Note that the utility function also includes habit formation for the household's decision making about the labor force participation, hence $L_t^{u,Ref}$ is the reference amount of supplied labor, in what follows we will assume an external habit defined as the average previous labor-force participation rate of all unskilled households, i.e. $L_t^{u,Ref}(h) = L_{t-1}^u$. Variable C_t^u represents the consumption of an unskilled household. In the model, we assume that the unskilled households spend their whole income on consumption goods only; therefore, their budget constraint is of the following form:

$$C_t^u(h) = (1-\tau_t)\left[w_t^u(h)\left(1 - z_t^u(h)\right) + q_t^u z_t^u(h)\right]L_t^u(h),$$

(2)

where τ_t denotes an income tax applied to both, the wage of unskilled household members, w_t^u, and also unemployment benefits, q_t^u; z_t^u is the unemployment rate for unskilled households. Finally, X_t^u, from eq. (1), stands for non-tradable and non-storable home-produced goods. Its production function forms the second condition for the unskilled households optimization problem:

$$X_t^u(h) = J_t\left(1 - L_t^u(h)\right),$$

(3)

where the productivity J_t follows a stochastic process:

$$J_t = \exp\left(\epsilon_t^J\right),$$

(4)

$$\epsilon_t^J = \rho^J \epsilon_{t-1}^J + \nu_t^J.$$
(5)

Only unemployed members of the household contribute to the home-production. The solution to the maximization problem leads to the following first-order condition:

$$\frac{\zeta^u\left(C_t^u(h)\right)^{\sigma^u}\frac{1}{L_t^u(h)} - (1-\zeta^u)(J_t)^{\sigma^u}\left(1-L_t^u(h)\right)^{\sigma^u-1}}{\zeta^u\left(C_t^u(h)\right)^{\sigma^u} + (1-\zeta^u)\left[J_t\left(1-L_t^u(h)\right)\right]^{\sigma^u}} = \frac{\Upsilon^u}{L_{t-1}^u}\left(\frac{L_t^u(h)}{L_{t-1}^u} - 1\right).$$
(6)

Although individuals are sent out to the labor market, they do not automatically accept every job offer. A firm offers a contract to an individual j, where it defines a proposed real wage and expected effort, e_t^u, in return. We assume that the firms can monitor the tasks of the unskilled workers, and if they detect workers provide less effort than required, they can immediately terminate the contract. This also causes such individuals to lose the opportunity to get unemployment benefits. Therefore, this mechanism allows firms to specify the effort level. However, for a firm to persuade an individual to accept the job offer, the following participation constraint has to be satisfied:

$$\ln\left(\zeta^u[(1-\tau_t)w_t^u(j)]^{\sigma^u}\right)^{\frac{1}{\sigma^u}} - \kappa e_t^u(j) \geq \ln\left(\zeta^u[(1-\tau_t)q_t^u]^{\sigma^u}\right)^{\frac{1}{\sigma^u}} + \chi.$$
(7)

Thus, the unskilled individual j accepts the firm's offer, if the obtained utility from wage decreased by the disutility from the required work effort, κe_t^u, is greater or equal to the utility from unemployment benefits plus term χ that captures two effects. If a negative social stigma from unemployment is the dominating effect, then χ is negative; if the positive impact of having more time as an unemployed person is more prominent, then it has a positive value.

Skilled households

In contrast to unskilled households, skilled households behave in a Ricardian manner and face a more complex optimization problem. Besides the labor-force participation, L_t^s, the skilled household also decides on the level of consumption, C_t^s; investment, I_t^s; bond purchases, b_t^s; and supplied effort, e_t^s:

$$\max_{\{C_t^s(h),I_t^s(h),b_t^s(h),L_t^s(h),e_t^s(h)\}_{t=0}^{\infty}} E_0 \sum_{t=0}^{\infty}(\beta^s)^t \left\{\ln\left[\zeta^s\left(C_t^s(h)\right)^{\sigma^s} + (1-\zeta^s)\left(X_t^s(h)\right)^{\sigma^s}\right]^{\frac{1}{\sigma^s}} - \frac{\Upsilon^s}{2}\left(\frac{L_t^s(h)}{L_t^{s,Ref}(h)} - 1\right)^2 - \left(1-z_t^s(h)\right)L_t^s(h)\left(e_t^s(h) - n_t^s(h)\right)^2\right\},$$
(8)

where all parameters and variables with superscript s have a similar meaning as their counterparts for unskilled households, and n_t^s denotes a social norm for the supply of effort. The optimization problem of skilled households is subject to: (i) the home production function:

$$X_t^s(h) = J_t(1 - L_t^s(h)),$$
(9)

(ii) capital accumulation equation, with deprecation rate of capital denoted as δ:

$$K_{t+1}^{s}(h) = (1-\delta)K_t^s(h) + I_t^s(h), \quad (10)$$

and (iii) their budget constraint:

$$C_t^s(h) + I_t^s(h) + b_t^s(h) = (1-\tau_t)\left[w_t^s(h)\left(1-z_t^s(h)\right) + q_t^s z_t^s(h)\right]L_t^s(h) + r_t^K K_t^s(h) + b_{t-1}^s(h)\frac{1+i_{t-1}}{\Pi_t} + d_t^s(h), \quad (11)$$

where r_t^K is a real return on capital, i_t represents nominal interest rate, Π_t is the gross inflation rate, and d_t^s stands for real dividends. Again, similarly as in the case of unskilled households, we assume an external habit for labor force participation: $L_t^{s,Ref}(h) = L_{t-1}^s$.

The solution of the maximization problem leads to the following first-order conditions and optimality conditions for labor force participation and effort:

$$f_1(h,t) = \beta_s E_t\{f_1(h,t+1)(1+r_{t+1}^K-\delta)\}, \quad (12)$$

$$f_1(h,t) = \beta_s E_t\left\{f_1(h,t+1)\frac{1+i_t}{\Pi_{t+1}}\right\}, \quad (13)$$

$$f_2(h,t) + f_1(h,t)(1-\tau_t)\left[w_t^s(h)\left(1-z_t^s(h)\right) + q_t^s z_t^s(h)\right] = \frac{\Upsilon^s}{L_{t-1}^s}\left(\frac{L_t^s(h)}{L_{t-1}^s} - 1\right), \quad (14)$$

$$e_t^s(h) = n_t^s(h), \quad (15)$$

where

$$f_1(h,t) = \frac{\zeta^s\left(C_t^s(h)\right)^{\sigma^s-1}}{\zeta^s\left(C_t^s(h)\right)^{\sigma^s} + (1-\zeta^s)\left[J_t\left(1-L_t^s(h)\right)\right]^{\sigma^s}}, \quad (16)$$

$$f_2(h,t) = \frac{-(1-\zeta^s)(J_t)^{\sigma^s}\left(1-L_t^s(h)\right)^{\sigma^s-1}}{\zeta^s\left(C_t^s(h)\right)^{\sigma^s} + (1-\zeta^s)\left[J_t\left(1-L_t^s(h)\right)\right]^{\sigma^s}}. \quad (17)$$

Unlike tasks for unskilled individuals, work tasks for skilled individuals are complex and hard to control. However, the amount of effort skilled individuals supply is known thanks to the social norm:

$$e_t^s(h) = n_t^s(h) = \phi_0 + \phi_1 \ln w_t^s(h) + \phi_2 \ln w_t^s + \phi_3 \ln w_{t-1}^s + \phi_4 \ln z_t^s + \phi_5 \ln q_t^s. \quad (18)$$

According to the social norm, one would expect $\phi_1, \phi_4 > 0$, i.e., skilled individuals supply more effort if they are given higher wages or experience a higher unemployment rate of their social class. On the other hand, $\phi_2, \phi_3, \phi_5 < 0$, since workers reduce their effort if the average wage of their social class increases in general, or in case of more generous unemployment benefits.

In what follows, we assume that all households are identical within their type. Therefore, we abstract from heterogeneity in consumption and asset holdings of individuals and households, thus we can drop any individual (j) or household (h) specific indices.

Firms

In the model economy, we distinguish two production sectors. In the final-good sector, a price-taking representative firm buys intermediate goods and create bundles of final products, demanded by households, government, and intermediate-goods firms. Its optimization problem is a standard profit maximization problem:

$$\max_{Y_t(g)\ \forall g\in[0;1]} P_t Y_t - \int_0^1 P_t(g) Y_t(g) dg, \quad (19)$$

subject to

$$Y_t = \left[\int_0^1 \left(Y_t(g)\right)^{\frac{\theta-1}{\theta}} dg\right]^{\frac{\theta}{\theta-1}}, \quad (20)$$

where $P_t(g)$ denotes the price of an intermediate good g; P_t is the aggregate price level; $Y_t(g)$ represents the production of an intermediate good g, and Y_t overall product; θ is price elasticity. The solution to this problem has the form of the following demand function for intermediate goods:

$$Y_t(g) = \left(\frac{P_t(g)}{P_t}\right)^{-\theta} Y_t. \quad (21)$$

The intermediate-good sector is populated by a $[0;1]$ continuum of monopolistically competitive firms, where each firm (g) has a standard Cobb-Douglas production function with constant returns to scale and the following inputs: technology, capital, effort, and employment (N_t^u for unskilled, and N_t^s for skilled workers). In addition, the technology follows a stochastic process.

$$Y_t(g) = A_t[K_t(g)]^{\alpha}[e_t^u(g)N_t^u(g)]^{\gamma}[e_t^s(g)N_t^s(g)]^{1-\alpha-\gamma}, \quad (22)$$

$$A_t = \exp(\epsilon_t^A), \quad (23)$$

$$\epsilon_t^A = \rho^A \epsilon_{t-1}^A + \nu_t^A. \quad (24)$$

The intermediate-good firm's optimization problem can be split into two parts. In the first part, the firm minimizes costs deciding about the size of capital and the number of workers to hire, what skilled and unskilled wages to offer, and how much unskilled effort to demand:

$$\min_{K_t(g),w_t^u(g),e_t^u(g),N_t^u(g),w_t^s(g),N_t^s(g)} r_t^K K_t(g) + w_t^u(g)N_t^u(g) + w_t^s(g)N_t^u(g), \quad (25)$$

subject to $Y_t(g) \geq \overline{Y_t}(g)$ and equations (7), (18), and (22). As Šauer (2018) argues, inequality (7) has to be binding and therefore, can be rewritten as an effort function:

$$e_t^u(g) = \frac{1}{\kappa}\ln w_t^u(g) - \frac{1}{\kappa}\ln q_t^u - \frac{\chi}{\kappa}. \quad (26)$$

The resulting optimality conditions are as follows:

$$r_t^K = \alpha mc_t(g)\frac{Y_t(g)}{K_t(g)}, \quad (27)$$

$$N_t^u(g) = \gamma mc_t(g)\frac{Y_t(g)}{e_t^u(g)}\frac{\partial e_t^u(g)}{\partial w_t^u(g)}, \quad (28)$$

$$w_t^u = \gamma mc_t(g)\ \frac{Y_t(g)}{N_t^u(g)}, \quad (29)$$

$$N_t^s(g) = (1-\alpha-\gamma)mc_t(g)\ \frac{Y_t(g)}{e_t^s(g)}\frac{\partial e_t^s(g)}{\partial w_t^s(g)}, \quad (30)$$

$$w_t^s(g) = (1-\alpha-\gamma)mc_t(g)\ \frac{Y_t(g)}{N_t^s(g)}, \quad (31)$$

where mc_t stands for real marginal costs. Šauer (2018) shows that in the absence of the binding minimum wage, the optimal effort levels can be described as constant: $e_t^u(g) = 1/\kappa$ and $e_t^s(g) = \phi_1$. This allows us to formulate wage equations using the effort functions (18) and (26) and the optimal level of effort. For skilled workers, the wage equation is of the following form:

$$\ln w_t^s = \Phi_0 + \ \Phi_1 \ln w_{t-1}^s - \Phi_2 \ln z_t^s + \Phi_3 \ln q_t^s, \quad (32)$$

where $\Phi_0 = \frac{\phi_1-\phi_0}{\phi_1+\phi_2}, \Phi_1 = \frac{-\phi_3}{\phi_1+\phi_2} > 0, \Phi_2 = \frac{\phi_4}{\phi_1+\phi_2} > 0,$ and $\Phi_3 = \frac{-\phi_5}{\phi_1+\phi_2} > 0$. For unskilled workers, in the absence of binding minimum wage, the wage is determined by the following expression:

$$w_t^{u,CM} = \exp(1+\chi)q_t^u, \quad (33)$$

where $w_t^{u,CM}$ denotes the unskilled wage that would arise in a competitive market. For the discussion on the role of optimal wages in this model, please refer to Šauer (2018).

In the second part of the intermediate-good firm's optimization problem, the firm takes the pricing decision to maximize its profit.

$$\max_{\{P_t(g)\}_{t=0}^{\infty}} E_0 \sum_{t=0}^{\infty} (\beta^s)^t \frac{f_1(t)}{f_1(0)} \frac{P_0}{P_t} \left\{ P_t(g) \left(\frac{P_t(g)}{P_t}\right)^{-\theta} Y_t - P_t mc_t(g) \left(\frac{P_t(g)}{P_t}\right)^{-\theta} Y_t - P_t \frac{\Xi}{2} \left(\frac{P_t(g)}{P_{t-1}(g)} - 1\right)^2 \right\}. \quad (34)$$

Thanks to the fact that all intermediate-good firms make decisions in the same way, the resulting first-order condition can be written without the firm-specific index g:

$$Y_t(1 - \theta + \theta mc_t) + \beta^s \Xi E_t \left\{ \frac{f_1(t+1)}{f_1(t)} (\Pi_{t+1} - 1)\Pi_{t+1} \right\} = \Xi(\Pi_t - 1)\Pi_t. \quad (35)$$

Government

The role of government in this model is defined by a set of equations that describe government consumption, G_t, and the unemployment benefits and minimum wage setting.

$$G_t = \bar{G} \exp(\epsilon_t^G), \quad (36)$$

$$\epsilon_t^G = \rho^G \epsilon_{t-1}^G + \nu_t^G, \quad (37)$$

$$q_t^u = \eta^u \exp(\epsilon_t^\eta) w_t^s, \quad (38)$$

$$q_t^s = \eta^s \exp(\epsilon_t^\eta) w_t^s, \quad (39)$$

$$\epsilon_t^\eta = \rho^\eta \epsilon_{t-1}^\eta + \nu_t^\eta, \quad (40)$$

$$w_t^{min} = (1 + \lambda) \exp(\epsilon_t^\lambda) w_t^{u,CM}, \quad (41)$$

$$\epsilon_t^\lambda = \rho^\lambda \epsilon_{t-1}^\lambda + \nu_t^\lambda. \quad (42)$$

Parameters η^u, η^s represent replacement rates for unskilled and skilled workers, respectively. The minimum wage is binding only for the unskilled labor market, i.e., $w_t^{u,CM} \leq w_t^{min} \leq w_t^s$, parameter λ (> 0) represents a wedge between the minimum and the competitive unskilled wage set by the government. As a consequence, all occurrences of w_t^u in previous sections should be substituted with w_t^{min}. Finally, the government also faces the following budget constraint and adjusts the income tax to keep the budget balanced in every period:

$$\tau_t w_t^{min} N_t^u + \tau_t w_t^s N_t^s = G_t + \bar{b}\left(\frac{1+i_{t-1}}{\Pi_t} - 1\right) + (1-\tau_t) q_t^u (\omega L_t^u - N_t^u) + (1-\tau_t) q_t^s [(1-\omega) L_t^s - N_t^s], \quad (43)$$

where $\bar{b}$ expresses the government's objective to hold a constant real debt over the business cycle.

III. Calibration and methodology

We calibrate the model described in the previous section to reflect specific characteristics of the Czech economy and, more importantly, its labor market. The summary of the benchmark calibration of selected parameters can be found in Table 1. The share of the unskilled households, ω, is calibrated using the economy-wide, the unskilled, and the skilled labor force participation rate and the corresponding unemployment rate averages for the year 2019 from the CZSO database. As the unskilled labor force, we consider individuals with at most the lower secondary education (ISCED 0-2, which corresponds to the Eurostat's "low education" category), the rest of the population forms the skilled labor force. The reason behind this dichotomy lies in the model logic and structure, only unskilled individuals are paid minimum wage, and all the unskilled individuals are paid only the minimum wage for their work effort. We also use information about the proportion of employees working for the minimum wage as of 2014, from Eurostat (2020). Details on the computation of the parameter value can be found in (Šauer, 2018). Replacement rates, η^u, η^s, roughly match the Czech unemployment benefit system concerning the decreasing amount of unemployment benefits for subsequent months of unemployment and the limit for high-income workers. The replacement rate for unskilled workers is based on the information about skilled wage proxied as the gross average wage in the Czech Republic in 2019. The values of the remaining parameters presented in Table 1 are taken from the literature, mainly based on (Aliyev et al., 2014) and (Brůha & Polanský, 2014). All the other model parameters are set in line with the initial setting presented in (Šauer, 2018).

Table 1 Overview of the benchmark calibration of model parameters

Description	Parameter	Value
Share of the unskilled households	ω	0.0967
Replacement rate – unskilled households	η^u	0.22
Replacement rate – skilled households	η^s	0.50
Discount factor – skilled households	β^s	0.99
Capital share	α	0.53
Capital depreciation rate	δ	0.015
Smoothing parameter in the monetary policy rule	ψ_i	0.52
Inflation weight in the monetary policy rule	ψ_Π	0.5
Unemployment gap weight in the monetary policy rule	ψ_z	0.5

Source: Own calculation

Table 2 presents the steady-state values that are based on information obtained from Czech macroeconomic indicators. The given steady-states are average values for available data from

2019. Steady-state value for the nominal interest rate is based on an average from 3-month interest rate PRIBOR rates in 2019. The steady-state value for the tax rate is based on tax quota data. Finally, to compute the minimum to skilled workers wage ratio, we again used the gross average wage in the Czech Republic in 2019 as a proxy for the skilled worker wage. The remaining steady-state values are expressed as functions of model parameters and other steady-state values.

To evaluate the impacts of alternative minimum wage setting, we carry out a set of model simulations based on changes in the steady-state values of the minimum wage ratio and the share of the low-skilled workers (households) operating under minimum wage framework. We simulate the dynamic response of the selected variables (consumption, labor force participation, unemployment, and output) on the shocks in technology, ν_t^A, minimum wage, ν_t^λ, and unemployment benefits, ν_t^η, using the Dynare toolbox (version 4.6.1) for MATLAB by Adjemian et al. (2011). The corresponding impulse response function is evaluated concerning the benchmark-setting of the model. We aim at the relative differences of the responses and the cumulative impacts of the shocks at selected variables. The standard deviation of the shocks is set at the value of $\log(1.2)$. This value corresponds to the 20 % increase in the shocks.

Table 2 Data-driven steady-state values

Description	Variable	Source	Value
Consumption to GDP ratio	$\bar{C}/\bar{Y}$	Eurostat*	0.505
Investment to GDP ratio	$\bar{I}/\bar{Y}$	Eurostat*	0.280
Government expenditure to GDP ratio	$\bar{G}/\bar{Y}$	Eurostat*	0.215
Debt to GDP ratio	$\bar{b}/\bar{Y}$	Eurostat	0.308
Economy-wide labor force participation rate	$\bar{L}$	CZSO	0.600
Labor force participation rate – unskilled households	$\bar{L}^u$	CZSO (ISCED, 0-2 cat.)	0.208
Labor force participation rate – skilled households	$\bar{L}^s$	CZSO (ISCED, >2 cat.)	0.642
Economy-wide unemployment rate	$\bar{z}$	CZSO	0.022
Unemployment rate – unskilled households	$\bar{z}^u$	CZSO (ISCED, 0-2 cat.)	0.107
Unemployment rate – skilled households	$\bar{z}^s$	CZSO (ISCED, >2 cat.)	0.019
Nominal interest rate	$\bar{\imath}$	CNB	0.021
Tax rate	$\bar{\tau}$	OECD	0.353
Minimum to skilled worker wage ratio	$\bar{w}^{min}/\bar{w}^s$	CZSO	0.391

**Adjusted for the closed economy model*
Source: Own calculation

Our simulations are based on seven scenarios, as depicted in Table 3. These scenarios cover the possible increase and decrease of the minimum wage (measured as the ratio to the wage of skilled workers) and the increase of the share of unskilled workers in the economy.

Table 3 Overview of the simulated scenarios

	Labor share of the unskilled workers, ω	
Minimum wage ratio, $\overline{w}^{min}/\overline{w}^{s}$	no change	doubled
-5 %	scenario 1 (Sim1)	scenario 5 (Sim5)
no change	benchmark	scenario 4 (Sim4)
+5 %	scenario 2 (Sim2)	scenario 6 (Sim6)
+10 %	scenario 3 (Sim3)	scenario 7 (Sim7)

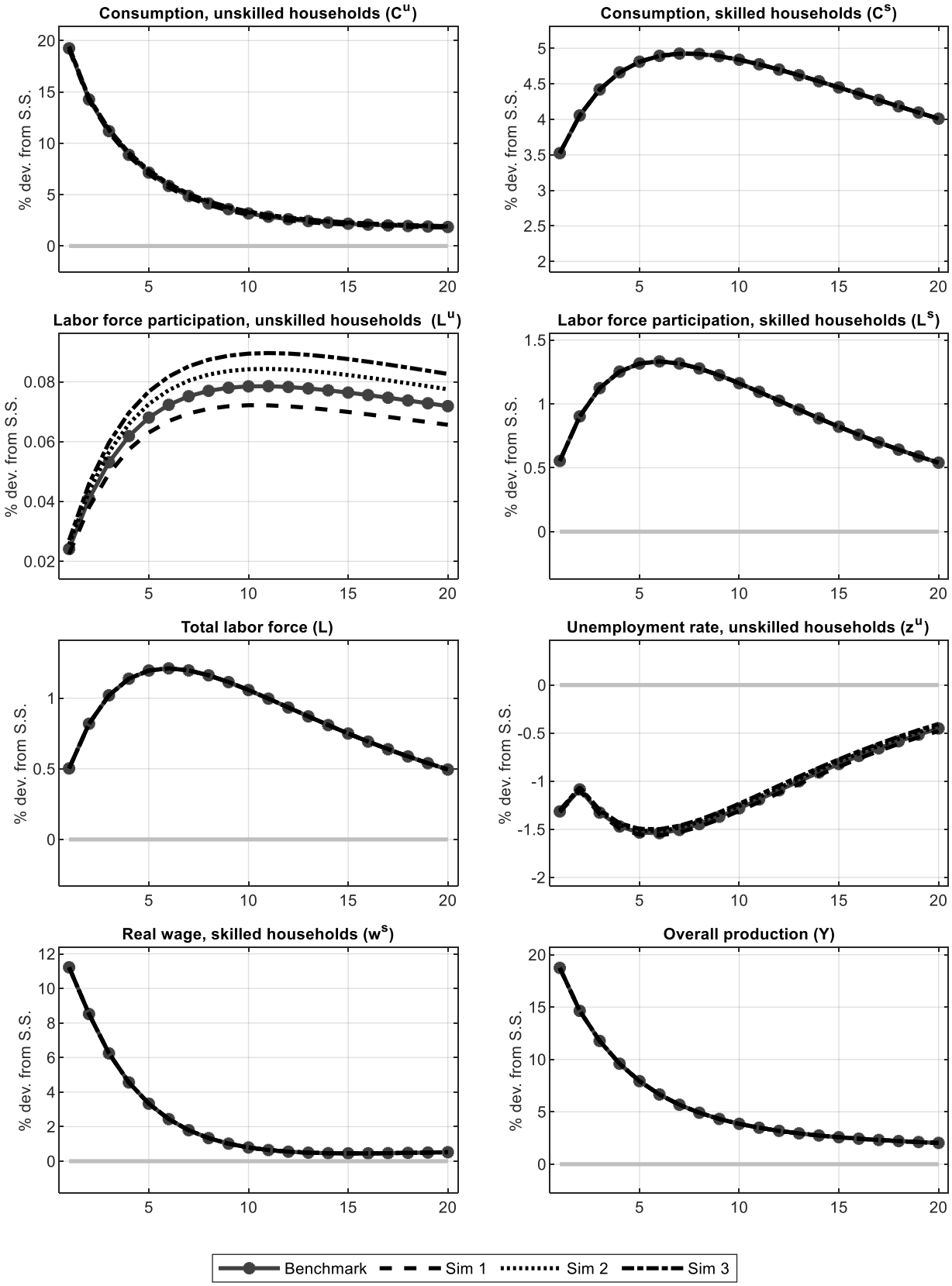
Source: Own calculation

IV. Results

Figure 1 and Figure 2 present the impulse response functions to the positive technology shock. The minimum wage changes do not affect the responses of the key macroeconomic variables (overall production, consumption, real wage, and total labor force). The main differences are connected with the labor force participation of the unskilled workers (households). The technology shocks increase the willingness of the unskilled workers to get employed concerning the increase in the minimum wage ratio. Positive technology shock contributes to the lower unemployment rate among unskilled workers. The unemployment gap is slightly deeper when considering the decrease in the minimum wage ratio. The relative increase of the minimum wage leads to a higher participation rate, but this increase is better accommodated at the labor market with a lower minimum wage.

The results depend on the share of unskilled household members. When considering the twice as big share of the unskilled workers in the economy, one can see that the technology shock influences the growth of the total labor force with less intensity in comparison with the benchmark model. The reason is that the reaction of the labor force participation of the skilled workers is much higher than the response of the unskilled employees (almost 1.5 % at maximum in comparison with less than 0.1 percent of unskilled workers). The doubled share of the unskilled labor force damped the decrease in the unemployment rate. On the other hand, it amplified the response of labor force participation in all scenarios that consider the minimum wage change.

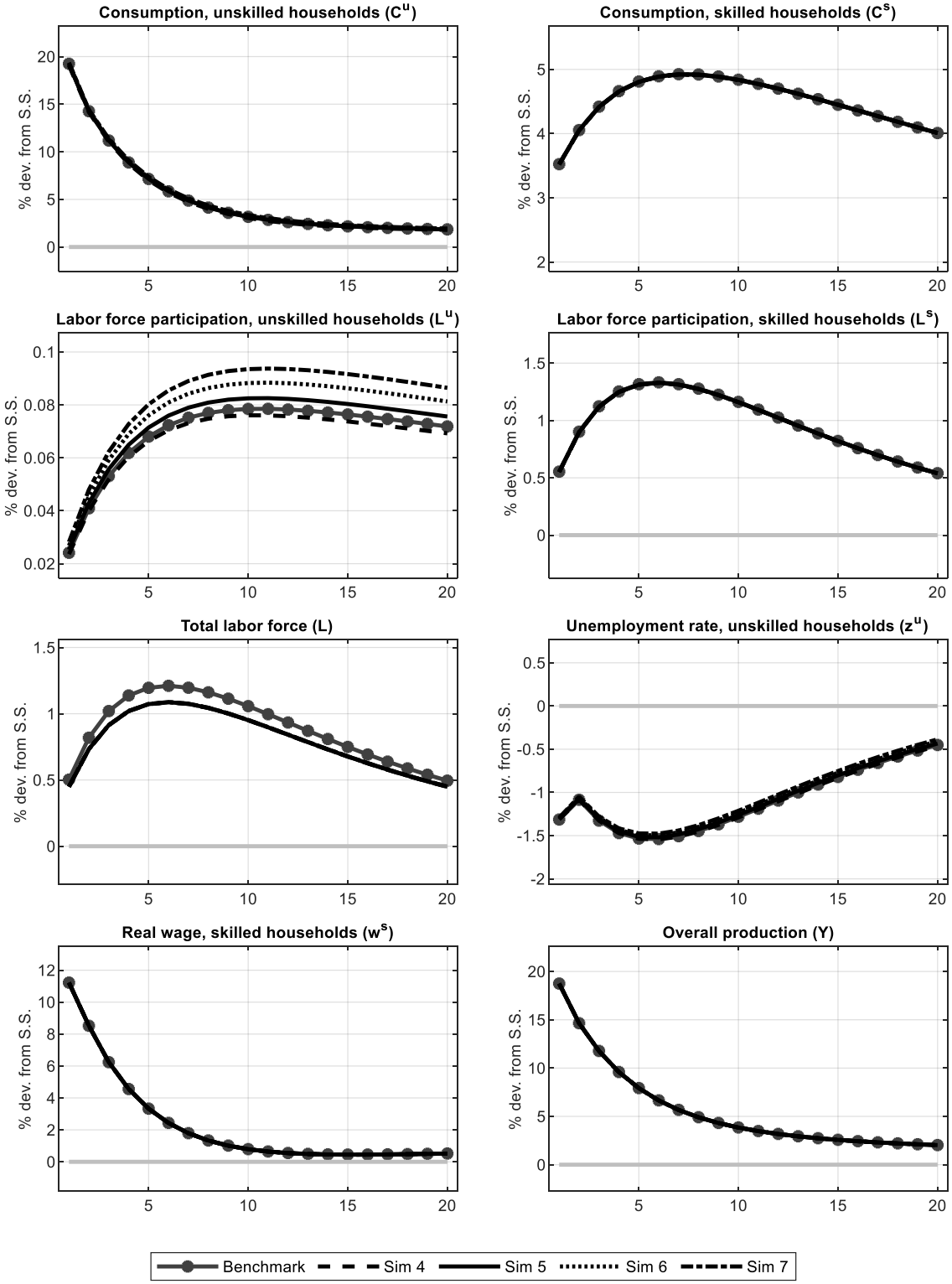
Figure 1 Impulse responses to a technology shock



Source: Own calculation

Benchmark: benchmark scenario; Sim1: $\overline{w}^{min}/\overline{w}^{s}$ reduced by 0.05; Sim2: $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.05; Sim3: $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.1.

Figure 2 Impulse responses to a technology shock with double the share of unskilled households



Source: Own calculation
Benchmark: benchmark scenario; Sim4: share of unskilled households (ω) doubled; Sim5: share of unskilled households (ω) doubled and $\bar{w}^{min}/\bar{w}^{s}$ reduced by 0.05; Sim6: share of unskilled households (ω) doubled and $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.05; Sim7: share of unskilled households doubled (ω) and $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.1.

Figure 3 and Figure 4 show the impulse response functions related to the positive shock to minimum wage. The increase of the minimum wage (or better to say possible overestimation of the minimum wage above the competitive wage) has a positive impact on the relative growth of the consumption of the unskilled households (8 % to 11 %). This increase is indirectly related to the changes in the minimum wage ratio. The same holds to the response of labor force participation. The increased minimum wage creates incentives to the unskilled households for participating in labor activities, although the increase is relatively small (about 0.04 percent at maximum). The minimum wage increase above the competitive wage causes pressure on the real wage growth of skilled workers (0.15 %). It slightly dampens down the economic activity and negatively increases the unemployment rate gap of the unskilled labor force (more than 15 %). The economic slowdown is accompanied by a decrease in the consumption of skilled households. All these mechanisms are stronger when considering the higher share of the unskilled workers in the economy.

Figure 5 and Figure 6 present the impulse response functions to the positive shock to unemployment benefits. The responses are similar to the impacts of minimum wage shock. One can observe a more significant drop in the consumption of skilled households. This result stems from the fact that the fall of the output is sharper, and the unemployment benefits need to be financed by the government revenues and the increased income tax.

Table 4 Cumulative shock impacts in 20 periods (% deviation from steady-state)

Technology shock (ν_t^A)								
Variable \ Scenario	Benchmark	Sim1	Sim2	Sim3	Sim4	Sim5	Sim6	Sim7
C_t^u	104,43	102,12	106,21	107,63	102,26	104,52	106,27	107,64
C_t^s	89,95	89,96	89,93	89,92	89,95	89,92	89,89	89,86
L_t^u	1,39	1,27	1,49	1,58	1,34	1,46	1,56	1,65
L_t^s	19,48	19,48	19,47	19,47	19,44	19,43	19,42	19,41
L_t	17,73	17,72	17,73	17,74	15,94	15,95	15,97	15,98
z_t^u	-21,83	-22,31	-21,39	-20,99	-21,96	-21,46	-21,01	-20,6
w_t^s	46,27	46,28	46,27	46,26	46,22	46,21	46,2	46,19
Y_t	114,14	114,15	114,12	114,11	114,02	113,99	113,96	113,92
Shock to minimum wage (ν_t^λ)								
C_t^u	39,71	45,19	35,41	31,95	45,43	39,93	35,62	32,14
C_t^s	-0,15	-0,14	-0,16	-0,16	-0,37	-0,39	-0,4	-0,42
L_t^u	0,59	0,63	0,56	0,53	0,67	0,62	0,59	0,56
L_t^s	0,13	0,13	0,13	0,12	0,23	0,23	0,22	0,22
L_t	0,17	0,18	0,17	0,16	0,31	0,3	0,29	0,28
z_t^u	66,44	66,61	66,3	66,18	66,63	66,45	66,3	66,17
w_t^s	0,11	0,11	0,11	0,1	0,24	0,23	0,22	0,21
Y_t	-0,02	-0,01	-0,03	-0,04	-0,07	-0,09	-0,11	-0,13
Shock to unemployment benefits (ν_t^η)								
C_t^u	42,99	49,31	38,01	34	48,91	42,47	37,39	33,27
C_t^s	-1,27	-1,21	-1,33	-1,4	-1,97	-2,1	-2,24	-2,37
L_t^u	0,64	0,69	0,6	0,56	0,72	0,67	0,62	0,58
L_t^s	0,04	0,05	0,03	0,01	0,02	-0,01	-0,03	-0,06
L_t	0,1	0,12	0,08	0,07	0,16	0,12	0,09	0,06
z_t^u	68,02	68,2	67,86	67,73	68,38	68,2	68,04	67,91
w_t^s	0,84	0,88	0,81	0,77	0,76	0,69	0,61	0,54
Y_t	-1,46	-1,38	-1,54	-1,62	-2,08	-2,25	-2,43	-2,6

Source: Own calculation based on model impulse response functions

Benchmark: benchmark scenario; Sim1: $\bar{w}^{min}/\bar{w}^{s}$ reduced by 0.05; Sim2: $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.05; Sim3: $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.1; Sim4: share of unskilled households (ω) doubled; Sim5: share of unskilled households (ω) doubled and $\bar{w}^{min}/\bar{w}^{s}$ reduced by 0.05; Sim6: share of unskilled households (ω) doubled and $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.05; Sim7: share of unskilled households doubled (ω) and $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.1.

Table 4 depicts the cumulative responses of the model variables to the selected shocks. The variables L_t^u, L_t^s, L_t, and z_t^u are stock variables and cannot be interpreted directly as the cumulative sums of responses. We will thus focus on their average one-period values. The cumulative responses follow the mechanisms described in the previous paragraphs. The minimum wage shock and the shock to unemployment benefits have similar impacts on the unemployment rate of unskilled workers. Both shocks increase the average one-period unemployment rate by 3.2 to 3.4 percent. The growth of unemployment benefits harms the economy more than the growth (overvaluation) of the minimum wage. The cumulative decrease of the economy ranged from 0.01 % to 0.13 % when the minimum wage increases, and from 1.38 % to 2.6 % when the unemployment benefits grow. Both impacts are amplified by the higher share of the unskilled workers in the economy and by the higher minimum wage ratio.

The increased minimum wage ratio has a negligible cumulative impact on the total output when evaluating the shock in the technology. The difference in the one-period average unemployment rate is 0.06 percent at maximum (when comparing the benchmark model and the scenario 7 that assumes the increase in both the minimum wage ratio and the share of unskilled workers).

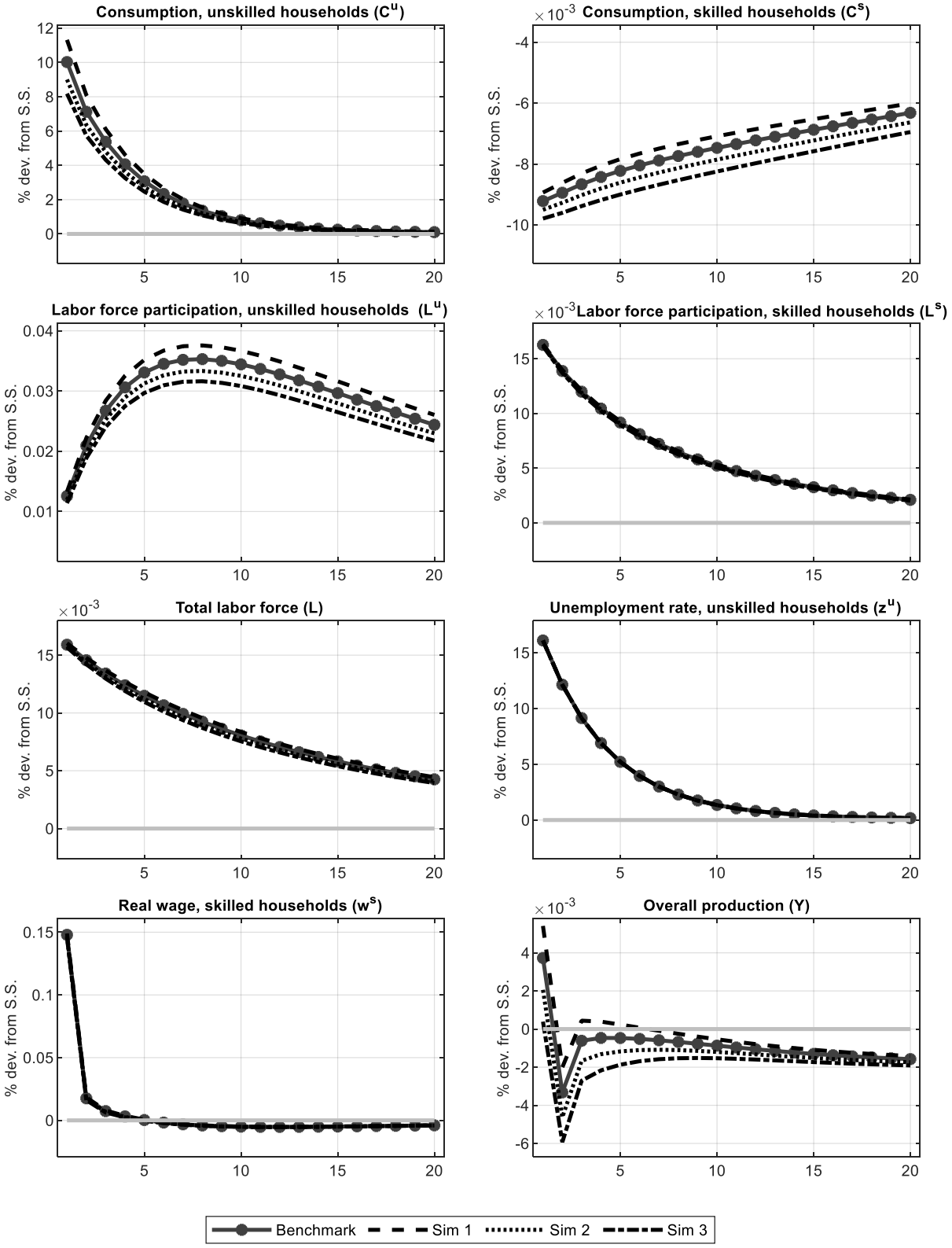
V. Conclusion

In this paper, we have evaluated the impacts of alternative statutory minimum wage settings on the dynamics of the Czech economy and its labor market. We have used the DSGE model, as proposed by Šauer (2018), that allowed for an analysis of the macroeconomic impacts of the minimum wage setting. We have investigated the effects of alternative minimum wage settings by carrying out a set of model simulations based on changes in the steady-state values of the minimum wage ratio and an increase in the share of the low-skilled households operating under minimum wage framework. We have simulated the dynamic response of the selected variables (consumption, labor force participation, unemployment, and output) on the shocks in technology, minimum wage, and unemployment benefits. We have then compared the corresponding impulse response functions to the benchmark-setting of the model, corresponding to the current situation in the Czech labor market. We have focused on the relative differences of the responses and the cumulative impacts of the shocks at selected variables.

Based on our analysis, the increase in the minimum wage does not seem to have any adverse effect on the key macroeconomic indicators in their response to a positive technology shock. The cumulative impact of increased minimum wage ratio to the reaction of the overall output of the economy to a technology shock is negative but negligible. An increase in the minimum wage ratio only leads to a more prominent response in the labor force participation of the unskilled households, where higher the minimum wage ratio higher their willingness to participate in the labor market. Overvaluation in the minimum wage creates another stimulus for unskilled households to increase their labor force participation. However, their reaction is somewhat muted and indirectly related to the minimum wage ratio. According to the presented impulse response functions, both the possible overestimation of the minimum wage above the competitive wage and shock to unemployment benefits, lead to similar consequences regarding the labor market dynamics. The same does not hold for the overall output, where the growth of unemployment benefits causes it to decline more significantly when compared to the effect of the minimum wage increase.

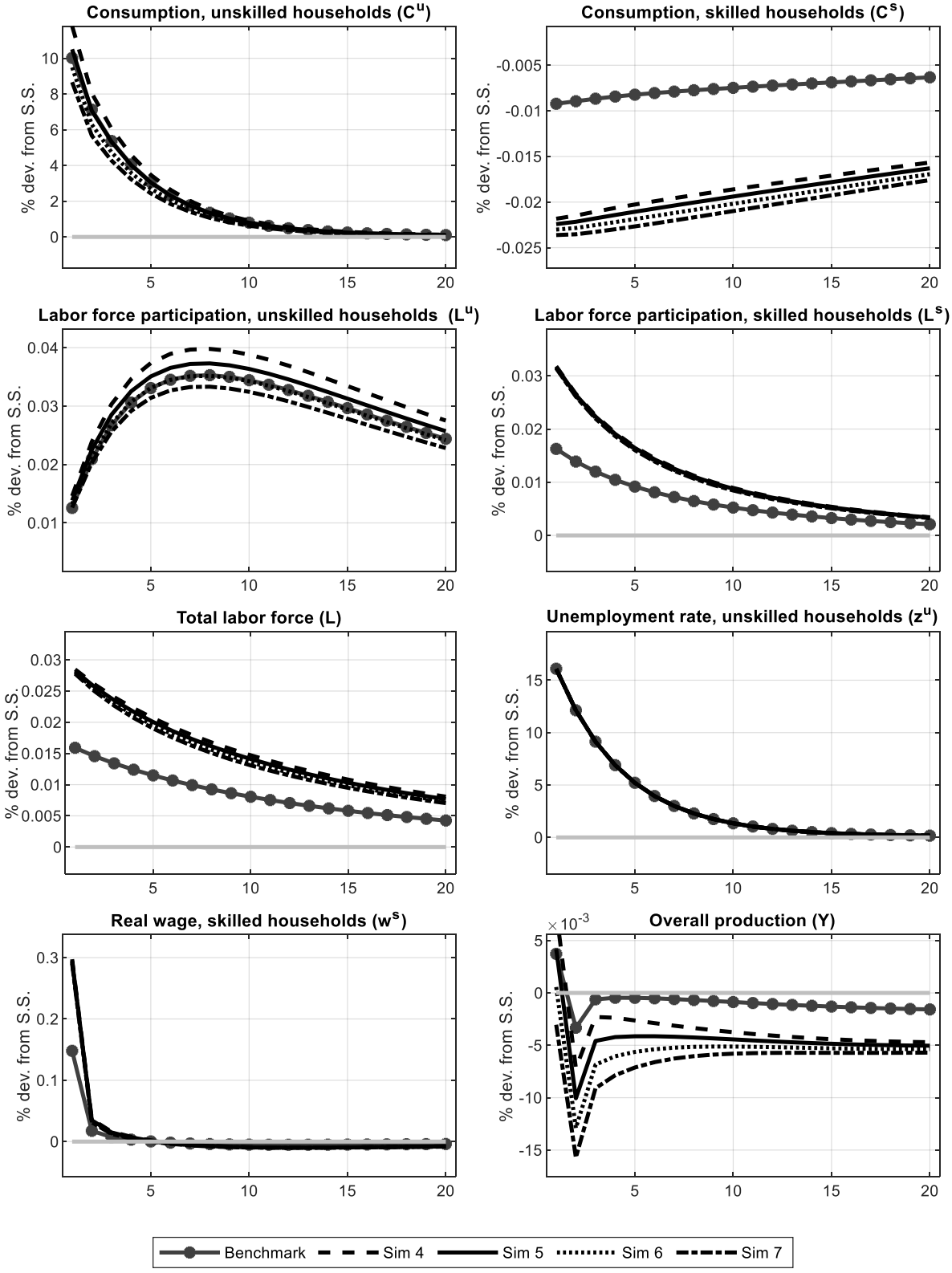
Although the minimum wage setting does not seem to have any significant adverse effect on the overall economy, one has to bear in mind the costs of an increase in the minimum wage are higher with the increasing minimum wage ratio and the share of workers being subject to minimum wage setting. Thus, our findings can be of particular importance for policymakers given the ongoing discussion on the coordinated European Union minimum wage policy, which should fully respect the consequences as mentioned above.

Figure 3 Impulse responses to a minimum wage shock



Source: Own calculation
Benchmark: benchmark scenario; Sim1: $\bar{w}^{min}/\bar{w}^{s}$ reduced by 0.05; Sim2: $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.05; Sim3: $\bar{w}^{min}/\bar{w}^{s}$ increased by 0.1.

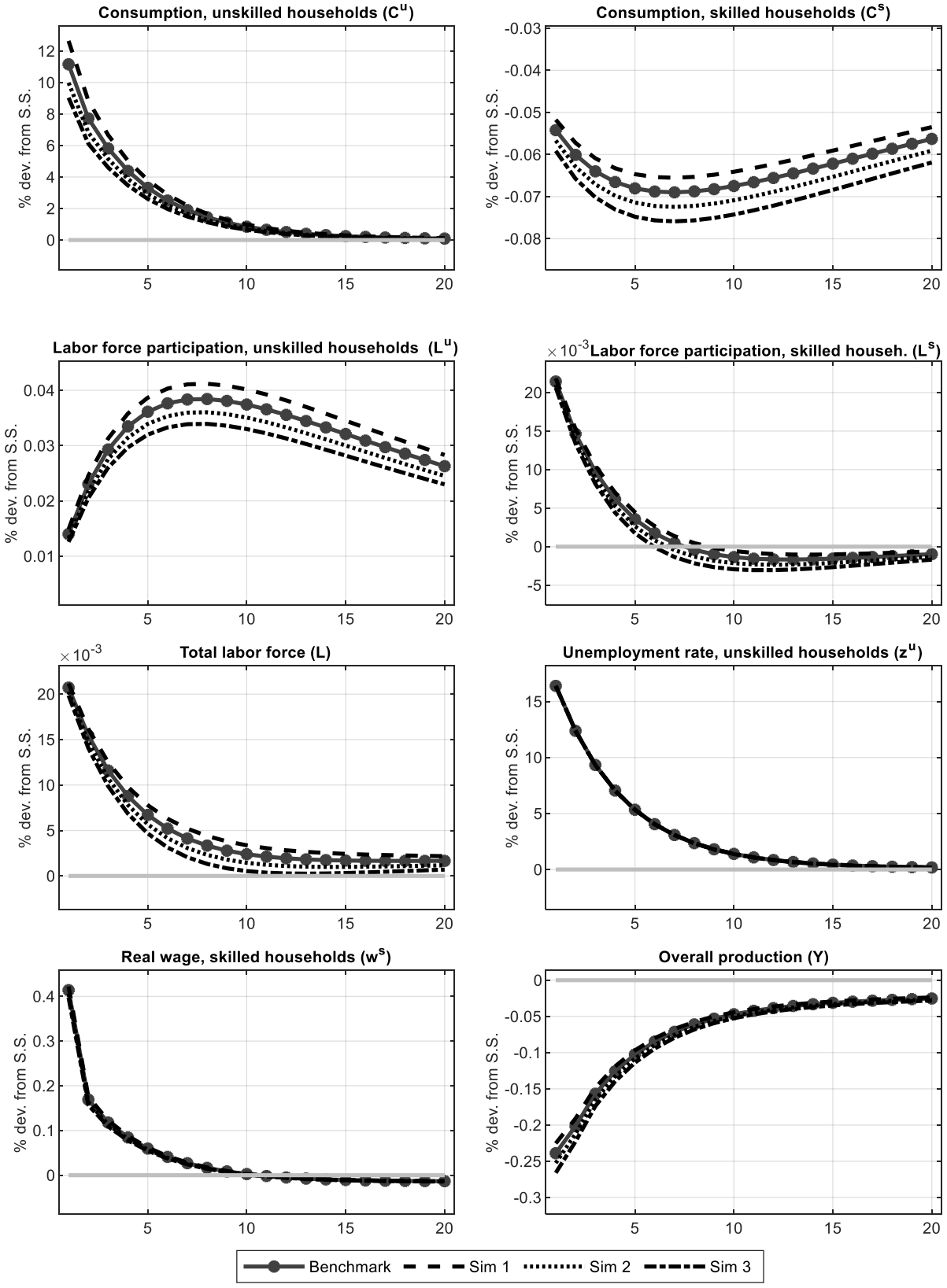
Figure 4 Impulse responses to a minimum wage shock with double the share of unskilled households



Source: Own calculation

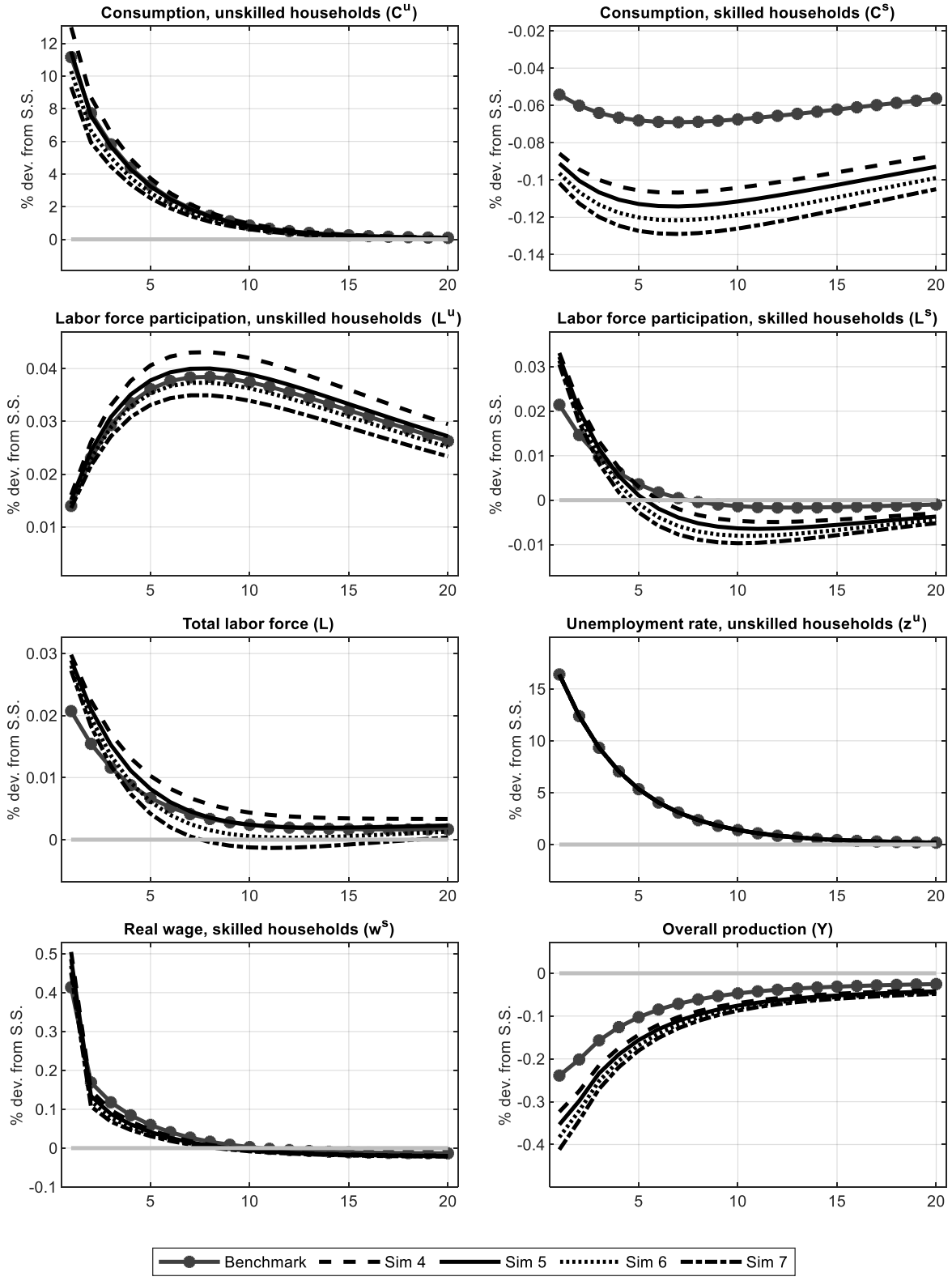
Benchmark: benchmark scenario; Sim4: share of unskilled households (ω) doubled; Sim5: share of unskilled households (ω) doubled and $\overline{w}^{min}/\overline{w}^{s}$ reduced by 0.05; Sim6: share of unskilled households (ω) doubled and $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.05; Sim7: share of unskilled households doubled (ω) and $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.1.

Figure 5 Impulse responses to a shock to unemployment benefits



Source: Own calculation
Benchmark: benchmark scenario; Sim1: $\overline{w}^{min}/\overline{w}^{s}$ reduced by 0.05; Sim2: $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.05; Sim3: $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.1.

Figure 6 Impulse responses to a shock to unemployment benefits with double the share of unskilled households



Source: Own calculation

Benchmark: benchmark scenario; Sim4: share of unskilled households (ω) doubled; Sim5: share of unskilled households (ω) doubled and $\overline{w}^{min}/\overline{w}^{s}$ reduced by 0.05; Sim6: share of unskilled households (ω) doubled and $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.05; Sim7: share of unskilled households doubled (ω) and $\overline{w}^{min}/\overline{w}^{s}$ increased by 0.1.

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ROMA INTEGRATION IN THE PRESENT

Martina Chrančoková[1]

Abstract

The Roma have long been the largest and poorest ethnic minority in the European Union (EU). This article is based on a deduction and comparison of the latest European Commission (EC) reports, which focus on the four most important trends in the Roma integration strategy: (1) education, (2) employment, (3) health and (4) housing. It also points to events and the fight against discrimination against the Roma. Our goal is to get as close as possible to the issues surrounding the Roma and thus capture their current situation in the EU member states, particularly in Slovakia. The actions of both reports on discrimination against the Roma and their subsequent inclusion mean that member states must prepare for a rigorous long-term change in policy decisions if they are to see positive results. This process will require intensive confidence-building between Roma and non-Roma communities, as well as trust in the power of the state.

Keywords

Rome Integration, Rome Education, Rome Employment, Health, Housing, Discrimination

I. Úvod

V súčasnosti sa čoraz viac hovorí o rómskej otázke a rómskej integrácii. Podľa Úradu vlády Slovenskej republiky je integrácia Rómov na trhu práce v strednej a východnej Európe je veľmi slabá. Dôsledkom sociálneho vylúčenia Rómov je miera nezamestnanosti a chudoby čoraz vyššia (ÚVSR, 2012). Podľa Gallovej Klingerovej et al. (2009) bola v minulosti integrácia marginalizovaných rómskych komunít a dodržiavanie menšinových práv záujmom považovaná za problém celej spoločnosti. Rómovia sú dlhodobo najväčšou a najchudobnejšou etnickou menšinou v Európskej únii (EÚ). Bojujú s diskrimináciou už dlhé stáročia a nie je výnimka aj ich terajšia situácia. V súčasnosti sa čoraz viac politických opatrení zaoberajúce integráciou Rómov. Riešenie rómskej otázky sa neobjavilo len teraz v súčasnosti, je s ňou spojená história celej Európy. Už intenzívnejšie sa ňou zaoberala Mária Terézia v Uhorsku (Samuel Augustini ab Hortis, 1995). Rómskou otázkou sme sa ako štát začali zaoberať už ako Československo a neskôr Slovenská republika. Boli sme prakticky nasmerovaný Radou Európy už v rokoch 1991 a 1992 a neskôr Európskou Úniou (EÚ), ktorá mala vo svojich cieľoch riešenie rómskej problematiky. Slovensko muselo spĺňať požiadavky EÚ, aby sme sa stali členom spoločenstva (ÚVSR, 2012). Konkrétne problém rómskej otázky nám nedovolil sa stať členom únie už v skoršom období (v roku 1997). EÚ sa snažilo a snaží rôznymi opatreniami riešiť problémy s dlhodobou nezamestnanosťou Rómov, problémom so vzdelávaním, bývaním a zdravotnou starostlivosťou a neposlednom rade aj s diskrimináciou, a týmto spôsobom vyriešiť problém chudoby v členských štátoch EÚ. Nástroj, ktorý na tento boj zvolila je, že vytvorila vhodné ciele stratégie Európa 2020, ktorej cieľom riešiť konkrétne problémy a zároveň zabezpečiť dodržiavanie základných práv v jej členských štátoch. Jej hlavný cieľ je inteligentný, udržateľný a inkluzívny rast, kde patrí určite aj problematika Rómov. Cez spomínanú stratégiu bol vytvorený Rámec EÚ pre vnútroštátne stratégie integrácie Rómov do roku 2020. Rada EÚ prijala 9. decembra 2013 odporúčanie Rady poskytnúť členským štátom usmernenie na zvýšenie účinnosti ich opatrení na dosiahnutie integrácie Rómov. Bolo zamerané na posilnenie

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vykonávania ich vnútroštátnych stratégií na integráciu Rómov alebo integrovaných súborov politických opatrení v rámci širších politík sociálneho začleňovania zameraných na zlepšovanie situácie Rómov a odstránenie akýchkoľvek rozdielov medzi rómskym a celkovým obyvateľstvom. V tomto odporúčaní sa konkrétne navrhovalo, aby členské štáty prijali účinné opatrenia na zabezpečenie rovnakého zaobchádzania s Rómami, pokiaľ ide o prístup na trh práce a pracovné príležitosti. Takisto sa v ňom odporúčalo, aby boli prijaté opatrenia na boj proti chudobe a sociálnemu vylúčeniu, ktoré postihujú znevýhodnené osoby vrátane Rómov, a to prostredníctvom investícií do ľudského kapitálu a politík sociálnej súdržnosti. Členské štáty boli vyzvané, aby v závislosti od veľkosti, ako aj sociálnej a hospodárskej situácie svojho rómskeho obyvateľstva v kontexte stratégie Európa 2020 zvážili vyzdvihnutie integrácie Rómov ako dôležitej otázky vo svojich národných programoch reforiem alebo národných sociálnych správach (FRA, 2011).

Našim cieľom tohto článku je sa v každej kapitole článku priblížiť čo najviac k rómskej problematike a tak vystihnúť súčasnú situáciu na členských krajinách EÚ a aj na Slovensku. Na základe dedukcie a porovnávania správ z EÚ sme sa snažili vykresliť súčasnú situáciu členských štátov. Na analýzu sme použili správu Európskej komisie z roku 2019 - COM (2019)[2], správu Agentúry európskej únie pre základné práva (FRA) z roku 2011[3] a Stratégiu Slovenskej republiky o rómskej integrácii z roku 2011. Na posúdenie problematiky bývania sme použili aktuálne vydanú publikáciu Filčák et al. z roku 2020, ktorá sa dotýka aj problematiky bývania a zdravia. V rámci hodnotenia sa v správach posudzoval rámec EÚ a to, ako tento rámec zmobilizoval iné európske politiky, konkrétne právne a finančné nástroje pre začleňovanie Rómov. Na získanie úplného obrazu sa táto správa z roku 2019 zameriavala na vykonávanie týchto opatrení. Hlavnými zdrojmi posúdenia boli správy z vnútroštátnych kontaktných miest pre otázky Rómov, správy občianskej spoločnosti z pilotného projektu Európskeho parlamentu s názvom Rómsky občiansky monitoring, údaje o situácii Rómov z Agentúry EÚ pre základné práva (*FRA – European Union Agency for Fundamental Rights*) a metahodnotenie intervencií na začleňovanie Rómov (COM, 2019). Správa COM (2019) sa zamerala na štyri najdôležitejšie trendy v rámci stratégie integrácie Rómov, a to: (1) vzdelávanie, (2) zamestnanosť, (3) zdravie a (4) bývanie ako aj na boj proti diskriminácii Rómov a tiež sa zamerala aj na rómsku diskrimináciu. Práve tieto štyri trendy a diskriminácia páchaná na Rómoch nám slúžili na vytvorenie kostry nášho článku. Preto je druhá kapitola nazvaná vzdelávanie, tretia zamestnanosť, štvrtá zdravie, piata kapitola je nazvaná bývanie, šiesta diskriminácia a siedmou kapitolou je záver.

II. Vzdelávanie

Vzdelávanie je základným pilierom života a je nevyhnutné na zabezpečenie jeho dobrej kvality. Prostredníctvom vzdelávania sa ľudia socializujú a prispôsobujú životným situáciám, ktoré ovplyvňujú život jednotlivca, jeho rodiny a jeho okolia. Ku vzdelávaniu patrí hlavne základná gramotnosť, a to čítanie, písanie, ktorú môže dieťa získať v priebehu základného vzdelávania. Slovensko ako aj všetky členské krajiny EÚ sa riadia jednotnou klasifikáciou ISCED 97, kde je každý stupeň vzdelania konkrétne vyprofilovaný (MINEDU, 2018). Správa Európskej komisie (COM, 2019) sa zaoberala merateľnými ukazovateľmi vzdelávania, ktorých výsledky sa nachádzajú v tabuľke 1.

[2] Správa COM (2019) sa týkala 19 štátov: AT, BE, BG, CY, ES, EL, HU, HR, IT, LV, LT, LU, NL, PT, RO, SE, SK, SL, UK.
[3] Správa FRA (2011) sa týkala 11 štátov: BG, CZ, EL, ES, FR, HU, IT, PL, PT, RO, SK.

Tabuľka 1 Situácia Rómov v oblasti vzdelávania (rok 2016)

Situácia Rómov v oblasti vzdelávania (2016)

Najvyššie dosiahnuté vzdelanie (vo veku 16 a viac rokov). o vyššie sekundárne, odborné, postsekundárne: 18 % o nižšie sekundárne: 38 % o základné: 29 % o neukončené základné: 14 %
Podiel rómskych detí, ktoré navštevujú vzdelávanie zodpovedajúce ich veku*: o základné alebo nižšie sekundárne: 86 % o vyššie sekundárne: 30 % o postsekundárne a terciárne: 2 %
Segregácia vo vzdelávaní (vo veku 6 – 15 rokov): o navštevuje školy, kde všetci (13 %) alebo väčšina (33 %) študentov sú Rómovia o navštevuje triedy, kde všetci (13 %) alebo väčšina (31%) študentov sú Rómovia

** Podiel rómskych detí v príslušnej krajine podľa veku, ktorý zodpovedá danej úrovni vzdelávania, ktorí sa zúčastňujú sa na tejto úrovni vzdelávania, z celkového počtu rómskych detí v tomto veku*

Zdroj: COM (2019: 2)

V už spomínanej tabuľke 1 s názvom Situácia Rómov v oblasti vzdelávania (rok 2016) sú zadefinované 3 merateľné ukazovatele, ktoré nám vykresľujú súčasnú situáciu ohľadne vzdelávania Rómov v členských krajinách EÚ. Prvý ukazovateľom je najvyššie dosiahnuté vzdelanie (vo veku 16 a viac rokov), ktorý ukazuje, že vyššie sekundárne, odborné, postsekundárne ukončilo len 18 % Rómov z členských krajín EÚ. Druhý ukazovateľ, nižšie sekundárne vzdelanie ukončilo 38 % Rómov z členských krajín EÚ. Tretí ukazovateľ, základné vzdelanie ukončilo 29 % a 14 % neukončilo základné vzdelanie. Údaje hovoria, že najviac je rómskych detí, ktoré ukončili nižšie sekundárne vzdelanie, a to konkrétne znamená, že ide o stredné školy, kde sa končí výučným listom. 14 % rómskych detí, ktoré neukončili základné vzdelanie je dosť vysoké číslo. Ľuďom bez ukončeného základného vzdelania si zužujú všetky svoje obzory napredovania. To prakticky znamená, že môžu vykonávať len určitý obmedzený typ zamestnaní. S týmito zamestnaniami je spojené aj nižšie finančné ohodnotenie a častokrát tieto práce sú aj dosť fyzicky náročné. Bohužiaľ sú tieto neatraktívne práce automaticky priraďované ľuďom bez ukončeného základného vzdelania. A aj na základe toho je týmto ľuďom ovplyvnená aj ich kvalita života.

Druhým ukazovateľom je podiel rómskych detí, ktoré navštevujú vzdelávanie zodpovedajúce ich veku. Výsledky ukázali, že základné a nižšie sekundárne vzdelávanie zodpovedajúce ich veku navštevuje 86 % rómskych detí. Vyššie sekundárne navštevuje už len 30 % z týchto rómskych detí. Čiže až 56 % rómskych detí malo nejaký problém pokračovať vo vzdelávaní podľa klasifikácie ISCED 97. A len 2 % rómskych detí zodpovedajúce veku navštevuje postsekundárne alebo terciárne vzdelávanie. Tretím ukazovateľom je segregácia vo vzdelávaní (vo veku od 6 do 15 rokov). Európska únia má v hlavných cieľoch minimalizovať segregáciu rómskych obyvateľov. Výskum tvrdí, že rómske deti vo veku od 6 do 15 rokov navštevujú čisto rómske školy (13 %) alebo väčšina detí je rómskych (33 %). Druhý ukazovateľ sa týkal tried. A ten ukázal, že rómske deti vo veku od 6 do 15 rokov navštevujú čisto rómske triedy (13 %) alebo väčšina detí v týchto triedach je rómskych (31 %). Tieto ukazovatele by sa mali sledovať a neskôr analyzovať, aby sme zistili, ktorým smerom sa ma slovenské vzdelávanie uberať.

Pre EÚ je dôležité sa zameriavať na merateľné opatrenia, ktoré zaviedla na pomoc Rómom vo všetkých členských štátoch. Len na základe nich sa dá merať úspešnosť resp. neúspešnosť zavedených politík a sledovať smerovanie členských štátov ohľadne rómskeho obyvateľstva a ich špecifických problémov. 18 členských štátov investovalo do opatrení na zníženie miery predčasného ukončenia školskej dochádzky. V prílohe A sú tieto opatrenia rozpísané a k týmto opatreniam sú pridelené členské štáty EÚ (COM, 2019). Z tejto prílohy sme vybrali len niektoré

informácie, aby sme si spravili určitý prehľad o členských krajinách a ich opatreniach. Pre krajiny Rakúsko, Francúzsko, Grécko, Španielsko, Taliansko, Lotyšsko a Rumunsko bola najväčším úspechom v oblasti vzdelávania Rómov práve opatrenie *mediácia*. Pre Česko a Slovensko malo najväčší úspech opatrenie *rozvoj kapacít materských škôlok*. Pre Maďarsko, Španielsko a Litvu to bolo opatrenie *lepšia podpora pre boj proti predčasnému ukončeniu školskej dochádzky a jeho monitorovanie* a opatrenie *zahrnutie predmetov súvisiacich so začleňovaním a nediskrimináciou Rómov do odbornej prípravy učiteľov alebo vnútroštátnych učebných plánov* malo najvyššiu úspešnosť pre krajiny ako Rakúsko, Španielsko, Taliansko a Portugalsko. Slovensko sa zameralo v súčasnej dobe na opatrenie *zabezpečenie a rozvoj ľudských kapacít*. To značí, že každá krajina sa nachádza v inej situácii a každá krajina potrebuje iné opatrenie. Pre Slovensko a Českú republiku sa ako sľubné prístupy ukazujú *zavedenie a rozšírenie povinného (bezplatného) predškolského vzdelávania*, rozvoj materských škôl financovaných z fondov EŠIP a *odborná príprava pre učiteľov v materských školách* (COM, 2019). Správna cesta pre našu krajinu sa ukazuje správne, a čo najrýchlejšie podchytenie vzdelávania rómskych detí.

Na otázku vzdelávania sme sa pozreli očami aj učiteľov rómskych žiakov na Slovensku. Čokyna (2019) poukazuje vo svojej knihe s názvom *A okraje máš kde?* na problém prepadávania v našej krajine. Podľa neho sa to týka hlavne rómskych žiakov. „V školskom roku 2018/2019 na štátnych základných školách po celom Slovensku opakovalo ročník 2,5 % zo všetkých žiakov“. Keby sme sa zamerali iba na problém prepadávania, tak s týmto problémom sú spojené obrovské regionálne rozdiely. „Na západe krajiny bolo na 1000 žiakov len zhruba 6 až 8 tých, ktorí prepadli, v Prešovskom a Banskobystrickom kraji už bolo takých detí 36 až 39 a v Košickom kraji ich prepadlo 59 na 1000 žiakov. Najhoršie je to v okrese Rimavská Sobota, kde prepadne 92 z 10000 žiakov, nasledujú ďalšie okresy z východu krajiny.“ Čo je tiež smutné, že štatistiky ukazujú, že po absolvovaní základnej školy v týchto častiach Slovenska deti veľmi často nepokračujú v štúdiu na strednej škole. Tento typ problémov by sa mal riešiť ako prvý, lebo na základe týchto detailov a skutočností nám rastie ľudský kapitál našej krajiny.

III. Zamestnanosť

Druhým trendom, ktorým sa zaoberala európska komisia v správe COM (2019), bola zamestnanosť. Na opísanie súčasnej situácie v členských krajinách si vybrali 3 ukazovatele. Prvým a dôležitým ukazovateľom bol podiel Rómov v platenej práci vo veku 20 až 64 rokov. Zistilo sa, že pracujúcich Rómov je všeobecne 43 %, z toho žien 29 % a mužov 56 %. Druhým ukazovateľom bol podiel rómskych mladých ľudí, ktorí nie sú zamestnaní, ani nie sú v procese vzdelávania alebo odbornej prípravy vo veku od 16 do 24 rokov. Prieskum ukázal, že takýchto ľudí v členských štátoch EÚ až 63 %, z toho žien 72 % a mužov 55 %. Tretím ukazovateľom bol podiel rómskych žien, ktoré nie sú v zamestnaní, ani si nehľadajú prácu z dôvodu starostlivosti o deti / starších / chorých príbuzných vo veku od 16 do 64 rokov. Prieskum ukázal, že ide o vysoký podiel, a to 40 %. Tieto údaje sa nachádzajú prehľadne v tabuľke 2. Podľa správy FRA (2011), kedy členských štátov EÚ bolo 11, bolo 58 % mladých Rómov nezamestnaných a ani sa v tom istom čase nezúčastňovali na ďalšom vzdelávaní. Agentúra na základné práva (FRA) z prieskumu 2011 prišla ohľadne zamestnanosti ku trom kľúčovým zisteniam: (1) uviedla, že menej ako jeden z trochu Rómov má platené zamestnanie, (2) každý tretí rómsky respondent uviedol, že je nezamestnaný, (3) ostatní uviedli, že osoby v domácnosti, dôchodcovia nemôžu pracovať alebo sú samostatne zárobkovo činní (FRA, 2011: 11).

Tabuľka 2 Situácia Rómov v oblasti zamestnanosti (rok 2016)

Situácia Rómov v oblasti zamestnanosti (2016)	
Podiel Rómov v platenej práci (vo veku 20 až 64 rokov):	43 % (ženy: 29 %, muži: 56 %)
Podiel rómskych mladých ľudí, ktorí nie sú zamestnaní, ani nie sú v procese vzdelávania alebo odbornej prípravy (vo veku 16 až 24 rokov): 63 % (ženy: 72 %, muži: 55 %)	
Rómske ženy, ktoré nie sú v zamestnaní, ani nehľadajú prácu z dôvodu starostlivosti o deti/starších/chorých príbuzných (vo veku 16 až 64 rokov):	40%

Zdroj: COM (2019: 4)

V prieskume COM (2019) sa zaoberali deviatimi všeobecnými opatreniami. Podrobne sú tieto opatrenia vypísané v prílohe B, kde ku každému opatreniu je priradená konkrétna členská krajina EÚ. Slovensko a Česká republika sa zapojila do tematických oblastí: *odstránenie prekážok na trhu práce vrátane diskriminácie, poskytovanie poradenstva prispôsobeného individuálnym potrebám jednotlivým uchádzačom o zamestnanie, podpora prvých pracovných skúseností, podpora odbornej prípravy na pracovisku a poskytovanie rovnakého prístupu k všeobecným verejným službám zamestnanosti*. Slovensko sa zapojilo aj do tematickej oblasti *podpora odborného vzdelávania a podpora pracovných príležitostí vo verejnej službe*. Česká republika sa samostatne zapojila do opatrenia *podpory samostatnej zárobkovej činnosti a podnikania*. Ako vidieť každá krajina má svoje špecifické politiky, ktorými si myslí, že zlepší danú situáciu vo svojej vlastnej krajine.

Európska komisia sa na základe tohto prieskumu domnieva, že zameranie na vecné opatrenia by sa mohlo percentuálne aj podľa tohto prieskumu zmeniť. Ako ukazuje prieskum COM (2019), tak členské štáty sa rozhodli pre individuálne orientované formy podpory, napríklad *dotovanie zamestnania* alebo *iné formy rozdelenia nákladov*, *podpora kariérneho rozvoja (mentorstvo, odborné vedenie)* a *odborné vzdelávanie*. Celkovo spomínané opatrenia tvoria 35 % všetkých opatrení. Opatrenia na *podporu sociálneho začleňovania*, *rozvoja komunít*, *kvalifikácie pre dospelých a doučovania* predstavovali 8 až 9 % opatrení. Ale len jedna pätina opatrení je zameraná na mladých ľudí, čo je v dnešnej situácii nedostatočné vzhľadom na problémy rómskej mládeže v oblasti zamestnanosti. Podľa COM (2019): „Zabezpečenie efektívneho prechodu od vzdelávania k otvorenému trhu práce, boj proti diskriminácii zo strany zamestnávateľov a zabezpečenie, aby dopytu po práci zodpovedala ponuka (najmä medzi rómskymi mladými ľuďmi, ktorí nie sú zamestnaní, ani nie sú v procese vzdelávania alebo odbornej prípravy) sa ukazujú ako najkritickejšie body v oblasti zamestnanosti.“ Jediné východisko z tejto situácie je motivovať súkromných zamestnávateľov a na strane druhej sa zamerať na rómsku mládež a ženy v rámci spomínaných opatrení. Netreba zabudnúť, že čoraz viac sú v dnešnej dobe potrebné IT resp. počítačové znalosti a v tomto smere netreba zabúdať ani na rómskych spoluobčanov, aby sa vedeli zapojiť do diania zamestnanosti a tak pomôcť štátu, EÚ, ale hlavne aj sebe samým. Sľubný prístup pre Slovensko sa dotýka novely zákona o službách zamestnanosti, ktorý bude poskytovať individuálny akčný plán na podporu integrácie na trhu práce záväzný pre uchádzača o prácu a úrad práce.

IV. Zdravie

Tretí trend, ktorý zaujímal Európsku komisiu bola téma zdravia. Na analyzovanie tejto témy si vybrala 4 ukazovatele, ktoré sú vypísané v tabuľke 3. Európsku komisiu zaujímal podiel Rómov, na ktorých sa vzťahuje základné vnútroštátne zdravotné poistenie vo všetkých členských krajinách EÚ. Prieskum ukázal, že 76 % Rómov má zdravotné poistenie v EÚ. Ďalej EK zaujímalo ako Rómovia členských krajín EÚ hodnotia svoj zdravotný stav. 68 % Rómov hodnotí svoj zdravotný stav ako „veľmi dobrý“ alebo „dobrý“. 28 % Rómov sa cítilo byť obmedzovaní vo svojich činnostiach kvôli svojmu zdravotnému stavu. A 22 % Rómov sa dlhodobo trápia s určitou chorobou alebo dlhodobo majú určitý zdravotný problém.

Tabuľka 3 Situácia Rómov v oblasti zdravia (rok 2016)

Situácia Rómov v oblasti zdravia (2016)

Podiel Rómov, na ktorých sa vzťahuje základné vnútroštátne zdravotné poistenie: 76 %
Podiel Rómov, ktorí hodnotia svoj zdravotný stav vo všeobecnosti ako „veľmi dobrý“ alebo „dobrý“: 68 %
Podiel Rómov, ktorí sa cítili obmedzení vo svojich činnostiach kvôli svojmu zdravotnému stavu: 28 %
Podiel Rómov, ktorí dlhodobo trpia určitou chorobou alebo dlhodobo majú určitý zdravotný problém: 22 %

Zdroj: COM (2019: 6)

V oblasti zdravia sa členské štáty tiež opierajú hlavne o opatrenia na podporu začleňovania Rómov. „Dva najdôležitejšie typy opatrení, ktoré uviedla väčšina členských štátov, sú zamerané na odstránenie všeobecných prekážok zdravotnej starostlivosti a na podporovanie informovanosti o zdraví (13 – 14 členských štátov) a predstavujú rovnováhu medzi ponukou a dopytom. Ďalšie relevantné opatrenia zahŕňajú cielené vakcinačné programy a prístup k špecializovaným zdravotníckym službám (6 – 7 členských štátov).“ (COM, 2019). Opatrenia ohľadne zdravia a priradenie krajín je v prílohe C. COM (2019: 7) hovorí, že členské štáty EÚ „sa často rozhodnú pre opatrenia na zlepšenie strany ponuky (zamestnanci, zariadenia) poskytovania zdravotnej starostlivosti (26 % opatrení). Zamerané sú aj na stranu dopytu prostredníctvom informovanosti o zdraví a informačných kampaní (21 % opatrení). K ďalším významným skupinám opatrení patria všeobecné opatrenia na zlepšenie zdravotnej a hygienickej infraštruktúry na miestnej úrovni a poskytovanie preventívnych služieb (16 – 17 % opatrení). Veľmi dôležité intervencie – poskytovanie zdravotného poistenia Rómom a zameranie antidiskriminačných kampaní na zdravotníckych pracovníkov – sú omnoho menej často rozšírené (6 – 7 % opatrení).“

Vnútroštátne kontaktné miesta pre otázky Rómov vyzdvihli pre EK k dosiahnutým úspechom pre Slovensko hlavne *zdravotnícku mediáciu*, Českú republiku pochválili za *zvyšovanie informovanosti*. Opačne pri špecifických problémoch členských krajín EÚ komisia vytkla Českej republike *nedostatočné znalosti zdravotníckych pracovníkov týkajúcich sa rómskych otázok*. A Slovensku bolo vytknutá *nízka účasť Rómov na iniciatívach zdravotnej starostlivosti a posilnenie ich postavenia v rámci týchto iniciatív*. EK to považuje za výzvu pre Slovensko vzhľadom na nízku gramotnosť a jazykové bariéry (COM, 2019).

V. Bývanie

Štvrtým analyzovaným trendom bola oblasť bývania. Európsku komisiu zaujímali podmienky v akých Rómovia členských krajín EÚ bývajú (viď tabuľka 4). Pýtali sa na podiel Rómov, ktorí žijú v štvrti, kde všetci alebo väčšina susedov sú Rómovia. Zistili, že sa to týka 67 % opýtaných Rómov v prieskume. Ďalej ich zaujímalo aké majú podmienky na bývanie. Napríklad, či majú v domácnosti prívod vody. Prieskum ukázal, že 70 % má prívod k vode vo svojich domácnostiach. 55 % rómskych domácností má splachovacie záchody a 60 % domácností v členských štátoch EÚ majú vnútornú sprchu a kúpeľňu. V tejto časti boli otázky mierené aj na konkrétne problémy v rómskych domácnostiach. Napríklad 32 % rómskych domácností má problém so zatekajúcou strechou a vlhkými stenami, prípadne plesňami. 25 % domácností má problém s enviromentálnymi problémami a 23 % má problémy s kriminalitou, násilím a vandalizmom v miestnej oblasti. Až 78 % rómskych domácností uviedlo, že žijú v preplnených domácnostiach (COM, 2019).

Tabuľka 4 Situácia Rómov v oblasti bývania (rok 2016)

Situácia Rómov v oblasti bývania (2016)

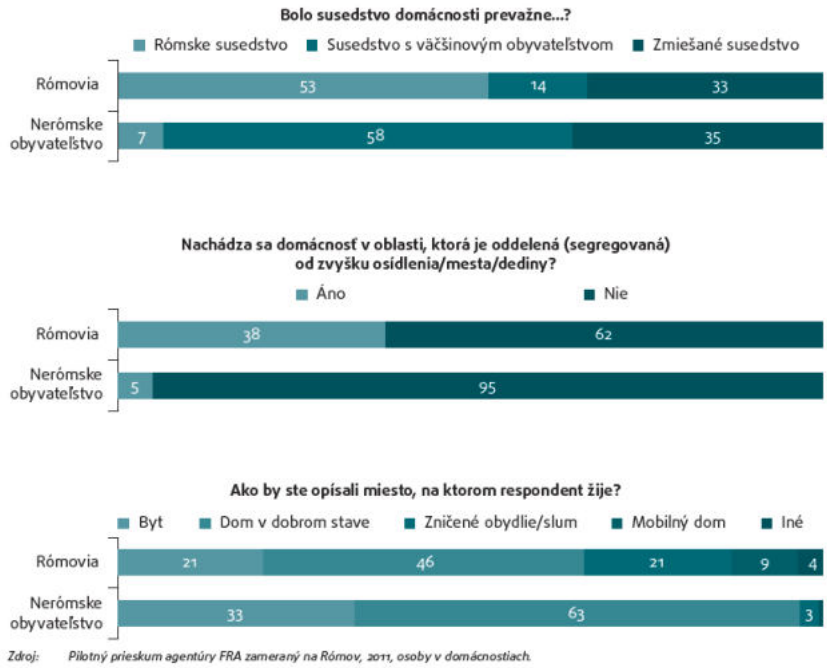
Podiel Rómov, ktorí žijú v štvrti, kde všetci alebo väčšina susedov sú Rómovia: 67 %
Podiel Rómov žijúcich v domácnostiach s: o prívodom vody (vo vnútri): 70 % o vnútorným splachovacím záchodom: 55 % o vnútornou sprchou alebo kúpeľňou: 60 %
Podiel Rómov žijúcich v domácnostiach: o so zatekajúcou strechou a vlhkými stenami/podlahou/základmi alebo plesňou v okenných rámoch alebo na podlahe: 32 % o so znečistením, špinou alebo inými environmentálnymi problémami: 25 % o s kriminalitou, násilím a vandalizmom v miestnej oblasti: 23 %
Podiel Rómov žijúcich v preplnených domácnostiach (definícia Eurostatu): 78 %

Zdroj: COM (2019: 8)

Správa FRA (2011) bola z roku 2011 a týkala sa 11-tich členských krajín EÚ a správa COM (2019) bola z roku 2019 a týkala sa 19-tich členských krajín EÚ. Určite nám tieto údaje slúžia na skompletizovanie danej problematiky a vytvorenie si vlastného názoru. Avšak dané údaje sa nedajú porovnávať, lebo sa v druhej správe analyzovalo viac krajín a premenné nie sú úplne rovnako definované.

Pre porovnanie sme našli v správe FRA (2011) graf 1, ktorý sa zaoberal otázkou bývania v roku 2011.

Graf 1 Hodnotenie dotazníka týkajúceho sa bývania, v ktorej žijú Rómovia a Nerómovia



Zdroj: FRA (2011)

Na problematiku zdravia sa trochu inak a hlbšie pozreli výskumníci Centra spoločenských a psychologických vied SAV a výskumníci, ktorý pracujúci na projekte APVV Margiwork[4]. Ich nová publikácia z roku 2020 s názvom *Vybavenosť kanalizáciou v rómskych osadách: Ako sa na Slovensku prejavujú štrukturálne nerovnosti* „poukazuje na to, že výstavba kanalizačnej a vodnej infraštruktúry je veľmi komplexný proces, ktorý vyžaduje vytvoriť vhodné legislatívne podmienky, pripraviť súbor technických riešení a zabezpečiť finančné zdroje. Absencia kanalizácie a vody sa preto nedá interpretovať ako otázka nedostatku usilovnosti či nezáujem rómskych obyvateľov. Akokoľvek motivovaný jednotlivec si nebude schopný zabezpečiť dobré hygienické štandardy, pokiaľ nie sú zabezpečené dostatočné legislatívne, stavebné a finančné mechanizmy (pre investície) či finančná podpora (na poplatky pre nízkopríjmové domácnosti) v súvislosti s pokrytím osady vodovodom a kanalizáciu. Absencia kanalizácie a vodovodu v rómskej osade teda nie je prejav lenivosti obyvateľov alebo ich „sociálnej patológie“, ale vážny štrukturálny problém, ktorého riešenie leží na pleciach obcí a štátu.“ Autori publikácie sa domnievajú, že prístup ku kanalizácii a vode je a zostane kľúčovým faktorom ovplyvňujúcim nielen kvalitu života, sociálnu integráciu, ale aj výskyt infekčných vírusových a bakteriálnych chorôb (Filčák et al., 2020).

„Opatrenia najčastejšie oznamované členskými štátmi sú zamerané do podtém: *zabezpečenie prístupu k verejným službám (voda, elektrina, plyn) a infraštruktúre pre bývanie*, *podporu odstraňovania segregácie*, *podporu nediskriminačného prístupu k sociálnemu bývaniu* (10 – 12 členských štátov). Len menšina členských štátov investuje do *intervencií na integrované bývanie zameraných na marginalizované komunity v rámci miestnych projektov obnovy miest* (sedem členských štátov) alebo *využíva fondy EŠIF na miestny rozvoj alebo integrované územné investície* (štyri členské štáty) pod vedením komunity. Len dva členské štáty uviedli, že zabezpečili táboriská pre kočovných Rómov.“ Konkrétne členské štáty sú uvedené v prílohe D tohto článku. (COM, 2019: 8-9). Podľa COM (2019) v oblasti bývania bola dosiahnutá rovnováha medzi cielenými opatreniami zameranými na Rómov a opatreniami všeobecnej politiky. Slovensko sa začlenilo ku krajinám, ktoré sa rozhodli zapojiť do opatrení nasledovných podtém: *zabezpečenie prístupu k verejným službám (voda, elektrina, plyn) a infraštruktúre pre bývanie*, *podporu odstraňovania segregácie*, *podporu nediskriminačného prístupu k sociálnemu bývaniu.* Česká republika sa najviac videla v opatrení *na podporu nediskriminačného prístupu k sociálnemu bývaniu.* Avšak obom krajinám bolo vytknuté vzniknuté problémy spojené s opatrením *na podporu nediskriminačného prístupu k sociálnemu bývaniu.*

VI. Diskriminácia Rómov

História a aj súčasnosť života Rómov je z veľkej časti spojená s ich diskrimináciou. Diskriminácia Rómov sa dotýka každej časti tohto článku a aj do trendov, ktorými sa zaoberá európska komisia, preto sme jej tiež venovali samostatnú kapitolu. Európsku komisiu COM (2019) zaujímala aj táto stránka problému a v tabuľke 5 sú uvedené viaceré ukazovatele diskriminácie Rómov.

[4] APVV-17-0141 Analýza bariér prístupu k pracovným príležitostiam pre marginalizované skupiny obyvateľstva: vybrané regióny Slovenska v sociálno-ekonomickej, geografickej a sociálno-antropologickej perspektíve.

Tabuľka 5 Skúsenosti Rómov s diskrimináciou (rok 2016)

Skúsenosti Rómov s diskrimináciou (2016)

Podiel Rómov so skúsenosťami s diskrimináciou v posledných 5 rokoch:
○ pri kontakte s ich deťmi v škole: 12 %
○ pri účasti na vzdelávaní: 12 %
○ pri hľadaní práce: 43 %
○ v práci: 19 %
○ keď sa pokúšajú prenajať si alebo si kúpiť byt: 43 %
○ pri vstupe do reštaurácie, nočného klubu alebo hotela: 21 %
○ pri vstupe do obchodu: 17 %
○ pri styku s orgánmi verejnej správy: 16 %
Podiel Rómov, ktorí cítili diskriminovaní a nahlásili incident: 12 %
Podiel Rómov, ktorí v minulom roku osobne zažili obťažovanie kvôli rómskemu pôvodu:
○ urážlivé alebo výhražné poznámky: 20 %
○ urážlivé gestá alebo uprený pohľad: 23 %
○ vyhrážanie sa osobným násilím: 7 %
○ spolu: 29 %
Podiel Rómov, ktorí:
○ počuli o orgáne pre otázky rovnosti: 29 %
○ spravidla dôverujú polícii: 37 %
○ spravidla dôverujú právnemu systému krajiny: 29 %

Zdroj: COM (2019: 11)

Výsledky z prieskumu ukázali, že diskriminácia Rómov sa deje počas vzdelávania, práce, pri styku s orgánmi verejnej správy aj pri voľnom pohybe a iných rôznych činnostiach. 29 % Rómov v členských krajín uviedlo, že boli obťažovaní kvôli rómskemu pôvodu. Európsku komisiu tiež zaujímalo, či Rómovia veria v štátne inštitúcie. Prieskum ukázal, že napríklad 37 % Rómov dôveruje polícii.

Členské štáty EÚ najčastejšie *investujú do propagácie rómskej kultúry a dedičstva* a týmto sa rozhodli bojovať proti odporu voči Rómom (22 %). Už menej opatrení je zameraných priamo proti diskriminácii (18 %). Ostatné opatrenia sú zamerané *na rozvoj kapacít inštitúcií* (15 %), *rómsku občiansku spoločnosť* (12 %) a *mechanizmy monitorovania ľudských práv* (11 %). Menšia pozornosť sa sústredila na poskytovanie právnej pomoci, napríklad *posilnenie postavenia rómskych žien a odstraňovanie segregácie* (5 – 6 %). Len 16 % uvádzaných antidiskriminačných opatrení bolo zameraných výlučne *na rómsku mládež* a 10 % *na rómske ženy*, viac v prílohe E. K dosiahnutým úspechom v tomto smere Slovensko konkrétne uviedlo *zlepšenie podmienok rómskych žien a detí* Česká republika sa zamerala na výzvy v súvislosti *so zlepšením prístupu k právnej ochrane a informovanosti o právach* (COM, 2019).

VII. Záver

Situácia Rómov podľa oboch správ EK nie je priaznivá. Správa FRA (2011) sa týkala 11 členských krajín a bola z roku 2011, druhá správa COM (2019) sa už týkala 19 krajín a bola z roku 2019, avšak obe správy prišli k veľmi podobným záverom. Už správa FRA už pred 10 rokmi uviedla, že neukončené vzdelanie spolu s rezidenčnou segregáciou a diskrimináciou nepomáhajú zamestnanosti na Slovensku. Preto si myslíme, že základným problém, ktorý by mohol túto situáciu začať riešiť je práve vzdelanie. Správnymi opatreniam zo strany štátu sa dá vytvoriť vzdelávací systém, ktorý by funkčne a správne fungoval, a tým by sa postupne zmenila aj situácia v ostatných trendoch, ktorými sa zaoberá EK (zamestnanie, zdravie, bývanie a diskriminácia).

V súčasnej dobe nás ohrozuje vírus COVID 19 a práve na tejto situácii bolo a je vidieť ako je rómske obyvateľstvo nepripravené na takéto situácie a v tom prípade aj náš štát. Tento problém sa týka všetkých štyroch trendov: vzdelávania, zamestnanosti, zdravia a bývania. Vo všetkých oblastiach chýbali rómskemu obyvateľstvu základné IT znalosti, ktoré boli potrebné na

prekonanie vzdialenosti medzi úradmi a samotnými Rómami. Práve na tomto konkrétnom prípade vidieť, že práve v trende vzdelanie treba zabrať a byť dôslednejší zo strany štátu. Počas prvej vlny COVID 19 malo málo rómskych domácností pripojenie na internet, nemali ani komponenty na online výučbu. Učitelia museli chodiť osobne za rómskymi deťmi, aby deti nevymeškali dôležité informácie, ktoré by vedeli využiť vo svojom budúcom zamestnaní, ale aj v osobnom živote. Rómovia nevedeli komunikovať s úradmi cez mailovú komunikáciu, čo sa stáva už v dnešnej dobe nevyhnutnosťou. Podobné problémy sa týkali aj zdravia aj bývania. Aby sme ako štát išli dopredu, tak musíme pozerať aj na tých posledných v rade, pretože len ich tempom sa môžeme posúvať vpred.

Z opatrení oboch správ ohľadne diskriminácie Rómov a ich následné začleňovanie vyplýva, že sa členské štáty musia pripraviť na intenzívnu dlhodobú zmenu v politických rozhodnutiach, ak chcú vidieť pozitívne výsledky. Tento proces si bude vyžadovať intenzívne budovanie dôvery medzi rómskymi a nerómskymi komunitami a v dôveru v štátnu moc. Ak majú byť opatrenia na integráciu Rómov úspešné vo všetkých oblastiach, musia sa spájať so spoločnými hodnotami a mala by byť do toho spojená vyššia informovanosť rómskej, ale aj nerómskej verejnosti.

Správy Európskej komisie sú dosť podrobné a aj vybrané skúmané ukazovatele sú opodstatnené. Avšak, domnievame sa, že by bolo vhodné spracovávať správy jednotlivo za každú krajinu. Správy by tak boli viac porovnateľné s predchádzajúcimi správami a tak by sa dalo zistiť, či členská krajina napreduje alebo nie. Vtedy by bol vidieť jasnejší smer, ktorým by sa dané politické opatrenia mali uberať. Prípadne by sa ukázalo, ktoré opatrenia sú vhodné, menej vhodné alebo nevhodné. Síce všetky členské krajiny EÚ čelia rovnakým problémom, a to nezamestnanosť Rómov, diskriminácia a problémy so vzdelávaním atď., avšak každá krajina má vytvorené iné podmienky na život, iné zákony a inú kultúru. Preto sa na každú krajinu a jej problémy pozerať individuálne a riešenia problémov hľadať z pohľadov zdola resp. z mikropohľadov. Opatrenia vlády budú len vtedy účinné, keď im budú rozumieť aj tí, ktorých sa to týka.

Podľa vlastných skúseností učiteľa rómskych žiakov Čokytu (2019) sa vzdelávanie rómskych žiakov dá zlepšiť, keď pôjdeme podľa určitých pravidiel a budeme viac ľudskí a chápaví k týmto deťom, ktorí by mali vytvárať v budúcnosti naše ekonomicky aktívne obyvateľstvo. Školské pravidlá, ktoré sú teraz vytvorené na školách nie sú až tak priaznivé a ani atraktívne pre rómskych žiakov. Jedine tak zlepšíme súčasnú situáciu v našej krajine a zvýšime náš ľudský kapitál a s tým spojenú zamestnanosť, zdravie, bývanie a zlepšíme diskrimináciu na Slovensku. Ak chceme niečo zmeniť, tak by sme mali dať na skúsenosti a rady ľudí, ktorí priamo pracujú s Rómami v danej krajine a spoločne sa dohodnúť ako zmeniť postupne správanie spoločnosti k Rómskym občanom (správanie majority k minorite).

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Prílohy

Tabuľka A: Rozdelenie opatrení v oblasti vzdelávania podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Rozdelenie opatrení v oblasti vzdelávania podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Tematická podoblasť	ČŠ	Počet opatrení	Krajiny zapojené do procesu rozširovania	Počet opatrení
Boj proti predčasnému ukončeniu školskej dochádzky	AT, BE, BG, CY, ES, EL, HU, HR, IT, LV, LT, LU, NL, PT, RO, SE, SK, UK	66	AL, BiH, KOS, ME, MK, RS, TR	25
Zohľadnenie potrieb jednotlivých žiakov	AT, CY, CZ, ES, HU, IT, LV, LT, LU, PT, RO, SE, SI, UK	35	AL, BiH, KOS, ME, MK, RS	26
Podpora účasti Rómov na sekundárnom a terciárnom vzdelávaní a jeho ukončení	AT, BG, HR, CZ, ES, HU, LV, LT, PT, RO, SK	35	AL, BiH, ME, MK, RS, TR	21
Zlepšenie prístupu k vzdelávaniu a starostlivosti v ranom detstve a jeho kvality	AT, BG, HR, CY, CZ, ES, HU, IT, LU, NL, RO, SI, SK	34	AL, BiH, ME, MK, RS	16
Odstránenie segregácie v školách	AT, BE, BG, CZ, EL, ES, HR, IT, LU, NL, RO, SK	27	AL, ME, MK, RS	6
Používanie inkluzívnych a prispôsobených metód výučby a vzdelávania	AT, BG, HR, CY, CZ, LT, LU, NL, RO, SI, SK, UK	23	AL, KOS, ME, MK, RS, TR	15
Podpora získavania zručností prispôsobených potrebám trhu práce	AT, BG, CZ, EL, ES, LT, LU, NL, PT, RO, SI, SK	22	AL, MK	5
Podpora prechodu medzi úrovňami vzdelávania	AT, BG, CZ, ES, HU, HR, IT, LU, NL, PT, RO, SK	21	AL, BiH, KOS, ME, MK, RS	15
Podpora účasti rodičov	AT, BE, BG, CY, ES, HR, LV, LT, LU, RO, SK	18	AL, KOS, ME, MK, TR	11
Zlepšenie odbornej prípravy učiteľov	AT, BG, CY, CZ, ES, LT, RO, SE, SI, SK,	18	AL, MK, RS	4
Podpora mimoškolských aktivít	AT, BG, CY, EL, IT, LV, LT, RO, SI, SK	15	AL, KOS, ME, MK, RS, TR	11
Rozšírenie prístupu k druhošancovému vzdelávaniu a vzdelávaniu dospelých	AT, BG, CY, CZ, EL, ES, HR, LT, LU, UK	14	AL, ME, MK, RS	9
Boj proti negramotnosti	AT, BG, CY, HU, ES, HR, NL, RO	11	AL, ME, MK, RS	6
Predchádzanie nevhodnému umiestňovaniu Rómov do škôl pre deti s osobitnými potrebami	AT, CZ, ES, HR, RO, SK	9	MK, RS	2

Zdroj: COM (2019).

Tabuľka B: Rozdelenie opatrení v oblasti zamestnanosti podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Rozdelenie opatrení v oblasti zamestnanosti podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Tematická podoblasť	ČŠ	Počet opatrení	Krajiny zapojené do procesu rozširovania	Počet opatrení
Odstránenie prekážok na trhu práce vrátane diskriminácie	AT, BE, BG, CY, CZ, EL, ES, HR, HU, LT, LU, NL, PT, RO, SK	49	AL, KOS, ME, MK, RS, TR	24
Poskytovanie poradenstva prispôsobeného individuálnym potrebám jednotlivým uchádzačov o zamestnanie	AT, BG, CZ, EL, ES, HU, HR, LV, LU, NL, RO, SI, SK	41	AL, ME, MK, RS, TR	11
Podpora odborného vzdelávania	AT, BG, CY, ES, LV, LU, NL, RO, SK	20	AL, KOS, ME, MK, RS, TR	8
Podpora celoživotného vzdelávania a rozvoj zručností	AT, BG, ES, HR, HU, LV, LT, LU, NL, PT	18	AL, ME, MK, RS	7
Podpora samostatnej zárobkovej činnosti a podnikania	AT, BG, HR, CZ, EL, ES, HU, LT	18	AL, BiH, KOS, ME, MK, RS, TR	11
Podpora prvých pracovných skúseností	AT, BG, CY, CZ, EL, ES, HR, LU, RO, SK	16	AL, KOS, ME, MK, RS	9
Podpora odbornej prípravy na pracovisku	BG, CZ, ES, HU, LV, LU, SK	14	AL, KOS, MK, RS	4
Poskytovanie rovnakého prístupu k všeobecným verejným službám zamestnanosti	BG, HR, CZ, HU, LV, SK, ES, UK	13	AL, KOS, ME, MK, RS	16
Podpora pracovných príležitostí vo verejnej službe	EL, HU, NL, SK	8	AL, ME, RS	5

Zdroj: COM (2019).

Tabuľka C: Rozdelenie opatrení v oblasti zdravia podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Rozdelenie opatrení v oblasti zdravia podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Tematická podoblasť	ČŠ	Počet opatrení	Krajiny zapojené do procesu rozširovania	Počet opatrení
Odstránenie prekážok v oblasti zdravotnej starostlivosti	AT, BE, BG, CZ, EL, ES, HR, HU, IT, RO, SE, SK, UK	45	AL, BiH, KOS, ME, MK, RS	15
Podporovanie informovanosti o zdraví	AT, BG, CZ, EL, ES, HR, HU, IT, LV, NL, SE, SI, SK, UK	41	AL, BiH, KOS, ME, MK, RS, TR	17
Zlepšenie prístupu k bezplatným vakcinačným programom zameraným na deti a rizikové skupiny	AT, BG, EL, HR, HU, SK, UK	11	AL, KOS, ME, MK, RS, TR	14
Zlepšenie prístupu k lekárskym prehliadkam, prenatálnej a postnatálnej starostlivosti a plánovaniu rodiny	AT, ES, HU, SI, SK, UK	11	AL, BiH, KOS, ME, MK, RS, TR	13

Zdroj: COM (2019).

Tabuľka D: Rozdelenie opatrení v oblasti bývania podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Rozdelenie opatrení v oblasti bývania podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Tematická podoblasť	ČŠ	Počet opatrení	Krajiny zapojené do procesu rozširovania	Počet opatrení
Zabezpečenie prístupu k verejným službám a infraštruktúre pre bývanie	BE, BG, CY, EL, ES, HR, RO, SI, SK, UK	26	AL, BiH, KOS, ME, MK, RS	9
Odstránenie priestorovej segregácie a podpora odstraňovania segregácie	AT, BE, BG, EL, ES, HU, IT, LT, RO, SK,UK	25	AL, ME	3
Podpora nediskriminačného prístupu k sociálnemu bývaniu	AT, CZ, EL, ES, HU, IT, LT, LV, RO, SI, SK, UK	22	AL, ME, KOS, MK, RS	11
Zabezpečenie, aby projekty obnovy miest zahŕňali intervencie na integrované bývanie pre marginalizované komunity	BE, BG, ES, HR, HU, IT, SK	12	AL, BiH	2
Podpora miestneho rozvoja a/alebo integrovaných územných investícií pod vedením komunity s podporou fondov EŠIF	ES, HR, HU, IT	9	MK, RS	2
Zabezpečenie táborísk pre kočujúcich Rómov	AT, UK	5		0

Zdroj: COM (2019).

Tabuľka E: Rozdelenie nediskriminačných opatrení v oblasti podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Rozdelenie nediskriminačných opatrení v oblasti podľa relevantnosti pre príslušné podoblasti odporúčania Rady

Tematická podoblasť	ČŠ	Počet opatrení	Krajiny zapojené do procesu rozširovania	Počet opatrení
Boj proti odporu voči Rómom zvyšovaním informovanosti o prínosoch začleňovania Rómov	AT, BE, BG, CZ, ES, IT, LT, LV, PT, SK, SE	35	AL, ME, MK, RS, TR	27
Boj proti odporu voči Rómom zvyšovaním informovanosti o rozmanitosti	AT, BE, BG, CZ, EE, ES, IT, LT, LV, PT, SE, SK	31	AL, ME, MK, RS, TR	28
Boj proti odporu voči Rómom prostredníctvom boja proti protirómskej rétorike a prejavom nenávisti	AT, BG, CZ, ES, HU, IT, LT, LV, SK, UK	27	ME, TR	6
Boj proti násiliu na ženách a dievčatách vrátane domáceho násilia	AT, ES, IT, NL	11	AL, RS, TR	4
Boj proti (viacnásobnej) diskriminácii, ktorej čelia deti a ženy so zapojením všetkých príslušných zainteresovaných strán	AT, ES, IT, NL	8	AL, ME, MK, RS, TR	23
Boj proti manželstvám maloletých a núteným manželstvám	AT, NL	6	RS	1
Zabezpečenie účinného praktického presadzovania smernice 2000/43/ES	CZ, HR, IT, LT	6	AL, ME, MK, RS, TR	24
Boj proti obchodovaniu s ľuďmi	AT, HU	6	AL, MK, RS	8
Vykonávanie opatrení na odstránenie segregácie na regionálnej a miestnej úrovni	HU, NL, UK	3	AL, ME, RS	14
Zabezpečenie, aby vysťahovanie bolo v úplnom súlade s právom EU a medzinárodnými záväzkami v oblasti ľudských práv	IT	1	AL, MK, RS	3
Boj proti žobraniu s účasťou detí presadzovaním právnych predpisov	AT	1	AL, RS	3
Podpora spolupráce medzi členskými štátmi v situáciách s cezhraničným rozmerom	AT	1		0

Zdroj: COM (2019).

THE IMPACT OF SOCIAL EXCLUSION ON THE SCHOOL SUCCESS OF ROMA CHILDREN

Alena Kajanová[1], Tomáš Mrhálek[2]

Abstract

It has long been pointed out at the poor school results of Roma children and influences social exclusion in the field of education. The goal of the paper is to analyze the relationship of objectively and subjectively expressed social exclusion to the test of mathematical abilities and reading in Roma children in different age categories. From the point of view of the methodological approach, the quantitative approach, the method of questioning and the technique of standardized questionnaires were chosen: Diagnostic structure of mathematical abilities (DISMAS), test of fast reading from batteries of diagnostic test literacy skills and Scale of disadvantage. Research group representing Roma families on the basis of ethnic self-identification, selected quantitative selection throughout the Czech Republic (N = 156). Data were processed by nonparametric tests. The results of the research did not provide statistical significance in the context of objective exclusion in the search for life in the excluded locality and selected tests of school abilities in Roma children. Within the subjectively expressed experience of exclusion, a significant relationship to the reading test was described in 7-year-old respondents.

Keywords

Social Exclusion, Roma Childern, School Success, Mathematical Skills, Czech Skills

I. Úvod

Příspěvek se zabývá vlivem sociálního vyloučení na školní úspěšnost romských dětí. Jeho cílem je analyzovat vztah objektivně a subjektivně vyjádřené sociální exkluze na test matematických schopností a čtení u romských dětí v různých věkových kategoriích. Zájem o dané téma vyplývá z diskuse o legitimizaci externího vymezení lokality jako sociálně vyloučené a dopadů tohoto označení.

II. Teoretická východiska

Pojem sociální exkluze je popisován jako následek nedostatečného vytvoření rovných příležitostí pro jednotlivce i celé skupiny, které se chtějí spolupodílet na životě společnosti a vyvolává jejich neproveditelnost participace na tomto životě, jejich izolaci a odloučení od společnosti (Kotýnková, 2000). Rozdílný postoj se dotýká veškerých oblastí života, především pak vzdělání, trhu práce, bydlení, přístupu k zdravotní péči a sociální ochrany (Navrátil, Šimíková, 2002). Společnost je tedy exkluzí dělena na dvě skupiny rozčleněné na ty, kteří jsou „uvnitř“ a „vně“ společnosti (Mareš, 2006).

Na sociální exkluzi má nezpochybnitelný vliv etnická příslušnost, protože zhruba 80 % obyvatel sociálně vyloučených lokalit tvoří Romové, kteří jsou mimochodem také považováni za nejrizikovější skupinu osob ohrožených exkluzí (GAC, 2006). Původ tohoto jevu lze hledat jak ve strukturálních mechanismech (diskriminace, praxe samospráv atd.), tak i v mechanismech individuálních (ztráta pracovních návyků, závislosti atp.) (Toušek, 2007).

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Exkluzi především vystihuje její multidimenzionalita (Madanipour, 2003) a dynamičnost (Byrne, 2005). Literatura vymezuje různé vzájemně propojené a navzájem se ovlivňující dimenze sociálního vyloučení, konkrétně se jedná o rozměr ekonomický, sociální, kulturní, symbolický, prostorový a politický (Madanipour, 2003).

Pro vyloučení v ekonomické sféře je charakteristický nedostatečný přístup k materiálním či finančním zdrojům a mechanismům k přerozdělování těchto zdrojů (Růžička, 2011) a to je příčinou participace na alternativních zdrojích obživy (Růžička, Toušek, 2014) a obrovskou mírou zadluženosti (Gojová a kol., 2008). Častým přidruženým jevem prostorové exkluze je nedobrovolná rezidenční segregace, která má podobu takzvaných sociálně exkludovaných lokalit. (Ouředníček, 2005). Těchto sociálně exkludovaných lokalit se momentálně podle poslední plošné analýzy (Čada, 2015) v České republice nachází 606, ve kterých žije 95-115 tisíc obyvatel. Pro sociální dimenzi exkluze platí, že se významně snižuje úroveň vzájemné solidarity mezi exkludovanými (Keller, 2014). Další faktor sociální oblasti exkluze je vyloučení z majoritních sociálních sítí a vazeb, to má za následek zhoršení naděje exkludovaných na zlepšení sociálního statusu a zamezení možnosti lokalitu opustit (Pierson 2002). Symbolická složka sociální exkluze zejména poukazuje na skutečnost, že příslušnost k vyloučené lokalitě její obyvatele stigmatizuje (Keller, 2014). Tento fakt má za následek další marginalizaci a diskriminaci (Kajanová, 2014). Mezi kulturní dimenzi sociální exkluze se řadí snížený přístup ke kvalitnímu vzdělání, proto je nižší vzdělanost u sociálně vyloučených příčina omezení šancí do budoucna (Nekorjak, Souralová, Vomastková, 2011). U politického rozměru exkludovaní mají menší možnost domoci se svých práv soudní cestou s ohledem na náklady soudních poplatků a advokátních služeb (Rákoczyová, 2006). Sociální exkluze má za následek redukci participace na politickém dění a veřejném životě (Rákoczyová, 2006). Obyvatele sociálně exkludovaných lokalit tak mají omezenou moc ovlivnit společnost, ale i vlastní osud (Mareš 2006), protože se téměř neúčastní voleb a ani vyjednávání o jejich situaci. (Madanipour, 2003).

Život v sociálně vyloučené lokalitě přináší řadu rizik, některé jsou spojené s nejbližším sociálním okolím, jako je rodina, sousedství, komunita, škola, vrstevníci a různé podpůrné organizace (Šišláková in Smutek, 2006). Vedle těchto faktorů navíc stojí faktory široké socioekonomické úrovně, jako jsou např. přístup ke zdrojům a příležitostem (Šišláková in Smutek, 2006). Dalším rizikem je diskriminace a i přesto, že jsou zavedena různá opatření proti znevýhodňování určitých skupin, stále se ve společnosti setkáváme s rozdílným zacházením s jednotlivci a skupinami (Bobek, Boučková, Kühn, 2007). Tato opatření jsou nezbytná pro ochranu znevýhodněných jedinců a skupin z důvodu rasových, etnických nebo dalších podmíněných jakýmikoli zvláštnostmi (Bobek, Boučková, Kühn, 2007).

Typickým znakem života v sociálně vyloučené lokalitě je také segregace, kterou se rozumí oddělování jedné části obyvatelstva od druhé z důvodu např. právě sociálního znevýhodnění (Matějů, Straková, Veselý, 2010). Segregace se týká také škol, kde kvůli umisťování žáků, např. problémových nebo romského etnika vznikají tzv. segregované školy (Matějů, Straková, Veselý, 2010). Šišláková (In Smutek, 2006) uvádí, že ani tak chudoba lidí se sociálním znevýhodněním, ale zejména jejich segregace zásadně ovlivňuje jejich chování.

Velká část romských dětí není dostatečně připravena na zahájení školní docházky, příčinu lze spatřovat v tom, že (často) vyrůstají v prostředí, které je nedostatečně vybavilo potřebnými kompetencemi, a že tento handicap většinou není alespoň částečně kompenzován předškolním vzděláváním (GAC, 2015).

V delším časovém období je zřejmé, že vzdělanostní úroveň romských obyvatel sociálně vyloučených lokalit se nelepší, generace otců má obecně spíše vyšší vzdělání než generace synů, kteří získali vzdělání po roce 1989 (Kancelář rady vlády pro romskou problematiku, 2008).

Z každých deseti zkoumaných romských chlapců a deseti zkoumaných romských dívek, kteří nastoupili na základní školu, se ve své původní třídě udrželi pouze tři chlapci a polovina dívek a krizové momenty přichází zejména po první, třetí a šesté třídě, kdy se mění charakter výuky (GAC, 2015). Problémem vzdělávání dětí ze sociálně vyloučených lokalit, zejména Romů, je porušování práv a diskriminace v přístupu ke vzdělání (Kancelář rady vlády pro romskou problematiku, 2008). V ČR je 12 výhradně romských škol (statistika z r. 2017) a dalších 24, kde je 75% romských žáků.

V případě romských dětí je také velmi často diskutována otázka jejich přeřazování mimo hlavní vzdělávací proud (GAC, 2015). Krok mimo hlavní vzdělávací proud se týká v průměru zhruba dvou z deseti romských děvčat a 2,4 z deseti romských chlapců (GAC, 2015). Tyto výsledky byly potvrzeny i Kanceláří veřejného ochránce práv. Studie v šedesáti sedmi náhodně vybraných praktických školách stanovila, že 32–35 procent všech dětí v těchto školách jsou Romové, přičemž celkový podíl Romů v této věkové skupině celkové populace je 3,2–6,4 procenta, z toho plyne, že podíl Romů v praktických školách je tudíž 5–10krát vyšší než v celkové populaci (Kancelář veřejného ochránce práv, 2012). Na vzdělávací programy Zvláštní škola odejde ze základních škol tedy asi třetina romských dětí a dalších zhruba pět procent romských dětí na tyto programy nastoupilo přímo do první třídy a je patrné, že nejčastěji propadají v prvním, třetím a šestém ročníku (GAC, 2015).

III. Metodika

Pro naplnění stanoveného cíle byl použit kvantitativní výzkum využívající tři dotazníkové nástroje, respektive baterii testů:

Diagnostika struktury matematických schopností (DISMAS), test mapující rozvoj základních matematických schopností. Test se skládá z pěti subtestů (číselné řady, představy čísel, matematické pojmy, operační představy a automatizace). Test je distribuován NÚV (NÚV, 2020). Proband je hodnocen v bodových skóre za splněné úkoly řazené podle obtížnosti. Test pracuje s názornými kostkami.

Test rychlého čtení z baterie diagnostických testů gramotnostních dovedností. Tento test obsahuje 140 slov seřazených dle obtížnosti od jednoduchých samohlásek a předložek po komplexní slova. Proband je hodnocen za správně přečtená slova v časovém limitu jedné minuty. Za chybné čtení je mu bodová hodnota odečtena.

Pracovní nástroj s názvem Škála sociálního vyloučení vytvořený NÚV (2019) a doplněný o základní sociodemografické otázky, které jsme použili jako nezávislé komparační faktory. Škála sociálního vyloučení je určena k subjektivnímu hodnocení exkluze na základě 20 položek na čtyřstupňové Likertově škále, kde respondent může dosáhnout 20-80 b. S výší dosažených bodů roste výše exkluze. Otázky se zaměřují na obecné postavení rodiny ve společnosti a percepci vlastní odlišnosti, hodnocení prostředí lokality a podporu dětí (především ve vztahu ke škole).

Doplňující otázky se týkaly věku a dalších sociodemografických proměnných.

Výzkumný soubor tvořily romské rodiny na základě etnické sebeidentifikace, vybrané kvótním výběrem v rámci celé České republiky (N=156), kde kvótu představoval kraj a skutečnost, zda je lokalita oficiálně vymezená jako sociálně exkludovaná na základě Opatření obecné povahy.

Získaná data byla statisticky zpracována v programu SPSS pomocí neparametrických testů Mann-Whitney U test a Kruskal-Wallis H test, s ohledem na nenormální rozložení dat s šikmou tendencí. Všechny prezentované výsledky jsou znázorněny na hladině $p<0,05$.

IV. Výsledky a diskuze

Test DISMAS sestával ze dvou hlavních částí a to operační pojmy a matematizace. V části operační pojmy měli probandi skládat/odebírat kostky ze/do skupin dle instrukcí typu: „dej méně než dva“. V části matematizace pak měli tuto instrukci ve vztahu k počtu kostek zapsat jako matematický příklad. Výsledky byly posléze přepočítány do hrubých skórů a statisticky testovány ve vztahu k objektivnímu vyjádření sociální exkluze (Tabulka 1 a 2) a subjektivnímu hodnocení míry exkluze (Tabulka 3). Jak je ale patrno z dat, v žádném případě nebyla zaznamenána statisticky významná souvislost mezi testovanými proměnnými. Přestože výsledky neukazují statistickou platnost výsledků, je patrné na základě průměrných hodnot patrný trend lepších výsledků v obou subtestech u dětí z nevyloučených rodin, a to zejména u sedmiletých, kdy m1=28,16 (sd=16,35), m2=38,30 (sd=18,48) v rámci subčásti operační pojmy a m1=11,77 (sd=13,22), m2=21,08 (sd=16,17) v subčásti matematizace.

Nepodařilo se statisticky dokázat, že život ve vyloučené či naopak nevyloučené lokalitě, stejně jako vyjádřená míra exkluze nemá vliv na matematické schopnosti romských dětí.

Tabulka 1 Označení lokality jako exkludované x DISMAS operační pojmy podle věku

Věk	Charakter lokality	N	Mean	SD	t	df	p
7. let	Vyloučená	23	28,13	16,35	-1,58	31	0,12
	Nevyloučená	10	38,3	18,48			
8. let	Vyloučená	20	29,4	10,64	-0,11	23	0,91
	Nevyloučená	5	30	12,12			
10. let	Vyloučená	18	40,22	21,02	-1,11	23	0,28
	Nevyloučená	7	50,86	23,05			
11. let	Vyloučená	19	46,74	19,69	-0,52	24	0,61
	Nevyloučená	7	51,14	16,99			

Zdroj: Vlastní výzkum

Tabulka 2 Označení lokality jako exkludované x DISMAS matematizace podle věku

Věk	Charakter lokality	N	Mean	SD	t	df	p
7. let	Vyloučená	31	11,77	13,22	-1,95	41	0,06
	Nevyloučená	12	21,08	16,17			
8. let	Vyloučená	26	15,38	8,32	-0,7	32	0,49
	Nevyloučená	8	18	11,81			
10. let	Vyloučená	22	25,82	19,42	-0,57	28	0,57
	Nevyloučená	8	30,63	23,19			
11. let	Vyloučená	22	29,45	19,11	-0,58	27	0,57
	Nevyloučená	7	34,14	16,99			

Zdroj: Vlastní výzkum

Tabulka 3 Míra sociálního vyloučení x výsledky testu DISMAS

		Operační pojmy	Matematizace
7. let	Pearson R	0,25	0,23
	p	0,21	0,32
	N	26	21
8. let	Pearson R	-0,20	-0,17

	p	0,36	0,48
	N	24	19
10. let	Pearson R	-0,18	-0,21
	p	0,50	0,46
	N	16	15
11. let	Pearson R	-0,27	-0,20
	p	0,26	0,42
	N	20	18

Zdroj: Vlastní výzkum

Bodový skór dosažený v testu čtení, nepřinesl žádné signifikantní výsledky ve vztahu k subjektivní a objektivní míře sociální exkluze a to pro žádnou věkovou skupinu, jak ukazují Tabulky 4 a 5. Přestože neexistuje statisticky významná souvislost, zejména z důvodu nerovnoměrné velikosti vzorku a vysokého rozptylu hodnot, lze si z průměrných hodnot povšimnout trendu ukazujícího na vyšší hodnoty v testu čtení u nevyloučených dětí, a to zejména v sedmé třídě m1=20,76 (sd=29,69) a m2=26,5 (sd=26,5), kdy v souboru 8. letých respondentů byly průměrné hodnoty m1=41,96 (sd=32,34) a m2=44,60 (sd=32,40).

Tabulka 4: Označení lokality jako exkludované x Test čtení podle věku

Věk	Charakter lokality	N	Mean	SD	t	df	p
7. let	Vyloučená	34	20,76	29,69	-0,62	48	0,54
	Nevyloučená	16	26,5	26,5			
8. let	Vyloučená	28	41,96	32,34	-0,22	36	0,83
	Nevyloučená	10	44,6	32,4			
10. let	Vyloučená	24	62,21	46,55	0,18	33	0,86
	Nevyloučená	11	59,36	37,29			
11. let	Vyloučená	25	84,12	3,66	0,64	30	0,53
	Nevyloučená	7	74	48,23			

Zdroj: Vlastní výzkum

V rámci subjektivního hodnocení jednotlivých složek exkluze dle vyjádření rodičů ve vztahu k výsledkům testu čtení jejich potomků je signifikantně potvrzena hodnota korelace pro skupinu sedmiletých R=0,42, p=0,03, což přináší paradoxní výsledek ukazující na vyšší hodnoty testu čtení v souvislosti se zvýšeným hodnocením subjektivního vyloučení. Možné vysvětlení však nacházíme v tom, že subjektivní a objektivní vyloučení spolu nemusí nutně souviset. Dále pak osoby, které se subjektivně cítí být více exkludovaní, mohou více dbát na to, aby se věnovali svým dětem v rozvoji školních dovedností, případně spolupracovali s nestátními neziskovými organizacemi, které se této oblasti věnují.

Tabulka 5 Míra sociálního vyloučení x výsledky Testu čtení

7. let	**Pearson R**	**0,42**
	p	0,03
	N	27,00
8. let	Pearson R	-0,06
	p	0,79
	N	27,00

10. let	Pearson R	-0,25
	p	0,28
	N	21,00
11. let	Pearson R	-0,23
	p	0,31
	N	21,00

Zdroj: Vlastní výzkum

V. Závěr

Oproti očekávání, výsledky výzkumu nepřinesly žádnou statisticky významnou souvislost mezi vybranými testy školních schopností u romských dětí a objektivní exkluzí (životem v lokalitě označené jako exkludované). Poukazují tím na možnou invarianci mezi vyloučenými a nevyloučenými lokalitami s ohledem na vlivy podporující osvojení si školních dovedností, respektive naznačují, že příslušné vlivy plynoucí z života ve vyloučené lokalitě se projevují spíše až v pozdějším věku. V rámci subjektivně vyjádřeného prožívání exkluze se objevil parciální vztah, a to konkrétně v rámci subtestu čtení u podskupiny nejmladších 7. letých respondentů (R=0,42, p=0,03). Přestože tento vztah ukazuje na opačný trend oproti typickému očekávání (korelace výkonu a míry vyloučení), poukazuje na to, že v případě zvýšeného pociťování exkluze lze spatřovat možný zvýšený tlak na podporu dětí v jejich školních schopnostech oproti těm, jež nehodnotí své znevýhodnění jako subjektivně významné. Limitem aktuálních výsledků jsou nerovnoměrné zastoupení jednotlivých podskupin, což ovlivňuje výsledky statistických testů a prezentované výsledky je tudíž nutno brát jako pouhé dílčí výstupy. Další směřování tohoto výzkumného záměru si klade za cíl zvětšit a vyvážit jednotlivé podskupiny a na celkovém vzorku realizovat podrobnější analýzy zaměřující se na jednotlivé subjektivně vnímané složky exkluze.

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QUALITY OF ECONOMIC GROWTH IN THE CZECH REPUBLIC AND SLOVAK

Christiana Kliková[1]

Abstract

The article focuses on modern determinants of economic growth in the Czech Republic and Slovakia in 2013 and 2018 and their comparison with the average data of the EU 28 for the same years. The aim of the article is to show to what extent it is possible to consider the Czech, resp. the Slovak Republic for high performance. The introduction briefly outlines theoretical views on economic growth. The next section presents the qualitative factors of economic growth that affect it and which can be found in statistical reports. In conclusion, the individual data graphically discussed and compared with those for the 28th EU. The results showed that neither the Czech nor the Slovak economy is still level qualitative indicators of economic growth in the EU reached 28.

Keywords

Economic Growth, High-Performing Economies, The Czech Republic, The Slovak Republic, EU 28

I. Úvod

Ke zpracování tohoto příspěvku přispěl názor, s nímž je možno se v poslední době často setkat a který lze stručně interpretovat takto: Česká republika je v Evropě chápána jako ekonomicky vysoce vyspělá země, která má nejnižší míru nezaměstnanosti ze všech členských zemí EU a která investice, jež realizuje, orientuje na svůj budoucí ekonomický růst a všestranný rozvoj. Je tomu tak však skutečně? Odpověď – alespoň částečnou – by měl poskytnout tento článek.

II. Kvalita ekonomického růstu

Většina ekonomů se shoduje na názoru, že stěžejním ekonomickým cílem hospodářské politiky každé země je maximalizace společenského blahobytu (životní úrovně občana), což bývá ztotožňováno s maximalizací dlouhodobého udržitelného ekonomického růstu.[2] První teorie ekonomického růstu jsou spojovány s klasickými ekonomy A. Smithem a D. Ricardem, kteří za hlavní zdroj ekonomického růstu považovali pracovní sílu a její produktivitu.

Ve smyslu **keynesiánské doktríny** se ekonomickému růstu věnovali především Roy Harrod (1939) a Evsey Domar (1946), kteří rozeznávali:

1) skutečné tempo růstu,
2) přirozené tempo růstu,
3) zaručené tempo růstu,
4) očekávané tempo růstu.

Podle této teorie je ekonomika v rovnováze pouze tehdy, kdy se skutečné, přirozené, zaručené a očekávané tempo růstu sobě rovnají; ze skutečnosti, že pravděpodobnost dosažení tohoto stavu je velmi nízká, vyvodil R. Harrod závěr, že ekonomika dlouhodobě stabilně růst nemůže.[3]

[1] University PRIGO, Vítězslava Nezvala 801, 76001 Havířov, Czech Republic. E-mail: christiana.klikova@prigo.cz

[2] Rojíček a kol. (2016)

[3] „…Kapitalismus je podle Harroda vnitřně nestabilní systém, přičemž jeho nestabilita závisí velmi významně na formování investičních očekávání…“ (Kotlán, 2001, s. 33)

Relativně nový pohled na modelování ekonomického růstu přinášejí neoklasikové Robert Solow a Trevor Swan[4] (1956); ti svůj model založili na předpokladu stability ekonomického systému (Kotlán, 2001). Vycházeli přitom z neoklasické produkční funkce a byli přesvědčeni, že z důvodu klesajícího mezního produktu kapitálu se každá ekonomika posléze dostane do stavu, kdy jakákoliv dodatečná jednotka kapitálu na pracovníka nemá žádný vliv na makroekonomický výstup, a proto dochází (při neexistenci technického pokroku) k tzv. stálému stavu. Dalšího růstu akumulace kapitálu lze podle nich dosáhnout pouze zvyšováním počtu pracovníků a/nebo růstem technického pokroku.

Závěry neoklasického modelu tedy implikují, že z dlouhodobého hlediska budou ekonomiky navzájem konvergovat, což znamená, že chudší země budou růst relativně rychleji, než země bohatší (tempo růstu produktu na osobu – životní úroveň obyvatel – bude v tomto případě záviset pouze na technickém pokroku).

Významný příspěvek k teorii růstu je práce D. Northa, která vychází z neoklasického modelu a obohacuje ji o instituce, jež vytvářejí strukturu stimulů společnosti. Jak uvádí Frait a Červenka „…instituce jsou v podání Northa lidmi vytvořená omezení, která vnášejí strukturu do lidského jednání…“[5]. Pokud se instituce „…správně vyvinuly, poskytují záruku, že při vzájemné důvěře povedou neosobní kontakty ke zvyšování výnosů…“[6] a tím i k vyššímu ekonomickému růstu.

Ke zpochybnění závěrů neoklasické teorie růstu však vedl reálný vývoj jednotlivých zemí, kdy rozdíly mezi bohatými a chudými zeměmi se nezmenšovaly a k přelévání kapitálu mezi nimi nedocházelo tempem, který neoklasikové předpokládali. Tyto nedostatky modelů se snažila vysvětlit endogenní teorie růstu především endogenizováním technického pokroku v rámci modelu a zahrnutím lidského kapitálu do růstových modelů. V teoriích endogenního růstu je technický pokrok pokládán za vnitřní součást modelu a spolu s lidským kapitálem, který je součástí komplexněji formulovaného kapitálu, je pokládán za nejdůležitější faktor, který ekonomický růst ovlivňuje. V tomto modelu má „…technologický pokrok podobu růstu znalostí…“[7] a jeho příčinou jsou „…investice do znalostí, tj. do výzkumu a do lidského kapitálu…“[8].

Je tedy zřejmé, že nejdůležitějšími determinantami ekonomického růstu je technický (technologický) pokrok a lidský kapitál, které vyjadřují především komponenty kvalitativního ekonomického růstu; konkrétně se jedná o výzkum a o inovace, o lidský kapitál a o rychlost difúze nových technologií.

Podle Aigingera (2004) je možno jednotlivé světové ekonomiky na základě kvality ekonomického růstu rozdělit na vysoce výkonné, středně výkonné a nízko výkonné. Zatímco nízkovýkonné země zabezpečují svůj hospodářský růst především zvyšováním počtu obyvatel a využíváním vlastních přírodních zdrojů, u středně výkonných zemí je ekonomický růst závislý zejména na růstu objemu hmotných investic. Ve vysoce výkonných zemích jsou za základní determinanty dlouhodobého ekonomického růstu považovány právě komponenty technického pokroku, tj. výzkum, vývoj a inovace, rychlost difúze nových technologií a kvalita lidského kapitálu (obrázek 1). Tyto tři oblasti jsou dále v textu popsány ukazateli, které jsou statisticky zachyceny a sledovány a které z teoretického i empirického aspektu mohou jistým dílčím způsobem dlouhodobý ekonomický růst ovlivňovat. Soustava těchto ukazatelů zahrnuje

[4]Swan i Solow vyvinuli model téměř nezávisle na sobě, v literatuře je však tento model připisován jen Solowovi. V tomto modelu existují mimo jiné i další předpoklady: harrodovsky neutrální technický pokrok (což znamená, že technologické inovace znásobují objem fyzické práce), kladné a klesající výnosy z práce a kapitálu, rovnost úspor a investic, uzavřená ekonomika, plná zaměstnanost a pružné mzdy a ceny.

[5] Frait, Červenka (2002, s. 21)

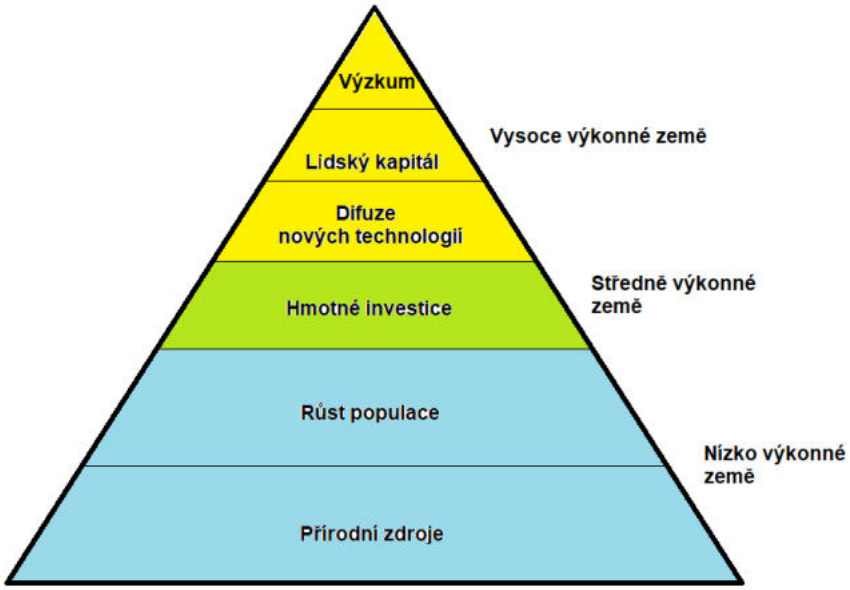
[6] tamtéž, s. 22

[7] Holman (2018, s. 203)

[8] tamtéž

indikátory vstupu a výstupu výzkumu, podíl high-tech, informačních a komunikačních technologií (ICT) na výrobě a spotřebě a počet osob, které dosáhly určitého stupně vzdělání.

Obrázek 1 Kvalitativní „tahouni“ ekonomického růstu



Zdroj: Aiginger (2004), vlastní úprava

V kontextu uvedeného považujeme za indikátory vstupu a výstupu výzkumu:

- Hrubé domácí výdaje na výzkum a vývoj (GERD) v % HDP. Pro mezinárodní porovnání je tento ukazatel vyjadřován v procentech hrubého domácího produktu (HDP). [1][9]
- Výdaje podnikatelského sektoru na výzkum a vývoj v % HDP ukazují zapojení podnikatelského sektoru do výzkumu a vývoje. Ve většině vyspělých zemí tvoří nezanedbatelnou část celkových výdajů na výzkum a vývoj. Pro potřeby mezinárodního srovnání je tento ukazatel opět vztáhnut k HDP; vyjadřuje tak náročnost HDP na podnikové výdaje na výzkum a vývoj. [2]
- Lidské zdroje ve vědě a technologiích (LZVT-HRST) jako podíl na ekonomicky aktivním obyvatelstvu ve věku 25-64 let. LZVT (HRST) představují osoby, které buď úspěšně ukončily terc. vzdělávání nebo jsou zaměstnány ve vědeckých a technických oborech. [3]
- Celkový počet zaměstnanců a výzkumných pracovníků v oblasti výzkumu a vývoje, přepočtený na ekvivalent plného pracovního úvazku, jako % celkové pracovní síly. (Propočet na plný pracovní úvazek zahrnuje pouze dobu, po kterou se pracovník zabývá vědeckými výzkumnými činnostmi). [4]
- Roční údaje o zaměstnanosti v činnostech náročných na znalosti, vyjádřené jako % celkové zaměstnanosti. [9]

Mezi ukazatele, které jsou zaměřeny na high–tech výrobu a informační a komunikační technologie (ICT) jsou zařazeny:

[9] Čísla v závorkách značí umístění ukazatele v „pavučinovém grafu“ (obrázek 2 a 3).

- Zaměstnanost v odvětvích high-tech[10], medium high-tech a ve službách náročných na znalosti jako % celkové zaměstnanosti. [5]

- Počet patentů na 1 milion obyvatel – prezentuje míru výkonu ekonomiky v oblasti vědy a výzkumu. [6]

- Podíl exportu všech výrobků high-tech odvětví na celkovém exportu – vyjadřuje výstup high-tech odvětví a jeho úspěšnost na zahraničních trzích. High-tech výrobky jsou definovány jako souhrn následujících produktů: výrobky z oblasti leteckého průmyslu, počítače, kancelářské stroje, elektronika, vědecké přístroje, farmaceutické výrobky, elektrické vybavení a výstroj. Celkové vývozy za EU nezahrnují intra-EU obchod. [7]

- Přístup domácností k internetu je měřen jako podíl domácností s připojením k internetu v % všech domácností. [8]

Za determinanty ekonomického růstu v oblasti lidského kapitálu jsou považovány:

- Osoby ve věku 20-24 let, které dosáhly alespoň vyššího středního vzdělání. Jedná se o podíl mladých lidí ve věku 20-24 let, kteří získali minimálně vyšší středoškolské vzdělání, což odpovídá úrovni 3 - 8 klasifikace ISCED 2011[11] pro údaje roku 2018 a úrovni 3 - 6 klasifikace ISCED 1997 pro údaje roku 2013. [10]

- Osoby ve věku 25-64 let, které dosáhly alespoň vyššího středního vzdělání. Jedná se o podíl lidí ve věku 25-64 let, kteří získali minimálně vyšší středoškolské vzdělání, což odpovídá úrovni 3 - 8 klasifikace ISCED 2011 pro údaje roku 2018 a úrovni 3 - 6 klasifikace ISCED 1997 pro údaje roku 2013. [11]

Časové období, během něhož jsou jednotlivé ukazatele sledovány, začíná v roce 2013, kdy se vytvořila EU 28 (28. členským státem EU se stalo 1. července 2013 Chorvatsko) a končí v roce 2018 s výjimkou ukazatelů „Zaměstnanost v činnostech náročných na znalosti“ a „Celkový počet přihlášek patentů u EPO“, kde hodnoty za rok 2018 nejsou ve statistice k dispozici; proto byla jako koncové hodnoty použita data roku 2017.

III. Diskuse

Uvedené ukazatele[12] budou sledovány u zemí EU-28 jako celku a u České a Slovenské republiky[13]; protože však existuje předpoklad, že země EU-28 jsou v průměru zeměmi vysoce výkonnými (ve smyslu K. Aigingera), bude hodnota každého ukazatele zemí EU-28 ve srovnání s hodnotou téhož ukazatele za ČR a SR považována za jednotkovou. Tím bude doloženo, nakolik se ČR a SR mezi vysoce výkonné země mohou zařadit. Tato komparace bude provedena za období 2013 – 2018, což umožní postihnout i změny těchto ukazatelů v čase, čili skutečnost, nakolik se Česko, resp. Slovensko svým vývojem během těchto let srovnalo, příp. alespoň přiblížilo hodnotám, jež dosáhly země EU-28.

[10] High-tech sektor tvoří skupiny ekonomických činností vybraných odvětví zpracovatelského průmyslu – tzv. high-tech průmysl, i vybraná odvětví v oblasti služeb – tzv. high-tech služby. Do odvětví high-tech sektoru jsou zařazeny ekonomické subjekty podnikatelského sektoru s převažující ekonomickou činností odpovídající následujícím oddílům a skupinám klasifikace CZ-NACE. Bližší informace viz ČSÚ – High-tech sektor

[11] ISCED - International Standard Classification of Education (Mezinárodní standardní klasifikace vzdělávání) je klasifikace vzdělávání schválená UNESCO v roce 1976; slouží jako nástroj „použitelný pro sestavování, tvorbu a prezentování statistik ve vzdělávání a to jak na úrovni dílčích zemí, tak na mezinárodní úrovni“ (UNESCO, 2006). První verze je známá jako ISCED 1976. Druhá verze, známá jako ISCED 1997, zavedla 7 úrovní a 25 oblastí vzdělávání a byla zaměřena na zvýšení porovnatelnosti statistik ve vzdělávání. Třetí verze klasifikace, ISCED 2011, která zavádí 9 úrovní vzdělávání, plně předchozí verzi nahradila.

[12] Je evidentní, že výběr jednotlivých ukazatelů byl limitován jejich množstvím a kvalitou tak, jak jsou publikovány Eurostatem, resp. ČSÚ. Tato skutečnost je bohužel zřejmá především u ukazatelů, které by měly charakterizovat lidský kapitál.

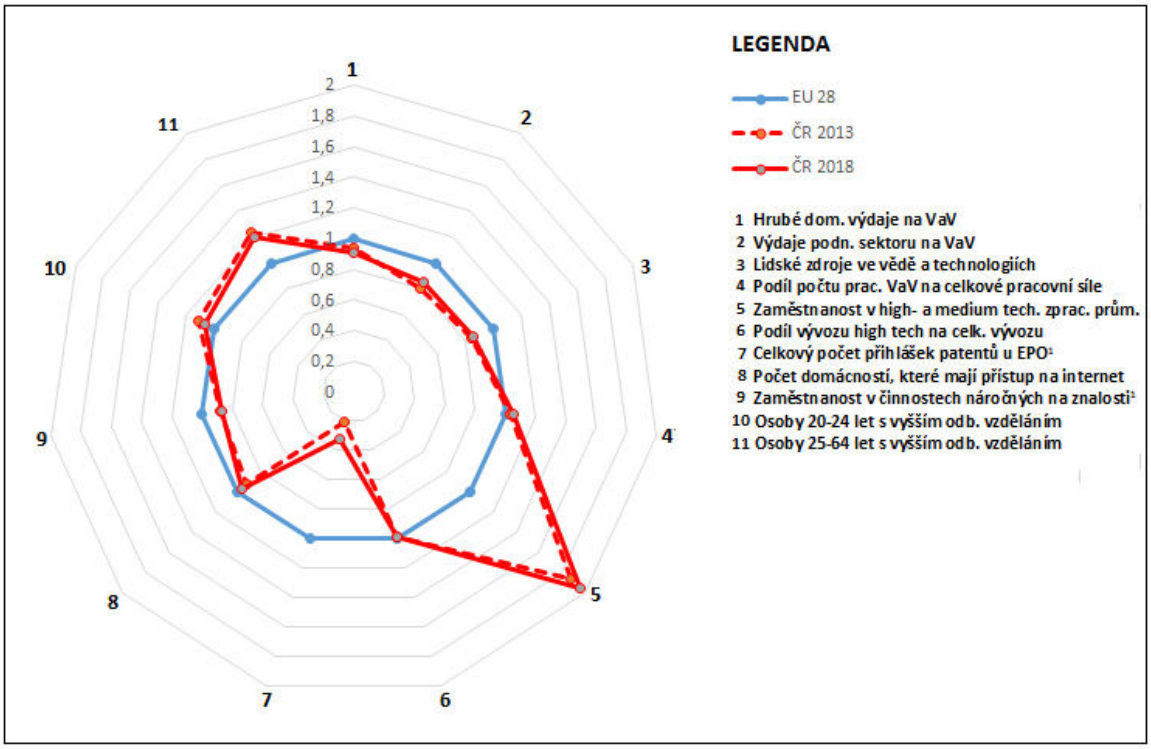
[13] Slovenská republika byla vybrána kvůli rozšíření vzorku pozorovaných zemí a s ohledem na relativně dlouhou společnou minulost s ČR.

Česká republika

Srovnání indikátorů České republiky s (jednotkovými) indikátory EU-28 je znázorněno na obrázku 2. Jak je z něj patrné, rozdíly ve velikosti ukazatelů mezi roky 2013 a 2018 jsou takřka zanedbatelné, přestože k určitému nepatrnému přiblížení se optimu (EU-28) v roce 2018 u většiny z nich došlo. Česko se hodnotám průměru EU-28 přiblížilo v počtu domácností, které mají přístup na internet a u podílu vývozu výrobků high-tech odvětví na celkovém vývozu. Velmi nízká (v podstatě nulová) je úroveň indikátoru, který představuje jeden z výstupů vědecko-výzkumné činnosti – celkový počet přihlášek patentů u EPO; v roce 2013 připadalo na celou populaci (cca 10 mil. obyvatel) pouze 251 přihlášek patentů u EPO. Ani na konci sledovaného období se situace u tohoto ukazatele příliš nezlepšila – počet přihlášek patentů u EPO se zvýšil na 357, což znamená, že na 1 milion obyvatel připadlo necelých 36 přihlášek.

Naopak, téměř dvojnásobná je v ČR zaměstnanost v high-tech a midle high-tech odvětvích zpracovatelského průmyslu[14] a ve službách, náročných na znalosti oproti průměru EU-28; existuje domněnka, že tomu tak je z důvodu nižší úrovně automatizace a digitalizace v příslušných výrobních oborech. Vyšší než jednotkový průměr EU-28 jsou také ukazatelé, týkající se osob ve věku 20–64 let, které dosáhly aspoň vyššího středního vzdělání. Tato skutečnost však existuje od roku 1990.

Obrázek 2 Tahouni ekonomického růstu ČR v roce 2013 a 2018 vztažení k EU 28



Zdroj: vlastní výpočty na základě údajů Eurostatu (2020)

Slovenská republika

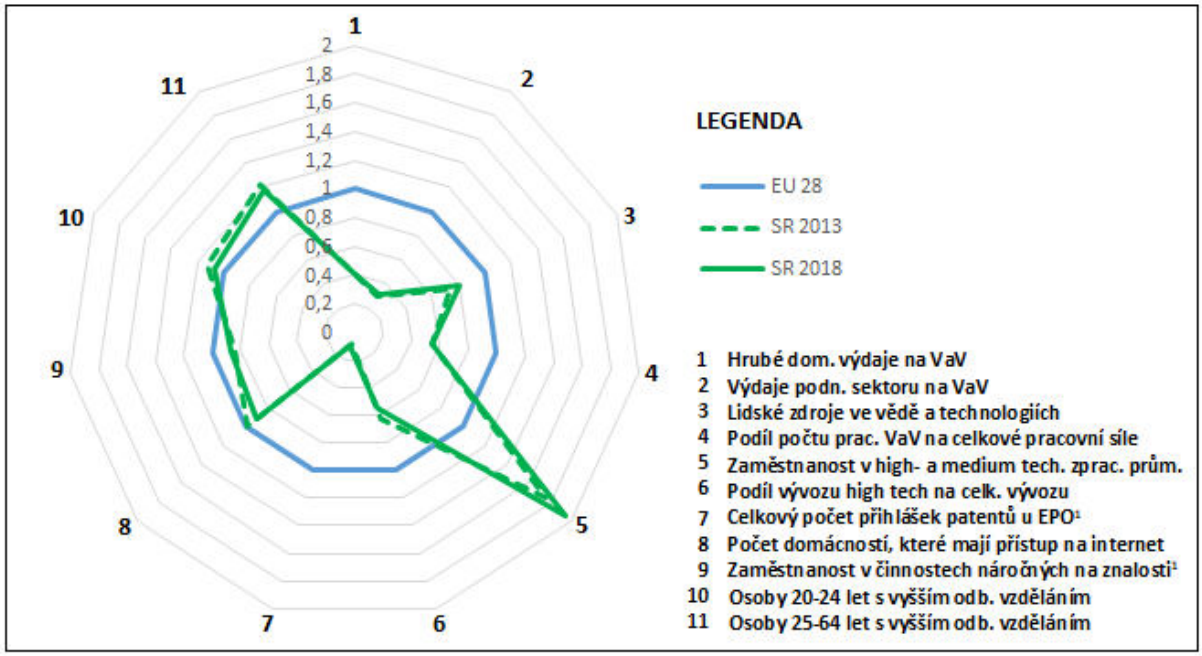
Srovnání indikátorů Slovenské republiky s (jednotkovými) indikátory EU-28 je znázorněno na obrázku 3. Obdobně jako v Česku je z něj patrné, že rozdíly ve velikosti ukazatelů mezi roky 2013 a 2018 jsou takřka zanedbatelné, přestože k určitému nepatrnému přiblížení se optimu

[14] Podle klasifikace zpracovatelského průmyslu na základě **technologické náročnosti** jeho jednotlivých odvětví se zpracovatelský průmysl dělí na odvětví s vysokou (high-tech), středně vysokou (medium high-tech), středně nízkou (medium low-tech) a nízkou (low-tech) technologickou náročností.

(EU-28) v roce 2018 i zde u většiny z nich došlo. Slovensko se hodnotám průměru EU-28 přiblížilo u ukazatele počet domácností, které mají přístup na internet v roce 2013; v roce 2018 oproti roku 2013 došlo sice k nárůstu počtu domácností, vybavených internetem, ale tento růst byl pomalejší, než u průměru zemí „Osumadvacítky". V celém sledovaném období byly velmi nízké výdaje podnikatelského sektoru na vědu a výzkum a skoro nulový celkový počet přihlášek patentů u EPO. Oproti srovnávané entitě byl téměř o 40 % nižší podíl počtu pracovníků ve vědě a výzkumu na celkové pracovní síle.

Obdobně jako v Česku je i na Slovensku oproti průměru EU-28 téměř dvojnásobná zaměstnanost v high-tech a midle high-tech odvětvích zpracovatelského průmyslu a ve službách, náročných na znalosti; vyšší než průměr EU-28 je také počet osob, které dosáhly alespoň vyššího středního vzdělání.

Obrázek 3 Tahouni ekonomického růstu SR v roce 2013 a 2018 vztažení k EU 28



Zdroj: vlastní výpočty na základě údajů Eurostatu (2020)

IV. Závěr

Česká ekonomika v roce 2018 oproti roku 2013 v podstatě kvalitu sledovaných ukazatelů nezvýšila; průměr hodnot Osmadvacítky překročila u tří indikátorů – konkrétně se jedná o zaměstnanost v high-tech a midle high-tech odvětvích zpracovatelského průmyslu a ve službách, náročných na znalosti a o ukazatel počtu osob ve věku 20 – 64 let, které dosáhly alespoň vyššího středního vzdělání. Hodnoty ostatních ukazatelů kvality průměru zemí EU-28 nedosáhly s výjimkou počtu domácností s přístupem k internetu, jenž je v podstatě totožný s hodnotou Osmadvacítky.

Stagnace kvality sledovaných ukazatelů Česka, ale i Slovenska lze odůvodnit třemi skutečnostmi:

1. Sledované období je časově velmi krátké, takže je možno předpokládat, že v delším časovém intervalu budou změny kvality ukazatelů razantnější.
2. Skupina zemí EU-28 nesdružuje nejvyspělejší země Evropy; jejími členy jsou i státy, které z hlediska svého výkonu patří spíše mezi ekonomiky středně až méně vyspělé. Jako srovnávací entita je však nejjednodušeji dosažitelná.

3. Kvalitu ekonomického růstu lze lépe vyjádřit mnohými jinými indikátory, skutečností však zůstává, že nejsou statisticky sledovány. Problémem je také nalezení způsobu, jak kvantifikovat lidský kapitál.

Odpovědět na otázku, zda česká ekonomika své budoucí investice směřuje tak, aby zajistila rovnoměrný ekonomický růst země, je velmi obtížná vzhledem k současné hospodářské situaci, vzniklé z důvodu pandemie coronaviru. Teprve další vývoj naší ekonomiky ukáže, zda tomu tak je.

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TAX CHANGES EFFECTS ON THE CZECH ECONOMY

Zlatica Konôpková[1]

Abstract

Today, economies are struggling with the consequences and uncertainty caused by the pandemic of novel coronavirus. Economic subjects turn their attention to the government and ask for help. Government budgets will face a real challenge in the next years, due to current high demand for the spending and expected decline in income. This paper investigates the current condition of public finances in the Czech Republic and the possible effects on economy by decreasing direct taxes on labor and capital. Simple DSGE model of small and closed economy with 3 sectors is calibrated using data from 2018 and stochastic analysis is performed. It is shown that economy is more sensitive to the shocks on labor than on capital income taxes. Results support the tax reform of decreasing labor taxes for which Czechia is waiting for long time.

Keywords

Tax Reduction, The Czech Republic, DSGE, Labour, Capital

I. Introduction

At the end of the previous millennium, the world economy experienced a period of boom and relative stability. However, since 2000 it has faced many challenges and tests. The first decade brought fluctuations caused by bubbles in the stock and mortgage markets, which eventually resulted in a global financial and economic crisis associated with a multi-percent economic downturn. During the second decade, a slow recovery of the world economy has started eventually turning into relatively long period of continuous growth. However, predictions of the recession have begun to emerge, but no one expected the cause that actually triggered the current decline in growth.

Nowadays, economies are struggling with the consequences and uncertainty caused by the pandemic of novel coronavirus. Restrictive measures have forced a reduction in economic activity, with some sectors literally shutting down to zero. The epidemic of such a large scale highlights the crucial role of the state, which has not only put in place measures against the spread of the virus, but also has made proposals to address the economic impact. Economic subjects turn their attention to the government and ask for help and compensation for limiting their activities. The role of the state is thus strengthened again at the expense of the market. Government budgets will face a real challenge in the next years. In addition to current high demand for the spending and expected decline in income, in developed countries, we have been experiencing a trend of population aging, which implies increase in the spending on the social and health.

In this paper, we will examine the effects of the fiscal policy on the economy by using the simple Dynamic Stochastic General Equilibrium Model (DSGE). This has been a key macroeconomic modelling approach in last years, used for research of different economic topics. Just to mention some recent works, Alves (2018) developed DSGE model to examine the impacts of different types of tax. Kim & Kim (2018) used DSGE model to study welfare implications of a simple operational tax policy rule for different type of taxes. Algozhina (2012) introduced DSGE model for joint fiscal and monetary interactions, investigating the changes in public investment and consumption. Nowadays, all important economic institutions, for

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example central banks or ministry of finance, are creating their own models. It is also a case for the Czech Republic. Ministry of Finance is developing their own model called Hubert in order to evaluate the situation in economy, prepare policy and make decision, for details check Štork (2011).

The paper is inspired by work of Costa Junior and Sampaio (2014) and follows standard practice in DSGE modelling presented by Galí (2008). The authors investigated and evaluated tax reduction policies of the productive sector in Brazilian economy. According to OECD (2010), the direct taxes have the greatest negative effect on the economy. Reducing them might result in positive (stabilizing) effect on the economy. It was also confirmed by Mamatzakis (2005), that shift from direct to indirect taxation can invoke an economic growth without changes on revenue side, which was then the main fiscal policy trend in the recent years. One of the promised tax reforms of the actual Czech government was to reduce direct labor taxes, but it has not been implemented yet. The aim of this paper is to examine the current condition of public finances and the possible effects of decreasing direct taxes on labor and capital in the Czech Republic. Due to the availability of data, the simulation and impulse response functions have starting point in 2018.

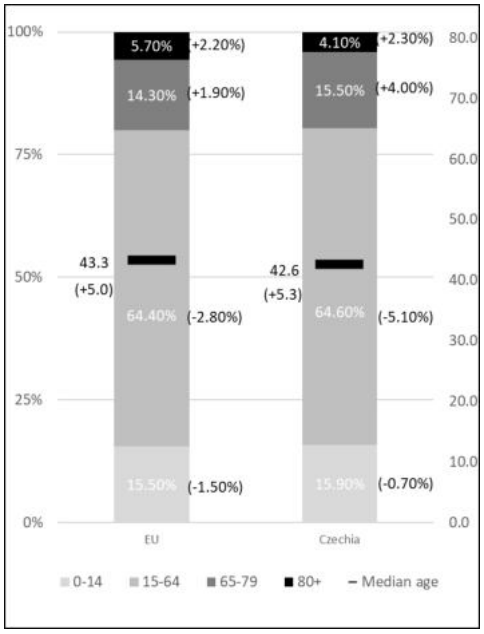
The next section of paper addresses the current trends in the Czech Republic and the European Union, political and economic union of which Czechia is a member. The third section introduces individual components of DSGE model used by Costa Junior and Sampaio (2014). Next part presents the calibrated values of parameters used for the simulation and obtained from other DSGE works in literature. Finally, the responses of economic variables on negative shocks in labor and capital income taxes are discussed.

II. Recent trends

The third millennium is characterized by the continuing globalization of the world economy and the deepening of the specialization of individual countries in areas in which they have a competitive advantage. Developed economies face various challenges, one of which is clearly unfavorable demographic developments. The problem of an aging population brings increased demands on future spending and puts pressure on the consolidation of public finances.

Figure 1 shows the structure of population in the European Union (EU) and the Czech Republic together with median age. Over the last 20 years, the proportion of people over 65 in the population of the EU has increased by 4.1 percentage points, and currently represents 20.0% of the population. On the contrary, the share of the population under 65 is decreasing, for children under 14 it is by 1.5 percentage points to a value of about 15%. The working group (15-64) has fallen by 2 percentage points over the last 20 years to a current value of around 64.5%. The development of the Czech population is very similar, almost copies the composition in the European Union. Although the median age is lower, the rate of change over the last 20 years is more intense. Unfortunately, population models do not predict a change in the trend in the future, so governments will have to cope with this structural change and prepare effective reforms of the social, health and pension systems.

Figure 1 Population structure in 2019 and change from 2000



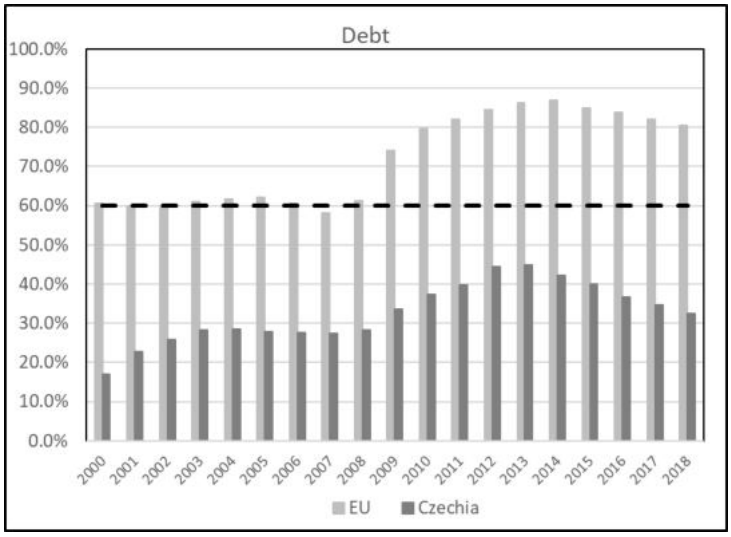
Source: Author's construction, Eurostat (2020c)

Public finances have still not fully recovered and not cleared all the debts created due to the last global financial crisis. The governments were intervening with their fiscal instruments in an effort to stabilize the economy. The crisis has brought us not only the decline in the performance of economies, but probably also changes of a long-term nature. It is still questionable how much the measures taken by governments, whether positive or negative, have changed the nature of the economy.

The European Union achieved the deepest drop in GDP in 2009 by almost 5 percentage points in response to the crisis. A small economic recovery took place in the following period, but the EU fell into recession again after 2 years. The reason was the debt crisis of the members caused by issues of Greece. The crisis development of GDP growth in Czechia was similar, but with its openness as a small economy a bit more intense. For more detailed data see Eurostat(2020b).

Crisis revealed the weak condition of European public finances, Figure 2 and 3 display their development. After 2008, the debt to GDP ratio of its members increased significantly reaching maximum value of 87% in 2015. Thanks to economic growth, it has been declining in the last years, but only very slowly, and the difference compared to the pre-crisis period is still around 20 percentage points. The development in the Czech Republic was similar, but with lower values of this ratio. In the pre-crisis period, it was kept below 30%, to which it is gradually returning from a crisis maximum of 45%. The issue of public debt sustainability is addressed by a number of research papers, it remains questionable what size of debt can cause problems for countries and also whether the absolute size of debt or relative size to GDP will play a key role in the outcome.

Figure 2 Development of debt (% of GDP)



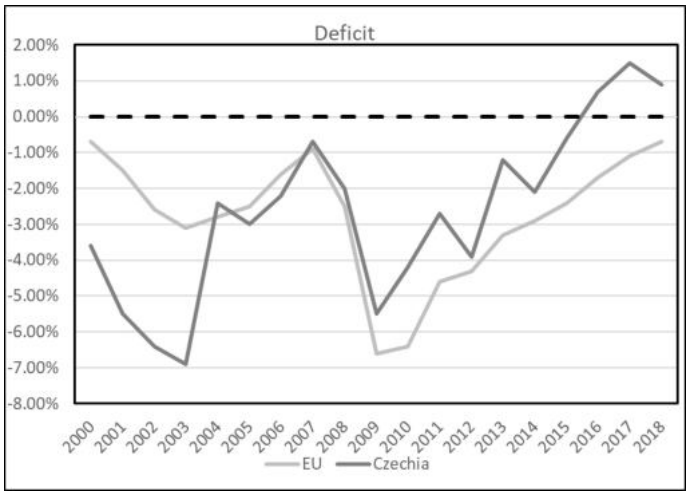
Source: Author's construction, Eurostat (2020a)

The origin of debt crisis is tightly connected to the yearly government performance. We can see on Figure 3 that in the pre-crisis period, a several percent public budget deficit was the standard, even in the years of the greatest expansion. In 2003, the average deficit of the EU countries was 3.1% and the surplus budget was recorded by only 4 members.

In response to these developments, in 2012 the European countries signed the Treaty on Stability, Coordination and Governance in Economic and Monetary Union, also known as the Fiscal Compact. The agreement strengthens the text of the Stability and Growth Pact, introduces a mandatory balanced budget rule and moves members closer to fiscal integration. In 2019, already 16 EU member states experienced budget surplus including Czechia, which signed the Treaty only that year after its initial refusal.

Considering the trends described above, consolidation of the public sector is the second key task for the government to be done, right after fighting the current crisis. The number of observed unfavorable situations creates considerable pressure on economic policy options to stabilize the economy. Given the consequences of the last global stagnation 10 years ago, justified doubts have arisen whether classic tools can help the economy.

Figure 3 Development of deficit (% of GDP)



Source: Author's construction, Eurostat (2020a)

III. Methodology and data

The model is designed for the environment of small and closed economy with three sectors: households, firms and government (authority) and the equilibrium condition in the goods market holds the truth.

$$Y_t = C_t + I_t + G_t \tag{1}$$

Households

Two types of representative agents – active (Ricardian) and inactive (non-Ricardian households) workers with the fixed split – creates the whole sector of Households. Aggregate consumption C_t of individuals can be then expressed as

$$C_t = (1 - \omega)C_{R,t} + \omega C_{NR,t}, \tag{2}$$

where $C_{R,t}$ $(C_{NR,t})$ represents the consumption of Ricardian (non-Ricardian) households.

Active workers are taxpayers, contributors to the pension system, and also savers. This type of households maximizes intertemporal utility function by choosing the consumption, savings, investments and leisure. Household's saving can be made in form of investment into capital goods I_t or purchase of bond issued by government B_{t+1} with the rate of return R_t^B. Every household must pay taxes on consumption τ_c, on labor income τ_l, on capital income τ_k and also social security contributions τ_p. ϕ_t^c and ϕ_t^l are the stochastic components of the taxes. Households receive wages W_t for labor, return from capital R_t and payments from the bonds B_t that matured after one period.

The budget constraint of the household is

$$P_t(1+\tau_c)\left(C_{R,t} + I_t\right) + \frac{B_{t+1}}{R_t^B} = W_t L_t \left(1 - \frac{\tau_l}{\phi_t^l} - \tau_p\right) + R_t K_t \left(1 - \frac{\tau_k}{\phi_t^k}\right) + B_t. \tag{3}$$

Let E_t be the expectation operator, $\beta \in (0,1)$ the intertemporal discount factor, L_t the labor, S_t^C, S_t^L the shocks on intertemporal consumption and labor supply, ψ marginal disutility of labor and σ the coefficient of relative risk aversion, then the maximization problem of Ricardian household is

$$\max E_t \sum_{t=0}^{\infty} \beta^t S_t^C \left[\frac{C_{R,t}^{\sigma}}{1-\sigma} - S_t^L \frac{L_t^{1+\psi}}{1+\psi}\right] \tag{4}$$

The capital in economy is characterized by law of motion

$$K_{t+1} = (1-\delta)K_t + I_t. \tag{5}$$

Shocks presented to the model follow the rules of movement

$$\log S_t^C = (1-\rho_{sc}) \log S_{ss}^C + \rho_{sc}\, S_{t-1}^C + \epsilon_{sc,t} \tag{6}$$

$$\log S_t^L = (1-\rho_{sl}) \log S_{ss}^L + \rho_{sl}\, S_{t-1}^L + \epsilon_{sl,t} \tag{7}$$

$$\log \phi_t^l = (1-\rho_l) \log \phi_{ss}^l + \rho_l\, \phi_{t-1}^l + \epsilon_{l,t} \tag{8}$$

$$\log \phi_t^k = (1-\rho_k) \log \phi_{ss}^k + \rho_k\, \phi_{t-1}^k + \epsilon_{k,t} \tag{9}$$

where $\epsilon_{i,t}$ are exogenous shocks and ρ_i are autoregressive components.

Inactive workers are the retired ones and are not allowed to make savings. They are limited by the value *PEN* of the benefits received from government and do not maximize their intertemporal utility function,

$$PEN = (1 + \tau_c) P_t C_{NR,t}. \quad (10)$$

Firms

The final good of economy Y_t is created in two stages of the Firms sector, where $Y_{j,t}$ is the intermediate product and φ is the elasticity of substitution between intermediate goods. Following technology is used

$$Y_t = \left(\int_0^1 Y_{j,t}^{\frac{\varphi-1}{\varphi}} dj \right)^{\frac{\varphi}{\varphi-1}}, \quad (11)$$

Firstly, there is *wholesale sector* representing number of firms that produce different intermediate goods and face monopoly competition. With the share of capital α and the productivity A_t, wholesalers determine the quantities of production factors to minimize costs taking their prices as given

$$\min_{L_{j,t} K_{j,t}} W_t L_{j,t} + R_t K_{j,t}, \quad (12)$$

subject to the technology

$$Y_{j,t} = A_t K_{j,t}^{\alpha} L_{j,t}^{1-\alpha}. \quad (13)$$

Let $\epsilon_{A,t}$ be exogenous shock and ρ_A autoregressive component, the law of motion is

$$\log A_t = (1 - \rho_A) \log A_{ss} + \rho_A \log A_{t-1} + \epsilon_{A,t} \quad (14)$$

The firms maximize the profit by subsequently determining the optimal price of the good and the quantity

$$\max_{P_{j,t}} P_t Y_t - W_t L_{j,t} + R_t K_{j,t}. \quad (15)$$

Second stage of production is done by *retail industry*, a single firm in perfect competition aggregating the intermediate goods into a single good consumed by agents in economy. Subject to the technology (11), the firm maximize its profit taking the prices of goods from wholesalers as given

$$\max_{Y_{j,t}} P_t Y_t - \int_0^1 P_{j,t} Y_{j,t} dj \quad (16)$$

Prices in economy are subject to change in line with Calvo (1983). Only a randomly selected fraction $(1 - \theta)$ of wholesalers is able to set the optimal price $P_{j,t}^*$ in every period. The remaining part θ of firms can use the price from previous period $P_{j,t-1}$. The overall price level in economy is hence equal to

$$P_t = \left[\theta P_{t-1}^{1-\varphi} + (1 - \theta) P_t^{*1-\varphi} \right]^{\frac{1}{1-\varphi}} \quad (17)$$

Government

Government is the third sector in model. It acts as fiscal and monetary authority and also takes care of social security system. Only simple *social system* with no capitalization is considered, so the pension balance BAL_t is equal to difference of revenues and expenses

$$BAL_t = \tau_p W_t L_t - PEN \quad (18)$$

Fiscal authority needs to finance purchases of goods and services. Resources are accumulated from taxes and issued bonds, which allow financing of spending on debt.

The tax revenue TAX_t is equal to

$$TAX_t = \tau_c P_l (C_t + I_t) + \frac{\tau_l}{\phi_t^l} W_t L_t + \frac{\tau_k}{\phi_l^k} R_t K_t, \quad (19)$$

and the public debt is given as

$$\frac{B_{t+1}}{R_t^B} - B_t = P_t G_t - BAL_t - TAX_t, \quad (20)$$

The government's spending is sensitive relatively to the size of public debt with sensitivity coefficient χ

$$G_t - G_{ss} = \chi (B_t - B_{ss}), \quad (21)$$

where $G_{ss,}$ B_{ss} are steady-state levels.

Monetary authority controls the interest rate using simple Taylor rule (1993) with the goal of output growth and price stability. Let a, b be respective sensitivity coefficients, π_t inflation rate and $Y_{ss,}$ R_{ss}^B, π_{ss} steady-state levels, then the rule is

$$R_t^B = a(Y_t - Y_{ss}) + b(\pi_t - \pi_{ss}) + R_{ss}^B, \quad (22)$$

IV. Calibration

Before performing stochastic analysis, it is needed to assign values to structural parameters, see Table 1. The individual values are obtained from economic literature, other DSGE works or calculated from statistics available for Czech economy in 2018.

Table 1 Calibrated parameters

Parameter	Value	Description	Source
σ	2.0	relative risk aversion coefficient	Němec (2013)
ψ	3.0	marginal disutility of labor	Němec (2013)
τ_c	0.201	implicit tax rate on consumption	European Commission (2020)
τ_k	0.192	implicit tax rate on capital income	European Commission (2020)
τ_l	0.406	implicit tax rate on labor income	European Commission (2020)
τ_p	0.110	social security contributions	European Commission (2020)
χ	0.1	sensitivity of gov. spending to debt	Costa Jr. and Sampaio (2014)
ω	0.2726	pension beneficiaries	ČSSZ (2020)
PEN	0.124	benefit payments	Eurostat (2020d)
θ	0.6	price stickiness index	Němec (2013)
φ	6.0	elasticity of subst. btw. interm. goods	Costa Jr. and Sampaio (2014)

Source: Author's construction

V. Results

Stochastic simulation was performed for negative exogenous unit shocks in the labor and capital income tax rates generated for 50 periods. Overall, we can conclude the shock presented in the tax rate on labor income is more effective, highly influence the economy comparing to the shock in the tax rate on capital income. Table 2 presents the variance decomposition of the errors of the simulated endogenous variables in relation to presented exogenous shocks. Tax reduction in labor income affected all macroeconomic variables more intensively than reduction

in capital income. Lower tax increases the disposable income of households and motivates them to work more as it makes the leisure time more expensive. Their work injects the economy, creates more output, which support the consumption and investment.

Table 2: Variance Decomposition (in percent)

	Y	Welfare	C	I	K	L	TAX	B	G
$\epsilon_{l,t}$	98.42	97.14	96.23	95.67	95.79	98.87	93.65	93.4	93.4
$\epsilon_{k,t}$	1.58	2.86	3.77	4.33	4.21	1.03	6.35	6.6	6.6

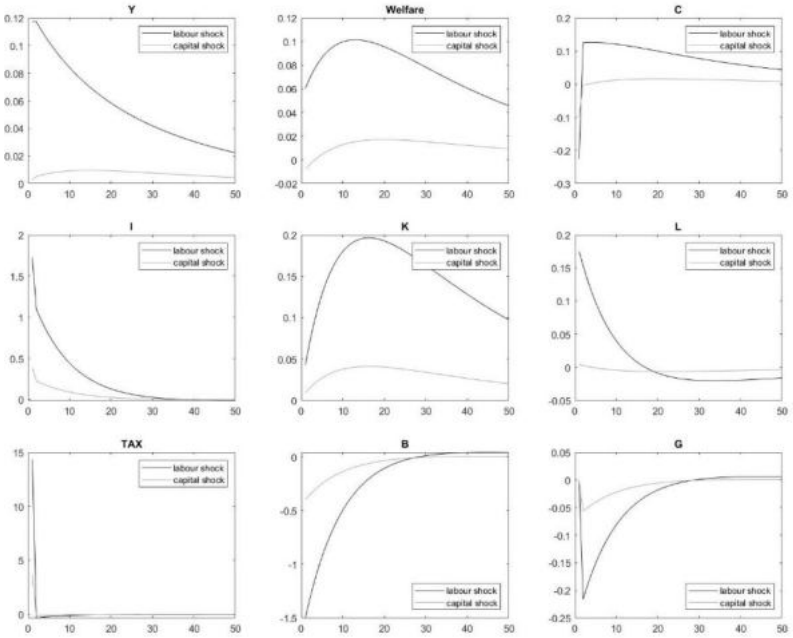
Source: Author's construction

Figure 4 shows the impulse responses of chosen economic variables to introduced shocks. All in all, we can briefly summarize that the reactions of variables are in line with expectations and positive, increasing *Welfare* in economy. As it was mentioned, the results are positive for the shock in labor income tax. Tax reduction in capital income tax is not able to invoke significant changes in economy. Despite the reduction policy, thanks to the changes in behaviour of economic subjects, *tax revenue* is not affected. The fall in *debt* is greater than the decline in *government spending*, which suggests that a reduction in indirect taxes can help the government in consolidating public finances for long term.

Consumption in economy is a composition of Ricardian and non-Ricardian households. Active workers increase their consumption thanks to direct substitution effect of the labor income tax decline. On the other hand, inactive workers are restricted by the payments from government and they are forced to reduce consumption due to a decline in government spending, which is reflected in a sharp downturn at the beginning of the simulation. In case of a capital income tax shock, the effect on consumption is not significant with a small initial decrease and then very little increase from the steady-state value. Non-Ricardian households are still limited by a fall in government spending, which creates the decline in consumption in the first few periods. The change in capital income tax also does not affect directly Ricardian households and their behaviour. They increase their consumption only after few periods of observing the positive affect of this reduction through the firms.

Investments respond positively to this type of shocks, again more intense to reduction in labor income tax. Thanks to bigger disposable income also investments are increased, which allows to create more capital and additionally support the economic growth. The positive change slowly vanishes due to diminishing marginal product of capital and displacement effect of the government spending which pushes investment out of the economy.

Figure 4 Impulse response function on shock in labor and capital income tax



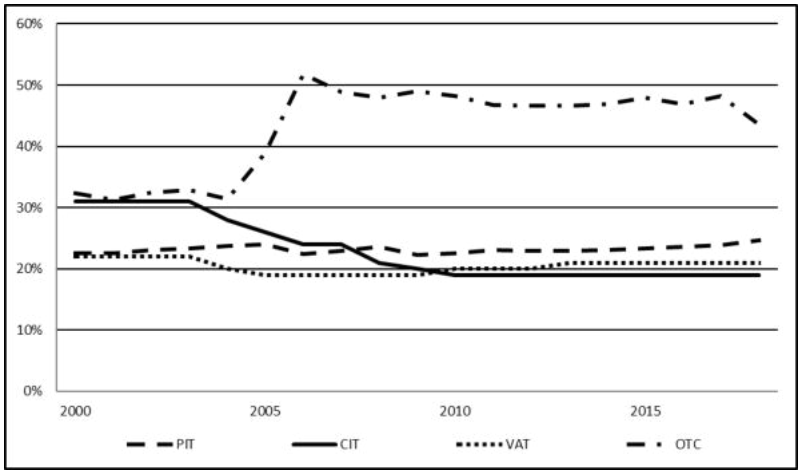
Source: Author's construction

VI. Conclusion and discussion

In this paper we discussed the current condition and development of public finances and examined the possible effects of decreasing direct taxes on labor and capital in the Czech Republic. Simple DSGE model of small and closed economy with 3 sectors was calibrated for data in 2018. Results of stochastic analysis support the trend of shift from direct to indirect taxes. Reduction of these taxes positively impacts the economy, especially when reducing taxes imposed on labor.

Reduction of income labor tax is one of the tax reforms promised by the actual Czech government. The tax system in Czechia is frequently changing. Initially, the reforms were needed to support transformation from centrally planned economy, then to meet the harmonisation criteria after joining the EU, but mostly in order to support economy. Figure 5 shows the important tax rates in the Czech Republic and their development in last 20 years. The governments were mostly focusing on indirect taxes – increasing excises (OTC) and keeping basic value added tax (VAT) quite stable. The other area of focus was the corporate income tax (CIT) with gradual decrease over time. Personal (labor) income tax (PIT) was left without significant reform – changing only +/- 1 percentage point around average value. As it was shown by our analysis, it is a big place for improvement as changes in labor income tax may invoke an economic growth.

Figure 5 Changes in tax rates over time



Source: Author's construction, OECD (2020)

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RISKS AND IMPACTS OF DRUG USE IN THE CZECH REPUBLIC

Dagmar Kopencová[1]

Abstract

The global globalization of markets also has an impact on the spread and consumption of drugs. Although certain groups of addictive drugs are illegal in all states, their production, distribution and consumption are constantly increasing. Drugs have, in a way, become part of our lives, although we have not talked about this in recent years. The paper deals with characteristics of health, criminal, social and economic impacts of drug consumption on individuals, various state and non-state institutions as well as the state. The work compiles knowledge from various directions in order to show the multidisciplinarity, the complexity of the problem on the one hand, and the constant, unrelenting danger of drugs for individuals, society and the state on the other. The work uses literature searches, the study of investigative files, court materials, paired methods of logic, and especially a survey and its evaluation of the solved scientific-research task. Guided interviews with experts from various fields were also used.

Keywords

Drugs, Impacts Health, Criminal, Social, Economic

I. Úvod

Žijeme ve složité době, plné antagonistických rozporů a protikladů. Globalizace s sebou přináší nové hrozby, rizika, které jsme dosud nepoznali v takové míře, v jaké se dnes objevují. Čím dál více hovoříme o pojmu bezpečnost, bezpečí, jež je nedílnou součástí a životní potřebou existence lidského jedince, různých institucí, státu jako takového. Bezpečí je subjektivní stav (hodnocený subjektem), často i podvědomě, kdy nám nehrozí žádné škody či újmy; bezpečnost je pak proces, který zajišťuje tento stav (Rak, Kolitschová, 2019). Jedním faktorem, který souvisí s globalizací, s otvíráním hranic, s prosazováním volného obchodu, oběhu zboží (s minimálními kontrolami nad pohybem zboží), jsou i drogy. Ty jsou stále ve větší míře hrozbou pro lidské jedince, instituce (státní i nestátní), stát jako takový hrozbou, rizikem, který působí reálně závažné škody.

Drogy se od nepaměti objevují v různých společnostech. Již od pravěku lidé konzumovali různé rostlinné drogy, většinou z neznalosti, mnohdy se špatným koncem. Postupně byly rostlinné drogy používány na různé rituály, čarodějnictví, léčení, ale i pro travičství. Čím více lidé získávali znalosti a zkušenosti, začaly se vyrábět drogy i polosyntetické nebo čistě syntetické. Kromě zdravotnictví, farmacie a výzkumu se drogy začaly šířit mezi lidi, kteří je používají jako způsob zábavy, na večírcích, zábavách i jako způsob odreagování. Bohužel toto rekreační užívání často vede k drogové závislosti. V současné době se stávají zbraní proti moderní, demokratické společnosti. Protože společnost mnohé drogy toleruje, popřípadě je i podporuje, k drogám se dostávají lehce i děti. To je největší riziko, které může mít později obrovské následky pro bezpečnost celé společnosti.

Příspěvek vychází z vědecko-výzkumné úlohy „Moderní technologie v páchání, odhalování, dokumentování, dokazování a prevenci trestné činnosti“, řešené na Akademii Policejního sboru SR v Bratislavě. Výroba nových druhů velmi silných a účinných syntetických drog lze chápat též jako produkt moderních technologií, který zasahuje oblast nejenom kriminality a tedy i kriminalistiky či kriminologie, ale i široké, velmi rozmanité spektrum dalších odvětví či oborů,

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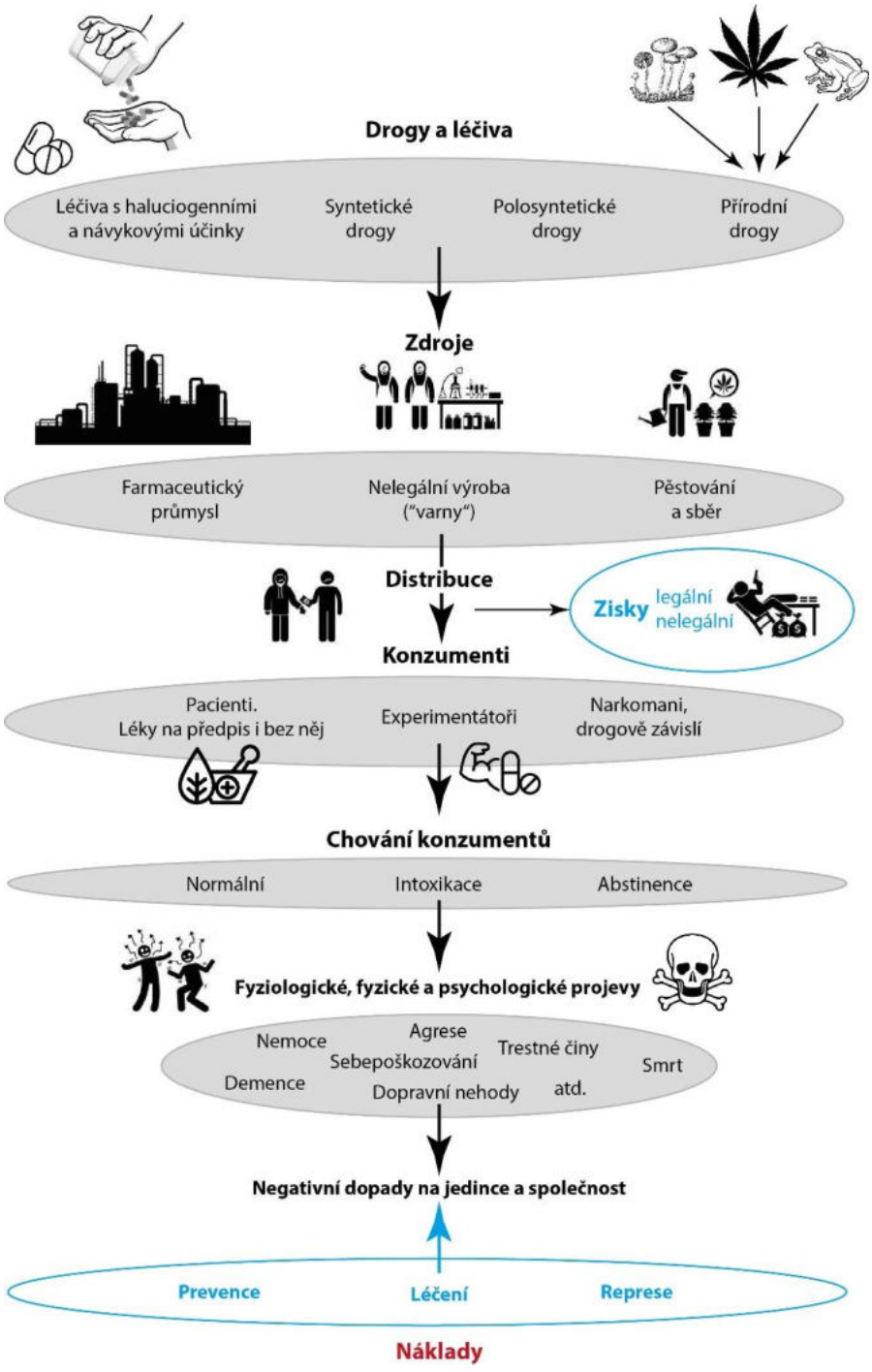
jako je ekonomika, lékařství, sociálně-ekonomické vědy atd. Cílem tohoto příspěvku je průřezově ukázat komplexnost a složitost celkové aktuální drogové problematiky, její dopady do různých oborů s akcentem na nemalá rizika, vznikající škody, o kterých se takto v širším aspektu dosud nehovořilo.

Obrázek 1 Základní životní cyklus drog



Zdroj: vlastní tvorba

II. Drogy a společnost

Problematika drog v naší republice se již netýká pár jedinců z dob před rokem 1989. Po otevření státních hranic bohužel naše území zaplavil trh s drogami různého druhu od rostlinných až po syntetické. Na takový rozsah a množství náš stát nebyl vůbec připraven a než orgány činné

v trestním řízení včetně naší legislativy začaly fungovat a tento problém řešit, drogy již u nás zdomácněly. Vytvořila se síť prodejců drog a síť uživatelů.

Česká republika se od roku 1990, po otevření hranic stala plně tranzitní zemí pro drogy, později se bohužel stala i cílovou zemí. Taktéž jsme se stali předními producenty plně hodnotné náhražky za kokain – pervitinu, který velmi rychle ovládnul českou drogovou scénu a stal se velmi výhodným vývozním artiklem pro obchodníky s drogami (Chmelík, 1999). Přes různé preventivní programy se počet uživatelů nijak rapidně nesnižuje. To vede k různým závažným důsledkům v ekonomice, medicíně i sociální sféře.

III. Legální a nelegální drogy - rozdělení

V současné době společnost rozlišuje drogy na legální a nelegální. Za návykové látky se nepovažují společensky přijatelné látky, jako je např. káva, čaj či čokoláda.

Legální drogy

Mezi legální lze zařadit tabák, alkohol, léčiva.

- **Tabák** – bezdýmý tabák (šňupací nebo žvýkací) nebo tabák, který hoří. Obsahuje toxický rostlinný alkaloid nikotin.
- **Alkohol** je definován v zákoně č. 379/2005 Sb., o ochraně před škodami působenými tabákovými výrobky, alkoholem a jinými návykovými látkami a o změně souvisejících zákonů v § 2 písm. g). Alkoholickými nápoji se podle tohoto ustanovení rozumí lihovina, pivo a víno; dále též nápoj, který není lihovinou, pivem a vínem, pokud obsahuje více než 0,5 objemového procenta alkoholu.
- Specifickou skupinou drog a drogových závislostí představují **oficiálně distribuovaná léčiva**. Lékem je každá léčivá látka, která má pomoci organismu při zdravotních problémech. Zákon o léčivech (č. 378/2007 Sb.) definuje léčivé látky a léčivé přípravky, pro které pak používá souhrnný pojem léčiva. Nejčastěji způsobují závislost obecně tlumící léky, hypnotika, sedativa, analgetika a další léky cílící na centrální nervový systém. Zneužívání léčiv splňuje všechny základní definice drogové závislosti, i když prvotní podnět k užívání může být spojen s existujícími zdravotními problémy či akutním stavem. V současné době různé druhy léčiv předepisují lékaři na různé problémy, pro které toto léčivo není určeno. Pokud nepomůže jeden druh, mnohdy lékař předepíše jiný. Mnohdy to vypadá, že nemá zájem na zlepšení stavu pacienta a jeho zkvalitnění života, ale upřednostňuje zájem na zisk svůj a farmaceutických firem, se kterými má sepsanou smlouvu. Na straně druhé, léčiva jsou výnosný ilegální artikl pro ilegální obchody s těmito látkami. Léčiva, které mají lidské zdraví chránit, jsou bohužel zneužívána jako prekurzory pro výrobu jiných závažnějších drog, nebo jsou prodávána se ziskem na černém trhu, kdy je jedinec, který je koupí, nadměrně užívá ve své podobě jako léky, což ho nakonec vede k závislosti na této látce.

Nelegální drogy

V odborné terminologii jsou nelegální drogy označovány jako omamné a psychotropní látky. „Jde o látky, u nichž vzniká nebezpečí chorobného návyku nebo psychických změn nebezpečných pro společnost nebo pro toho, kdo je opakovaně bez odborného dohledu užívá“ (Štablová, 1997). Omamné a psychotropní látky lze zkoumat z různých hledisek, např. podle účinku na lidský organismus, podle míry rizika vzniku závislosti, typu drogových závislosti, nebo podle jejich chemického složení či původu.

Seznamy těchto látek jsou uvedeny v zákoně č. 167/1998 Sb. ve znění pozdějších předpisů s odkazem na normy Evropské unie a v příloze nařízení vlády č. 463 ze dne 18. prosince 2013 o seznamech návykových a psychotropních látek, vyhlášce č. 72/2014 Sb., o evidenci a

dokumentaci návykových látek a přípravků. Léčiva jsou uvedena v zákoně č. 378/2007 Sb., ve znění pozdějších předpisů a v zákoně č. 272/2013 Sb. se hovoří o prekurzorech drog.

Nelegální drogy můžeme dělit podle rizika závislosti, rizika účinku, působení na psychiku apod.

Rozdělení nejznámějších druhů nelegálních drog:

- drogy kanabisového typu – marihuana, hašiš,
- drogy halucinogenního typu – lysohlávky, kaktusy, extrakty z rostlin čeledi lilkovitých, LSD[2],
- drogy opiátového typu – mák setý, opium, morfin, heroin,
- drogy kokainového typu – kokain,
- drogy amfetaminového typu – amfetaminové preparáty, v první skupině: např. amfetamin, metamfetamin (pervitin), v druhé skupině: MDA[3], MDMA[4], - extáze,
- drogy typu organických rozpouštědel (inhalanty) – ředidla na barvy, určitá lepidla, toluen, benzín, plyn do zapalovačů, rajský plyn, barvy ve spreji, čisticí prostředky apod.

IV. Drogy – ekonomická rizika a následky

Z ekonomického hlediska legální drogy stát podporuje, neboť z jejich prodeje má zisk, který není nezanedbatelný.

Ekonomové mohou namítat, že nelegální drogy by ekonomy neměly zajímat, protože nejde o legální látku, se kterou stát může obchodovat. Nelze tedy státem určovat ceny, nabídku či poptávku a už vůbec nelze drogy danit. Na druhou stranu nelegální drogy poškozují jednotlivce a v důsledku způsobují velké škody i státu, tedy můžeme zkoumat důsledky lidského jednání, rozhodování jednotlivce, který uspokojuje svá přání i potřeby užíváním nelegálních látek.

Užívání drog s sebou přináší celou řadu nejrůznějších rizik, které mají dopady na jednotlivce, různé instituce i na stát jako takový. Jako příklady těchto rizik můžeme uvést:

- zvýšené náklady na zdravotní péči, především léčbu somatických problémů vyvolaných konzumací drog (nemoci trávicí soustavy, infekční, kardiovaskulární, zhoubné nádory, nemoci krve a krvetvorných orgánů, poruchy výživy a přeměny látek, astma a alergie a další nemoci dýchací soustavy, snížení imunity),
- výdaje na léčení otrav a předávkování,
- léčba infekčních nemocí, zejména hepatitidy či nákazy HIV[5], AIDS[6], sexuálně přenosných onemocnění,
- léčbu tělesných poškození – úrazy způsobené neúmyslně i úmyslně,
- náklady na léčení psychiatrických problémů způsobených užíváním drog (psychická závislost na alkoholu, syndrom z odnětí, *delirium tremens*, psychotické stavy vyvolané alkoholem či jinou drogou, postižení intelektu, poruchy osobnosti, deprese, toxické psychózy a sebevraždy,

[2] LSD – diethylamid kyseliny lysergové získávaný z námelu, je to produkt metabolizmu houby, příbuzné nebezpečné paličkovici nachové, která roste na žitě a ječmeni.
[3] MDA – methylen-dioxy-amfetamin, je syntetický derivát amfetaminu velmi podobný extázi (MDMA), je metabolitem MDMA, MDA je více neurotoxická droga, má dvojnásobnou dobu účinnosti a je výrazněji halucinogenní.
[4] MDMA - (3,4-methylendioxymetamfetamin) "Extáze", její účinky se mohou řadit mezi stimulancia a halucinogeny.
[5] HIV – je vir, který napadá imunitní systém člověka. Je možno ho přenést na jiného člověka krví, spermatem či slinami, pokud dojde ke styku těchto tekutin se sliznicí jiného člověka. Jedná se o tzv. pomalý vir, protože infikovanému způsobuje poškození zpravidla po mnoha letech.
[6] AISD – je onemocnění způsobené virem HIV, kdy imunitní systém nemůže pracovat správně a tělo je napadáno infekcemi, nádory, postižením mozku apod.

- doživotní zdravotní následky,
- výdaje na protialkoholní či protidrogové léčení – ambulantní léčení, hospitalizaci, nákladné léky,
- ztráty a snížení produktivity práce v důsledku:
  – vážného onemocnění,
  – časté nemocnosti v průběhu roku,
  – nespolehlivosti,
  – vyšší úrazovosti,
  – větší nepozornost, nesoustředěnost,
  – častější únavy,
  – časté nevolnosti při abstinenčních příznacích,
- ušlého zisku v případě předčasného úmrtí,
- daňové úniky související s pašováním alkoholu a tabáku,
- daňové úniky v souvislosti s nelegální výrobou alkoholu a tabáku,
- dopady na životní prostředí,
- trestná činnost uživatelů drog – škody na zdraví, životech a majetku,
- náklady na Policii České republiky a justici při vyšetřování trestné činnosti,
- náklady na vzdělávání odborných pracovníků v primární zdravotní péči,
- náklady na věznice a zabezpečovací detenci,
- náklady na oběti trestné činnosti způsobené toxikomany,
- výdaje spojené s dopravními nehodami pod vlivem alkoholu či jiných návykových látek:
  – dojde k usmrcení nebo zranění osoby,
  – ke škodě na majetku v přímé souvislosti s provozem vozidla v pohybu,
  – náklady na policii, správní orgány a justici při odhalování a objasňování přestupků nebo trestných činů – z nedbalosti. Ojediněle případy, kdy se jedná o úmyslné trestné činy, které se projevují jako dopravní nehoda. Cílem úmyslného jednání je však zpravidla zakrýt závažnější trestný čin.
  – sebevražda dopravním prostředkem,
  – náklady na kriminalistické expertizy prováděné znalci,
  – odstranění hrozícího nebezpečí vzniklého při dopravní nehodě.

Mezi tato nebezpečí patří například:

- únik přepravovaných plynů, škodlivých a toxických látek, (Rak, 2012)
- poškozená elektrická rozvodná skříň či elektrické vedení,
- narušená statika budov a podobně,
- poškozená svodidla, stromy, vyvýšené obrubníky chodníků, sloupy veřejného osvětlení, různá zábradlí apod.,
  – obnovení bezpečnosti a plynulosti silničního provozu,
  – zajištění vozidel a věcí,
- výdaje na prevenci:
  – preventivní programy,
  – besedy s mládeží a dětmi,
  – osazení reklamních ploch,
  – zajištění dostatečné sítě léčebných zařízení,
  – využití médií na propagaci nekuřáctví, neužívání drog,
  – pravidelné monitorování v oblasti užívání drog,
  – kontrola dostupnosti drog pro děti a mládež,
  – různé vládní a nevládní organizace.

V. Drogy – sociální rizika a následky

Sociální oblast života je posuzována v celistvosti, ve společnosti, i z pozice jedince. Je to důležitá součást života. Stane-li se jedinec drogově závislý, droga mu zasahuje do jeho každodenního způsobu života, ničí jeho samotnou podstatu. Níže uvádím nejběžnější sociální rizika a jejich následky:

- nižší či nedokončené vzdělání,
- změna životního stylu,
- změna hierarchie hodnot,
- změna chování – ztráta zábran, strachu, špatné sebeovládání,
- stereotypní činnost zaměřená jen na zajištění drogy,
- snížení životního standartu,
- sociální vyloučení – neúčast jednotlivce na životě společnosti,
- špatné sociální vazby,
- osamělost,
- nižší produktivita práce,
- horší práce – snížení kvalifikace,
- dlouhodobá nezaměstnanost,
- bezdomovectví,
- špatná ekonomická situace, chudoba,
- zadlužení,
- gambling,
- nedostatečné sociální dovednosti:

– neschopnost využívání běžné lékařské péče,
– snížení či vymizení pracovních návyků,
– snížení či ztráta hygienických návyků,
– neschopnost jednání s úřady,

- kriminalita spojená zejména s krádežemi, výrobou a distribucí drog a násilnými činy pod vlivem návykových látek,
- prostituce,
- šíření infekčních a pohlavně přenosných onemocnění,
- hrozba potratu u těhotné ženy, která užívá drogy, nebo zejména:

– riziko úmrtí plodu,
– způsobení závislosti narozeného dítěte – hrozí abstinenční syndrom,
– narození mrtvého dítěte,
– předčasný porod,
– nakažení plodu infekčními nemocemi (hepatitida typu B, C, HIV),
– poškození plodu – růstová retardace, poškození mozku, nedostatečně vyvinuté vnitřní orgány, vrozené vývojové vady srdce,
– vznik vrozených vad,

- špatné duševní či fyzické zdraví,
- sebevražedné chování,
- sebepoškozování a sebevražedné chování ve věznicích (Vlach, 2018),
- rodinné problémy:

– psychické a fyzické násilí,
– pohlavní zneužívání dětí,
– znásilnění,
– nefunkční rodina,
– disfunkční rodina,
– finanční problémy,

– zanedbávání dětí,
– rozvody.

VI. Trestná činnost

Základním rizikem ve vztahu k drogám je svoboda v jednání a chování jedince. Zde ovšem platí, že svoboda je povolena jen do chvíle, kdy jednotlivec jedná v souladu s právem, nikoliv v rozporu s právem. Dá se říct, že svoboda jednoho končí narušením svobody druhého. Samozřejmě, k chování a jednání jednotlivce je třeba vzít v úvahu i čas a místo jeho činnosti, neboť co je protiprávní v současnosti, v budoucnu již trestné být nemusí.

Z toho vyplývá, že pokud jednotlivec chce žít v určité společnosti, přebírá určité normy chování dané společnosti a zavazuje se tato práva a povinnosti dodržovat.

Evropský soud pro lidská práva se vyslovil o legitimitě trestněprávních nástrojů k ochraně lidských práv: „Z Evropské úmluvy o ochraně lidských práv vyplývá pro stát nejen povinnost zdržet se zásahů porušujících chráněná práva, ale též pozitivní povinnost přijmout přiměřená opatření k předcházení porušení práva nebo k uplatnění sankcí za již nastalé porušení“.

Tato pozitivní povinnost se netýká jen vztahu jednotlivce s orgány veřejné moci, ale též vztahů mezi jednotlivci navzájem (tzv. horizontální účinek Úmluvy). Výběr opatření je věcí úvahy *(marge d'appréciation)*[7] státu, ale určité skutky porušující určitá práva musí být stíhány trestně. Závisí to na povaze porušeného práva a na povaze porušení. Důležité je též srovnávací hledisko, tj. převažující praxe ostatních smluvních států.“ (Řepík, 2002).

Je tedy zřejmé, že právo jednotlivce, týkající se drog, není nadřazeno nad práva ostatních. Je zde značný rozpor mezi zájmem tohoto jednotlivce a zájmem majority ve státě. Zejména půjde o případy, kdy jedinec poškozuje zdraví jiných. Například když, sám je pod vlivem drog a jeho agresivní chování ohrožuje okolí či policisty při procesních úkonech (např. při výslechu) nebo vyrábí a prodává drogy dalším osobám.

Pod vlivem drog jsou páchané různé přečiny, zločiny a bohužel i zvlášť závažné zločiny, což pro stát představuje významná bezpečnostní rizika

Drogová kriminalita je chápána jako trestná činnost, spočívající v neoprávněném nakládání s omamnými či psychotropními látkami, příp. prekursory[8]. Tato část trestné činnosti související s drogami se označuje také jako primární drogová kriminalita, drogová kriminalita v užším smyslu, či trestná činnost proti drogové legislativě (Carpentier, 2007). V sekundárním slova smyslu se má na mysli kriminalita páchána v souvislosti se zneužíváním drog za účelem získání drogy, kriminalita spáchána pod vlivem drog a kriminalita páchána na osobách užívající drogy.

Rozlišujeme:

- kriminalitu spojenou s neoprávněnou výrobou, distribucí nebo nakládáním s drogami či prekurzory,
– výrobu pervitinu v domácím prostředí (v domácích laboratořích tzv. „vařiči“),
– neoprávněné pěstování konopí v pěstírnách nebo na polích (většinou v kukuřičných lánech), opuštěných či pronajatých pozemcích,
– nelegální výrobu tzv. tanečních drog – extáze,
– prodej „falešné extáze“ – v tabletách se místo účinné látky MDMA vyskytuje paracetamol[9], popřípadě piperazin[10] a kofein,

[7] *marge d'appréciation – doktrína* prostoru pro uvážení. Jedním z hlavních cílů Úmluvy je co možná nejjednotnější výklad i aplikace Úmluvy v souladu s principem universality lidských práv.
[8] prekurzor – výchozí látka, z níž vzniká chemickou přeměnou výsledný produkt
[9] paracetamol – je analgetikum, účinná látka v běžně užívaných lécích proti bolesti a horečce.
[10] piperazin (mCPP) – Látky používané dlouhodobě ve farmaceutickém průmyslu.

– prodej vyrobených známých drog u nás i dovezených ze zahraničí,
– výrobu a prodej nových syntetických drog (designer drugs, legal highs), prostřednictvím internetu nebo z asijských zemí či Polska,
– prodej legálně vyrobených léčiv na černém trhu (i přes internet),
– prodej substitučních léčiv (náhražka za drogy) na černém trhu,
– nárůst obchodu s prekurzory a pomocnými látkami pro výrobu drog,
– nárůst prodeje technologií k nelegálnímu „indoor“[11] pěstování rostlin konopí,
– výrobu, zhotovování, extrahování, přípravu, nabízení, nabízení za účelem prodeje,
– šíření a dodávání drog za jakýchkoliv podmínek, překupnictví, zasílání, tranzitní přeprava, převážení, dovoz nebo vývoz drog,
• kriminalitu páchanou v souvislosti s užíváním drog,
– zejména majetkovou – krádeže (kapesní, vloupání), neoprávněné užívání cizí věci nebo držení platební karty, podvody, zpronevěry,
– násilnou – loupeže, vydírání, omezování osobní a domovní svobody a vraždy za účelem získání financí pro nákup drogy,
• kriminalita spáchána pod vlivem drog,
– krádeže nebo poškozování cizí věci, podvody
– loupeže,
– znásilnění nebo pohlavní zneužívání,
– zanedbání povinné výživy,
– domácí násilí,
– křivá výpověď apod.,
• kriminalitu páchanou na osobách užívající drogy, zejména násilí, krádeže, vydírání, útisk,
• organizovaný zločin zabývající se drogovou scénou v České republice i na mezinárodní úrovni, zejména narůstá zapojení vietnamských zločineckých skupin při pěstování konopí ve velkopěstírnách nebo při výrobě metamfetaminu (pervitinu),
• legalizaci výnosů z trestné činnosti (praní „špinavých peněz“).

Pro ilustraci uvádím nejčastější trestnou činnost páchanou v dopravě:

• ublížení na zdraví z nedbalosti,
• těžké ublížení na zdraví z nedbalosti,
• ohrožení pod vlivem návykové látky,
• obecné ohrožení z nedbalosti,
• poškození a ohrožení provozu obecně prospěšného zařízení z nedbalosti,
• poškození a ohrožení životního prostředí z nedbalosti,
• neoprávněné užití cizí věci,
• pojistný podvod,
• maření výkonu úředního rozhodnutí a vykázání,
• neposkytnutí pomoci řidičem dopravního prostředku.

VII. Rozvoj drog v EU a ČR

Každý rok se zjišťují a vyhodnocují data zjistitelná po celé Evropské unii a poté je zpracována jejich zpráva. Analýza Evropské zprávy o drogách 2019 uvádí, že EU čelí rekordnímu nárustu kokainu, inovativní výrobě nových syntetických drog a využívání digitálních sítí k získání drogy.

[11] indoor pěstování – rostliny konopí jsou pěstovány hydroponickým způsobem (tj. v živném roztoku) při umělém osvětlení v uzavřených prostorách.

Za rok 2018 bylo v Evropě více než milión záchytů nelegálních drog. Bylo zjištěno, že osoby ve věku 15-64 let v EU alespoň jednou ve svém životě vyzkoušely některou z nelegálních drog. Substituční léčbu v daném roce nastoupilo 1,2 milionu lidí. Taktéž v tomto roce bylo v EU poprvé zaznamenáno 55 nových psychoaktivních látek, čímž se celkový počet těchto monitorovaných látek zvýšil na 730.

Konopí je stále nejčastějším druhem drogy, což dokazují statistická čísla, která za rok 2018 zaznamenala užití této drogy 17,5 milionu Evropanů ve věku od 15-34 let. Objevují se nové produkty na trhu jako potravinové produkty nebo náplně do elektronických cigaret.

Stále nejčastější opioidem na nelegálním trhu v Evropě je heroin, přičemž čistota heroinu je velmi vysoká a cena drogy nízká. Evropa sleduje s obavami zvyšující se výskyt užívání syntetických opioidů zejména kvůli neznalosti účinků drogy na uživatele a možným následkům požití této drogy; otrava, předávkování, smrt. K výrobě nových syntetických drog se používají stále nové látky.

Taktéž se zvyšuje výroba a čistota metamfetaminu, zejména v České republice, která hraje prim, poté na Slovensku, Kypru, Španělsku, východu Německa, Finsku a Norsku.

Drogy se na nelegální trh dostávají různými cestami a prostředky, přes kontejnerovou dopravu až po např. kokainová „call center“, kde jsou velmi flexibilní a rychlí kurýři doručující objednanou drogu. (Evropská zpráva o drogách, 2019).

Výroční zpráva o stavu ve věcech drog v České republice v roce 2018, která byla zveřejněna 9. prosince 2019, obsahuje data o financování protidrogové politiky, užívání drog v populaci, zdravotní a sociální důsledky užívání drog a kriminalitu spojenou s drogami.

Financování protidrogové politiky

V roce 2018 činily výdaje na integrovanou protidrogovou politiku z rozpočtů státní správy a samosprávy celkem 2113,3 mil. Kč, což je o 357,7 milionů korun více než v roce 2017. Výdaje státního rozpočtu se zvýšily zejména u Policie České republiky, Ministerstva práce a sociálních věci a Rady vlády pro koordinaci protidrogové politiky. Taktéž výdaje ze zdravotního pojištění na léčbu poruch spojených s užíváním návykových látek byly navýšeny na léčbu poruch způsobených alkoholem a ostatními drogami.

Výdaje na protidrogovou politiku byly využity na oblast prosazování práva, snižování rizik, léčbu uživatelů drog, prevenci, následnou péči a na výzkum a evaluaci.

Užívání drog v populaci

V roce 2018 bylo v ČR odhadnuto 43,7 tis. tzv. problémových uživatelů drog (42,1-45,3 tis.), z toho 33,5 tis. (32,9-34,0 tis.) uživatelů pervitinu a 10,2 tis. (9,9-10,5 tis.) uživatelů opioidů. Mezi uživateli opioidů bylo 5,2 tis. (5,0-5,3 tis.) uživatelů buprenorfinu, 3,4 tis. (3,1-3,6 tis.) uživatelů heroinu a 1,7 tis. (1,65-1,75 tis.) uživatelů jiných opioidů. Odhadovaný počet injekčních uživatelů drog (IUD) dosáhl 39,5 tis. (38,7-40,2 tis.). Nejvíce se zvýšil počet problémových uživatelů drog v Praze a v Ústeckém kraji. Muži udávají nejvíce zkušenosti s nelegálními drogami, ženy léky se sedativním a hypnotickým účinkem nebo léky s obsahem opioidů užívaných proti bolesti, ať již získané na předpis v rozporu s lékařskými instrukcemi nebo bez předpisu získané na nelegálním trhu.

Zdravotní důsledky užívání drog

V roce 2018 bylo v obecném registru mortality hlášeno 409 smrtelných předávkování alkoholem, 20 případů opioidy (27 v r. 2017), především opioidními analgetiky (fentanyl, morfin, dihydrokodein, oxykodon). Pervitin byl příčinou smrtelného předávkování ve 12 případech (10 v r. 2017). Dále byla hlášena 2 smrtelná předávkování těkavými látkami a po jednom smrtelném předávkování MDMA, kokainem, GHB a syntetickým kanabinoidem.

Sociální důsledky

U uživatelů drog převažuje nestabilní ubytování (68 %) a nestabilní, případně nelegální příjem (52,3 %). Zadluženo je přes 80 % těchto osob.

Kriminalita spojená s drogami

V roce 2018 vzrostl podíl trestných činů spáchaných pod vlivem návykových látek na 14,5 tisíce. Nejvíce de pachatelé dopustili trestných činů spáchaných pod vlivem alkoholu a jen cca 20 % pod vlivem nealkoholových drog. (Výroční zpráva o stavu ve věcech drog v ČR, 2018)

Adiktologické služby

V České republice je 57 nízkoprahových kontaktních center, 96 ambulantních léčebných programů, 16 center opiátové substituční léčby, 2 stacionární programy, 21 detoxifikačních jednotek, 28 oddělení lůžkové zdravotní péče, 15 terapeutických komunit, 35 ambulantních doléčovacích programů (z nich 20 s chráněným bydlením) a 5 domovů se zvláštním režimem pro osoby závislé na návykových látkách. (Drogy-info, 2019)

IV. Závěr

Drogy jsou v České republice velký společenský problém. Drogy se netýkají jen jednotlivce, ale postihují rodiny, skupiny, zejména mladých osob, a nakonec i celou společnost.

Děti ve věku i 10 let se k různým drogám snadno dostanou, zejména alkoholu a tabáku. Na ulici nebo na diskotéce jsou obdarováváni kamarády nebo i dealery, aby drogu vyzkoušely, popřípadě si ji koupí v partě stejně mladých lidí a potom s nimi experimentují. Ve městech je nižší míra sociální kontroly, a i v mnoha rodinách velmi často tato kontrola a výchova chybí. Jakmile se dítě na droze stane závislé, je velmi nesnadné ho tohoto návyku zbavit.

Lidé, kteří začnou užívat drogy, se většinou odtrhnou od rodiny a stěhují se do větších měst, které jsou více anonymní. Ze začátku jsou schopni vykonávat práci, jejich výkon se však snižuje natolik, že jsou z práce propuštěni. Postupně jejich návyk přerůstá v nezvladatelnou mez a nezřídka kvůli jejich neutěšené finanční situaci končí jako bezdomovci na ulici, v různých squatech, vybydlených domech apod. Jejich životní styl se mění jen v jediný cíl. Sehnat peníze na další dávku, prodávají sami sebe a později začnou páchat trestnou činnost. Po jejich dopadení policií končí v přeplněných věznicích, kde se podrobují drahé léčbě, která se většinou míjí účinkem. Jakmile jsou propuštěni na svobodu, znovu droze podlehnou. Snadno se mohou nakazit infekčními chorobami, které nejprve přenáší mezi sebou a poté mohou nakazit i ostatní obyvatelstvo.

Samotná společnost ještě situaci kolem drog zhoršuje. Někteří politici i politické strany volají po legalizaci některých drog. Je to velký rizikový faktor, neboť tyto drogy se poté stávají snadno dostupnými. Lidé ztrácejí morální zásady a hroutí se jim jejich rodinný hodnotový systém, jsou poté obtížně vzdělavatelní a nemají pracovní návyky. Legalizace drog se tak lehce může stát v mezním případě prostředek nepřímé genocidy.

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TAX POLICY REFORM UNDER THE CONTEMPORARY ECONOMIC CONDITIONS

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Abstract

The aim of this article is to evaluate the tax effects of the transition to Industry 4.0 and to find out whether the tax mix is optimally prepared for these – now also in connection with the pandemic – accelerating changes. For this purpose, the dynamic stochastic general equilibrium model (DSGE) with the shadow economy is used, adjusted to consider the real tax mix in the Czech Republic and similar countries. Based on our results, we recommend in particular i) to subject the revenues from the social security and health care insurance system to a deeper review and to link it directly to other revenues of the tax mix, if necessary, ii) to further review the approach to the ratio of the direct and the indirect tax and, if necessary, to particularly review the proportion of the tax burden of corporations and the tax burden through VAT. It also seems appropriate iii) to review the tax mix in general and, in addition to the already announced cancellation of real estate transfer tax, to open a discussion on digital tax or robot tax, as an alternative to the simulated changes in the tax mix structure.

Keywords

Industry 4.0, Tax Policy, Shadow Economy, DSGE Modelling

I. Introduction

The coronavirus pandemic is not only a stimulator of healthcare reforms, but also an accelerator of economic policy changes, especially as regards the transition to Industry 4.0. Economic policymakers respond much more actively than in the case of the recent global financial and economic crisis. There are massive interventions in national economies, and not just within the European Union. At any rate, the tax burden on all segments of the economy is declining in the short term, which, especially together with the sharp increase in government spending, has a significant impact on public budgets. The government analysts are therefore examining short-term and long-term impacts on public budgets. It should be noted that all the processes then usually occur only within the existing paradigm or the economic-political framework. In the fiscal area, only parametric changes are announced, i.e. changes responding to shortfalls in public budgets.

The central authorities do not pay much attention to changes in the set-up of the fiscal system and the tax system as such. Practical tax policy and tax theory do not de facto systemically reflect the fact that there are changes made in economic fundamentals and that these changes would accelerate sharply in the coming decades, even if there were no changes related to the coronavirus pandemic. Instead, issues of tax elasticity, tax revenue rate and tax justice are addressed, as well as the effects of taxation on tax evasion and the size of the shadow economy. Similarly, it is possible to identify the analysis of the link between tax revenues or budget deficits and the size of government spending, their effectiveness or the level of provision of public goods and services among the popular topics. These are all legitimate issues in the long run. However, if the structure of the economy and society is completely or partially changed within a few decades and if Industrial Revolution 4.0 becomes a reality, then not just the change

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of economic, fiscal and its included tax policy seems to be absolutely crucial. Many studies and statements of politicians show that lessons can be learned from the changes and mistakes that occurred after the previous industrial revolutions, yet we believe that nothing of the sort occurs in tax policy. Indeed, expert discussions on the link between the pandemic, robotic automation and related changes in the structure of the economy and the state of public budgets, or especially the adjustment of their revenue structure, stay behind.

We believe that the effects of taxation on individual production factors, on the production function and on the size of the official and the shadow economy need to be thoroughly addressed with regard to the changes that will undoubtedly take place after the Industry 4.0, not only because its arrival does not have to be a surge but rather a gradual curve. The Industry 4.0 will affect the adjustment of social security and pension systems, migration and the functioning of the economy as a whole. From the perspective of tax mix adjustment, it is particularly desirable to abandon traditional and conservative thinking and ask new questions instead.

In this regard, taxes of the tax mix, especially personal and corporate pension scheme taxes, and alternatively taxes on dividends on the direct tax side, or the value added tax and the excise tax as indirect taxes then affect two main production factors, labour and capital – which are the subject of the most fundamental changes with the transition to Industry 4.0 – in a different way. Their proportion and structure will undoubtedly change.

The aim of this article is to evaluate the tax effects of the transition to Industry 4.0 and to find out whether the tax mix is optimally prepared for these – now also in connection with the pandemic – accelerating changes. For this purpose, the dynamic stochastic general equilibrium model (DSGE) with the shadow economy will be used, adjusted to consider the real tax mix in the Czech Republic and similar countries. The conclusions drawn from this comprehensive model can be subsequently generalised to other Central European economies or similar countries. If necessary, frameworks for potential economic and tax policy reforms will be proposed.

II. Industry 4.0, Shadow Economy and Challenges for the Tax System

The existence of fundamental changes in the structure of the economy in the 21st century is unquestionable, at least in advanced economies. There is a massive introduction of robotic automation as well as transition to smart factories and smart products. One of the reasons is also cost savings and reduced dependence on workforce, especially in the case of manual and routine jobs. In the marketing sense, the term of Industry 4.0 may be perceived as a somewhat European label, especially a German one, for the above changes. It is an academic, but also a practical (industrial) approach to the categorisation and integration of effects and activities that are undoubtedly taking place. This unified approach has been treated especially in the last ten years and is associated with the German academics Kagermann, Wahlster and Lukas (2013); in practical economic policy then with German Chancellor Merkel (European Commission 2017).

Not only the European economy but also other important players have already joined the ongoing fourth industrial revolution – the USA, China as well as some Middle East countries such as Israel or Saudi Arabia. Correspondingly, many large, medium and small-sized businesses have already become involved, whether in the actual implementation of the mentioned technologies or in the adjustment of changed economic processes. However, systematic preparation for possible tax implications and tax optimisation seem rather marginal at the business level. Reference may be made, for example, to a study carried out by Deloitte (2015) dealing with the challenges of Industry 4.0, the change in the business model of companies and the possible tax consequences. At the level of economic policy or national and European central authorities, the economic impacts are mentioned rather generally, without in-depth analyses. The focus of scientific studies is similar in that they concentrate on certain

specific aspects. For instance, they involve disputations over the sustainability of the social security and health care system or the impacts on the tax revenue rate. Or, in connection with the possible massive increase in the unemployed, especially with low-skilled jobs, the effects of a possible guaranteed uniform minimum income are estimated. Additionally, the crucial importance of consumption and excise taxes for the future adjustment of sustainable tax systems is widely addressed, as is the issue of minimum wage and tax burden on labour with low-skilled jobs, particularly with regard to these jobs competing with robots.

Notably, the effects of the extent of the shadow economy on the change in the economy structure in connection with the Industry 4.0 are not discussed at all, and the possible impact of this transition on the shadow economy is examined in a very limited way. Yet, the shadow economy may have a significant impact both ex-ante and ex-post. The large scale of the shadow economy undoubtedly and predominantly slows down the transition to Industry 4.0. If there is a part of unofficial production which is produced by workers outside the employment relationship where the employer and the employee do not participate in the tax, social and health care systems and do not participate in their contributions, the company has lower motivation to reduce labour costs in order to implement robotic automation and smart factories. Any tax changes that are introduced by central authorities, if they led to the growth of the unofficial economy, even in order to support technological change and robotic automation, may then prove counterproductive.

The ex-post causality of the link between the industrial revolution and the size of the shadow economy may then be the opposite. With a suboptimal adjustment of labour taxation, the massive robotic automation and replacement of unskilled workforce will then lead to the growth of the unofficial economy because labour costs including not only the actual wages but also natural person income tax, social security and health care contributions will not be competitive against the capital costs of automated production.

III. Methodology and data

For the purposes of this article, the definition of shadow economy by Feld and Schneider (2010) or Schneider and Buehn (2018) will be used. This definition includes all legal production of goods and services traded on the market which is hidden from government authorities, whether in order to evade income taxes, value added taxes, any other taxes, social security contributions, or for reasons involving attempts to avoid compliance with legal standards on the labour market (minimum wage, maximum number of hours worked, safety requirements).

A structural approach based on dynamic stochastic models of general equilibrium is relatively more recent and not explicitly mentioned in previous papers. This approach, presented e.g. in the paper of Orsi et al. (2014), is also based on the interconnection of observed and non-observed macroeconomic variables. This relationship is parameterised through logical structural relationships based on the optimisation behaviour of households and businesses or other economic entities.

An overview of methods and results for estimating the size of the shadow economy can be found in the papers by Schneider and Enste (2000), Schneider and Williams (2013), Buehn and Schneider (2016), Schneider and Buehn (2018), Enste (2018) or Medina and Schneider (2018). Evaluating tax and fiscal policy by using the model approach, especially the DSGE, has been a very current topic for the past ten years. Busato and Chiarini (2004) are among the pioneers of formal economy modelling with the shadow economy sector, using the calibrated RBC model. Lisi and Pugno (2015) in their theoretical (calibrated) RBC model with endogenous growth and shadow economy simulate the positive effects of strict monitoring of activities of businesses within the shadow economy sector.

According to Lindé (2018), the DSGE models are an extremely suitable tool to analyse fiscal and monetary policy despite their weaknesses – mainly due to the use of forward-looking expectations (making them robust against the so-called Lucas critique) and also due to their relative simplicity, transparency and flexibility in their specification. Orsi et al. (2014) is one of the few DSGEs that model both the size and the dynamics of the shadow economy development, in this case Italy. The importance of the shadow economy's model inclusion is emphasised by Dellas et al. (2017). In their work, they refer to the systematic error rate in predicting the effects of fiscal and tax policy if the shadow economy sector is neglected.

The starting point for the modelling of possible impacts of the transition to Industry 4.0 is the DSGE model with shadow economy proposed by Orsi et al. (2014). That being said, the original model is significantly enriched by a tax system corresponding to the basic tax structure of the Czech Republic. One of the extensions is the implementation of the excise tax, which only levies taxes on certain goods. The resulting model is a two-sector model of firms that produce goods which are subject only to the value added tax (VAT) and goods which are also subject to the excise tax. This aspect has also been represented in the modified consumption function, which includes both mentioned types of goods. In contrast to the paper by Kotlán et al. (2019), a non-linear form of the model is used without considering the aspect of tax uncertainty.

As regards the data, annual data for the Czech Republic covering the period from 2002 to 2019 has been used to calibrate the parameters, the steady states of exogenous variables and to adjust the algorithm's initial conditions for calculating the steady states of endogenous variables of the non-linear model. The time series used are as follows: gross fixed capital formation (CNB, 2020), personal income tax revenues (CNB, 2020), corporate income tax revenues (CNB, 2020), personal income tax revenues (CNB, 2020), social security and health care insurance revenues (CNB, 2020), value added tax, revenues (CNB, 2020), excise taxes revenues (CNB, 2020), production at constant prices according to the NACE codes (CSO, 2020), hours worked according to the NACE codes (CSO, 2020), number of inspections and inspected entities for VAT and corporation tax (FACR, 2020).

Since further details of the model calibration (including calibrated parameter values) go far beyond the scope of the conference paper, they are available at the authors or at https://www.eaco.eu/about-eaco/research/. In following part of the paper, we sum up the main results of our estimations.

IV. Results

We simulate the impacts of changes in the effects of the capital and labour ratio, reflecting the change in the structure of the economy within the transition to Industry 4.0. through the changes in the structural parameters of the model or the steady-state values of exogenous variables. The following scenarios come to mind:

- change (growth) of technology or overall productivity of production factors,
- change in the parameters of the Cobb-Douglas production functions,
- change in the growth parameter of the permanent technological shock.

For the purposes of this paper, the change in the parameters of the Cobb-Douglas function is addressed. The effects of the decrease in the labour share of the production functions in individual industries by 0.05 is simulated. The results are shown in Table 1. Absolute and relative changes are related to the benchmark model.

Table 1 Effects of the decrease in the share of labour in the total product

Category	Indicator	Benchmark	Simulation
Labour market	Relative change in the volume of the workforce in the official economy		3.42 %
	Relative change in the volume of the workforce in the unofficial economy		-61.50 %
	Share of the shadow economy workforce in the official workforce	4.79 %	1.78 %
	Change in the share of the workforce in the shadow economy		-3.01 %
	Relative change in the amount of wages in the official economy		35.35 %
	Wage ratio of the official sector to the unofficial sector	112.02 %	115.42 %
	Change in the wage ratio of the official sector to the unofficial sector		3.41 %
Capital	Relative change in the volume of capital in the official economy		73.15 %
	Capital share in the shadow economy to the official volume of capital	3.11 %	1.12 %
	Change in the share of capital in the shadow economy		-1.98 %
	Share of investments in the total product of the official economy	20.85 %	23.50 %
	Change of the share of investments in the total product of the official economy		2.64 %
	Relative change in the volume of investments		69.82 %
Shadow economy	Relative change in the size of the official economy		51.70 %
	Share of the shadow economy in the official economy	4.09 %	1.47 %
	Change in the share of the shadow economy		-2.62 %
Government revenues	Share of government revenues in the total (official) product	53.88 %	51.79 %
	Share of personal income tax revenues in total revenues	18.03 %	19.28 %
	Share of corporation tax revenues in total revenues	9.30 %	8.96 %
	Share of withholding tax revenues in total revenues	0.89 %	0.86 %
	Share of social security and health care contribution revenues in total revenues	28.89 %	27.83 %
	Share of VAT revenues in total revenues	25.63 %	26.51 %
	Share of excise tax revenues in total revenues	17.25 %	16.56 %
	Change of share of government revenues in the total (official) product		-2.10 %
	Change of share of personal income tax revenues in total revenues		1.25 %
	Change of share of corporation income tax revenues in total revenues		-0.34 %
	Change of share of withholding tax revenues in total revenues		-0.03 %
	Change of share of social security and health care contribution revenues in total revenues		-1.06 %
	Change of share of VAT revenues in total revenues		0.88 %
	Change of share of excise tax revenues in total revenues		-0.69 %
	Relative change in government revenues		44.85 %
	Relative change of personal income tax revenues in total revenues		55.43 %

Relative change of corporation income tax revenues in total revenues	39.97 %
Relative change of withholding tax revenues in total revenues	39.98 %
Relative change of social security and health care contribution revenues in total revenues	39.98 %
Relative change of VAT revenues in total revenues	50.31 %
Relative change of excise tax revenues in total revenues	39.47 %

Source: own calculations

It may be observed that the increase in the capital share has led to a significant increase in the total product and a decrease in the share of the shadow economy, which is fully in line with the recommendations of most studies, which see economic growth as a significant factor in reducing the extent of the shadow economy (Enste, 2018).

V. Discussion: Effects of the introduction of Industry 4.0 on the size of the shadow economy and the tax mix

As mentioned above, robotic automation and the transition to Industry 4.0 can be simulated in several possible scenarios that influence the effects on the capital-labour ratio. Given that capital and labour are endogenous quantities in the presented model, these processes were simulated by changing the share of labour (parameter of the Cobb-Douglas production function with constant returns to scale) from 0.65 to 0.6 in the case of standard goods and from 0.6 to 0.55 in the case of the production function of goods that are subject to the excise tax. The total share of the marginal product of labour thus fell by 5 percent, and by contrast it increased by 5 percent in capital. These changes, consisting in a relative increase in the marginal product of capital, then affect the shifts that the introduction of Industry 4.0 will cause.

A higher marginal product and higher marginal returns on capital will lead to positive changes in the structure of the economy. As it is evident from Table 1, robotic automation leads to a significant increase in the official economy (by 51.7 percent) and to a reduction in the share of the shadow economy in the size of the official economy by 2.62 percent. (from 4.09 percent to 1.47 percent). This is also related to an increase in capital in the official economy by 73.15 percent and a decrease in the share of capital in the shadow economy by more than a half (from the original 3.11 percent to 1.12 percent). In line with some theoretical approaches, robotic automation also led to a decrease in the share of the workforce in the shadow economy by almost two-thirds (from 4.79 percent to 1.78 percent). Similarly, the structural changes in the capital-labour ratio resulting from robotic automation of production have a positive effect on wages in the official and the shadow economy. Wages in the official economy increased by 35.5 percent and the ratio of wages in the official and the unofficial sectors increased by 3.41 percent. The relative change in the volume of the workforce in the economy increased by 3.42 percent and decreased by 61.5 percent in the unofficial economy.

As a consequence, the first research question from the introduction can undoubtedly be answered in the affirmative way. If it is assumed that the aim is to set economic policy measures and especially the legal system in order to eliminate the shadow economy, then the changes that robotic automation leads to undoubtedly bring a positive effect. The introduction of new technologies into production, artificial intelligence, digitisation or robotics clearly leads to an increase in the official economy and to a decrease in its shadow component. There is an increase in investments in the official economy, an increase in the volume of capital and, generally, an increase in investments in the total product of the official economy. The number of workers in the official economy is growing, while it is declining significantly in the unofficial economy. This rectifies the distorted market and legal environment. Robotic automation also leads to an

increase in wages in absolute terms, even in relation to the wage level in the shadow economy. It should be noted, however, that the transition to Industry 4.0 is strongly determined by the initial level and size of the shadow economy. If a large part of the economy is situated in the shadow economy, then no spontaneous pressure to introduce technologies into production occurs. We believe, however, that the current pandemic may be a stimulus for the introduction of robotics and technology, even in countries in which the transition to Industry 4.0 is still lagging behind.

If the second research question is examined in more detail, then it must be unequivocally concluded that robotic automation and the associated increase in the marginal product of capital will lead to significant additional tax revenues. The government tax revenues will increase significantly, and the tax quota will account for more than a half of GDP (51.79 percent). In the case of a simulated growth of the economy by 51.70 percent, this generates more than a quarter increase in tax revenues, including income from social security and health care insurance. Nonetheless, in general, the development of the economy and particularly the development of society is likely to lead to the constitution of new public services and the stimulation of a changed approach to the role of the state. The establishment of a minimum guaranteed income will also probably be put through or the increased demands on investment in education will be accelerated, often as a public service. Pension policy will change, and other challenges related to longer life expectancy will arise. The current pandemic has already motivated some countries to make these changes. It is therefore necessary to ask the question whether the tax mix, or the social and health care insurance system, is ready for them.

The first somewhat alarming figure, which results from the performed simulations, is the decrease of the tax quota by 2.1 percent from the original 53.89 percent to 51.79 percent.[4] This fact then postulates – ceteris paribus – that the tax mix does not generate such a level of relative revenues as in the period before the transition to Industry 4.0. This in itself could also be a positive message, as a high tax quota is often a subject of much criticism. However, this applies only if the additionally generated public budget revenue, which can be obtained from the increased extent of the official economy, is sufficient for new challenges in the provision of public and social services. This fact should still at least be analysed and taken into account by central authorities.

Another important result of the simulation performed on real data is the fact that all taxes of the current Czech tax mix do not contribute to the tax revenue to the same extent. A larger slice of the tax revenue rate is undoubtedly taken by employment income tax and VAT. By contrast, the excise tax and the corporate income tax, and by extension the withholding tax, will fall sharply in respect to the share of the overall tax mix after the transition to Industry 4.0. The largest relative decline in income will thus occur in the collection of social security and health care insurance.

This in itself may not be a negative thing in all cases, though economic and fiscal policymakers should become aware of these facts in the present time. Individual taxes and similar levies have different budgetary allocations within public budgets. Although the budgetary allocation of taxes has already been partially unified, some differences still remain. For example, in the case of personal income tax from employment, municipalities receive a 1.5 percent more at the expense of the government than e.g. in the case of corporate income tax or VAT. Similarly, the personal income tax from self-employment is, on the other hand, paid to the budgets of local governments (municipalities and regions) only at 60 percent. The excise tax is then not reflected

[4] The tax quota in the simulated model is overestimated, though here it is necessary to bear in mind that it is a model of a closed economy and also that the transfers are not considered herein (a part of government consumption would in reality correspond to private consumption). This fact has no significant effect on the results and interpretations.

in the budget of local governments at all and is the revenue of the government or its agencies. Therefore, if the relative share of these taxes in the tax mix changes, it will have a real impact on the finances of governments and municipalities. Given the fact that municipalities will slightly benefit only from the employment income tax, the transition to Industry 4.0 with the current adjustment of the tax mix will favour the government over local governments and will bolster centralisation.

It is also necessary to realise that each tax has a different role within the tax mix. If we abstract from the fiscal function of taxes, then especially the regulatory or fair consequences of individual taxes are different. After the transition to robotic automation, the importance of the general excise tax – VAT will noticeably increase, which can be perceived as unfair, especially by interventionist and left-wing actors. Conversely, a decrease in the relative share of a selective excise tax, i.e. a tax treated as the tax acting against harmful effects such as smoking or environmental damage, may be perceived negatively by society and may have negative impacts on, e.g., the health care system. If we are to answer the second research question from the introduction, it must be stated that the transition to Industry 4.0 will lead to significant changes in the structure of revenues from each type of tax. This may not be harmful in itself, but if it is assumed that the currently adjusted tax mix should reflect the priorities and objectives of central authorities, and assuming that this tax mix is an expression and reflection of the current consensus in society, then there will be a shift of significance for individual taxes after the transition to Industry 4.0. A rational economic policymaker has only two options: either to change the current tax mix or to propose its gradualist changes in the future, alternatively change the priorities and goals in the area.

A very debated potential impact of introducing robotic automation in all industrial revolutions – also in the past – has been the impact on employment, wage levels, social security and public services. There has always been room for concern, even though very often not reflected in actual reality. As it has been pointed out above, the transition to Industry 4.0 has clearly positive effects on both employment in the official economy and the wage level in the simulated model on real data, undoubtedly leading to a decline in the shadow economy. However, it is necessary to take into account the conclusion of the model, which concerns the effect on the collection of social security and health care insurance. As it is apparent from Table 3, the change in the share of revenues from social security and health care insurance is very prominent. There is a decrease of 1.06 percent, which is several times more than for other taxes in the tax mix. Based on the current budgetary determination of these types of payments, which are specific payments to the budgets of insurance companies or to the retirement fund, then there can be serious concerns about the sustainability of the currently set social security system and the pension policy on the one hand, and the sustainability of the health care system on the other. Again, it is necessary to emphasise the fact that robotic automation will lead to the growth of all kinds of these revenues in absolute figures, but serious anomalies can already be identified when relativising them to GDP or total revenues. Similarly, it is possible to assume an increase in the expenditure side of these systems. In our opinion, the revenue side of the social security and health care system is therefore significantly unprepared for the changes related to the transition to Industry 4.0.

VI. Conclusion

The aim of the presented article has been to evaluate the tax effects of the transition to Industry 4.0 and to find out whether the tax mix, including the social security and health care system, is prepared for the changes relating to the introduction of Industry 4.0, examining inter alia the effects on the size of the shadow economy. We proceeded from the premise that especially those countries which are already at a certain level of transition to robotic automation will be forced to use or will voluntarily use the context of the current pandemic to accelerate the changes. Our ambition within the three research questions and on the basis of the simulation of

the modified DSGE model with shadow economy on real data of the Czech Republic has been to evaluate whether there are real concerns about the state of optimisation of the set parameters of economic policy, especially from the perspective of its revenue as well as from the perspective of the consensus of priorities and objectives of economic policy, allowing to consider the real implications not only for the Czech Republic but also for other comparable countries.

As part of the objective specification from the research question perspective, it must be stated that the Czech Republic is not institutionally prepared for the impacts resulting from the transition to Industry 4.0. We believe that the current coronavirus pandemic not only accelerates the introduction of robotic automation, as these effects can already be seen, but is also a great opportunity at a moment when there are also significant drops in public finances to make a larger and more comprehensive change in economic and tax policy, including changes in social security and health care insurance policy. It is worth noting that in its deliberations, the current Pension Scheme Committee and the National Government Budget Council do not mention the impacts presented in this article as regards the size of the structure of the official and the shadow economy, the decrease in the tax quota or the representation of individual taxes in the tax mix. The revenue side of the social security and health care insurance system is not reflected from this point of view either. Moreover, expert discussion on this topic in other member states of the European Union is rather absent, too. In accordance with the above, it is recommended in particular: i) to subject the revenues from the social security and health care insurance system to a deeper review and to link it directly to other revenues of the tax mix, if necessary. It is recommended ii) to further review the approach to the ratio of the direct and the indirect tax and, if necessary, to particularly review the proportion of the tax burden of corporations and the tax burden through VAT. It also seems appropriate iii) to review the tax mix in general and, in addition to the already announced cancellation of real estate transfer tax, to open a discussion on digital tax or robot tax, as an alternative to the simulated changes in the tax mix structure.

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CRIMINAL LIABILITY AND ECONOMIC CRIME

Pavel Kotlán[1]

Abstract

The article deals with criminal liability in the relation to economic crime (non-violent crime committed by a person involved in business as part of a business activity, the purpose of which is to gain an unjustified economic benefit or to cause property damage) including the criminal liability of legal persons. Special attention is paid to the material aspect of crime (it means social harmfulness of the individual elements – subject, object, fault, action and injury connected by causal link). The main aspect of the criminal liability is the subsidiarity of criminal repression which is often interpreted incorrectly. From analysis of the factors of the criminal liability presented on real examples of economic crime is created correct interpretative scope; alternatively it leads to the *de lege ferenda* proposals. For interpretation of law were mainly applied the method of value consistency and formal systematic approach.

Keywords

Economic crime; criminal liability; subsidiarity of criminal repression; legal person

I. Úvod

Trestní odpovědnost sama o sobě je složitým problémem, a ve vztahu k ekonomické kriminalitě to platí dvojnásob. Účelem práce je nastínit rozhodující faktory trestní odpovědnosti při řešení ekonomické kriminality, tj. nenásilné trestné činnosti osoby zúčastněné na podnikání, v rámci podnikatelské činnosti, jehož účelem je, byť zprostředkovaně, zisk neoprávněného majetkového prospěchu nebo způsobení majetkové škody.[2] Analyzovány budou často se vyskytující problémy a sporné otázky, se zvláštním zřetelem na materiální vyjádření formálních znaků trestného činu.

II. Základy trestní odpovědnosti

Základem trestní odpovědnosti je trestný čin, tj. trestné jednání, jemuž odpovídá zákonný popis trestněprávně zakázaného chování, včetně hrozby trestu.[3] Při vymezení trestní odpovědnosti je na místě vycházet, v souladu s názorem „brněnské školy", z formálně materiálního pojetí, tj. jediným základem trestní odpovědnosti je trestný čin (čin soudně trestný), jehož formální znaky nutno vykládat materiálně, tj. prostřednictvím nich se projevující společenskou škodlivostí.[4] Materiální stránka trestného činu tak nestojí mimo znaky skutkové podstaty, protože to by znamenalo přihlížet k okolnostem případu a v konečném důsledku nerovnost/nespravedlnost.[5] Jenom v tomto smyslu nutno chápat základní princip trestání *nulla poena sine crimine*, tj. že podmínkou trestu je existence trestněprávního jednání.[6]

Smyslem trestního práva je přitom právě společenská spravedlnost (*soziale Gerechtigkeit*), co by podstata materiálního právního státu (*materieller Rechstaat*).[1] Tento „materiální náhled" na

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[2] Blíže viz KOTLÁN (2019a).
[3] TRIFFTERER, O. (1985), s. 10. Třístupňové rakouské/německé vychází v prvním stupni ze skutku, který naplňuje skutkovou podstatu trestného činu, je jednáním protiprávním (druhý stupeň), a má požadovaný stupeň zavinění (třetí stupeň). Tamtéž, s. 25.
[4] KRATOCHVÍL (2012), s. 165-211; KRATOCHVÍL (2015); KANDOVÁ (2018).
[5] KRATOCHVÍL (2012), s. 190. Stejně tak uvádí již Finger, že trestní právo trestá bez ohledu na osobnost pachatele a okolnosti případu. FINGER (1904), s. 6.
[6] FEUERBACH a MITTERMAIER (1847), s. 41.
[7] ROXIN (1973), s. 10.

trestný čin je vlastní (minimálně) kontinentálnímu právu všeobecně, jak potvrzuje i francouzský přístup, podle kterého je protiprávní jednání (*actus reus*) materiálním prvkem trestného činu a zavinění (*mens rea*) prvkem morálním.

Shora uvedené pojetí trestní odpovědnosti bych se pokusil poněkud modifikovat, resp. domyslet do praktických důsledků. Vymezení subsidiárně pojímané trestní odpovědnosti je v recentní právní úpravě dáno především § 12 odst. 2 tr. zákoníku: „*Trestní odpovědnost pachatele a trestněprávní důsledky s ní spojené lze uplatňovat jen v případech společensky škodlivých, ve kterých nepostačuje uplatnění odpovědnosti podle jiného právního předpisu*". Tato formulace je však nejen vyjádřením formálně materiálního pojetí, nýbrž vytváří, jako samostatnou podmínku trestní odpovědnosti nedostatečnost vyvození netrestní odpovědnosti (*sufficiens ratio*) – viz dikce „*... ve kterých nepostačuje uplatnění odpovědnosti podle jiného právního předpisu"*. Tímto legislativním prostředkem se, byť možná nezamýšleně, realizuje přiměřenost trestní sankce, a to i nezávisle na společenské škodlivosti. Jinými slovy, i za (dostatečně) společensky škodlivý skutek může být nevyvozena trestní odpovědnost, pokud je *sufficiens ratio* (odpovědnost podle jiných právních předpisů) dostatečná. Jaká jiná právní odpovědnost však může být v tomto smyslu dostatečná? Nejedná se tedy jen o hypotetickou situaci? Domnívám se, že nikoliv, a to minimálně z důvodu, se kterým zákonodárce (pravděpodobně) nepočítal: korekce trestní odpovědnosti právnických osob (bude níže rozebráno).

Naproti tomu nutno odmítnout snahu vztahovat uplatnění soukromoprávní odpovědnosti, či dokonce pouhou možnost její uplatnění, na (ne)vyvození odpovědnosti trestní. U veřejnoprávní odpovědnosti se jedná o jiný účel než u odpovědnosti soukromoprávní, a stěží tak lze najít příklad, kdy by odpovědnost soukromoprávní dostatečně nahradila odpovědnost trestní.[2] Na tomto faktu nemůže ničeho změnit ani tendence zahrnovat do (civilní) náhrady škody tzv. punitive damages, co by prvek trestání.[3] Naopak je zde nebezpečí, že by se trestní represe „rozmělňovala" i mimo trestní řízení, což by ovšem bylo v rozporu s uvedeným principem *nulla poena sine crimine*.[4]

Druhé „domyšlení" formálně materiálního pojetí nás vede k závěru, že závěr Stanoviska Nejvyššího soudu[5] (a na něj navazující judikatury), že „*bude aplikace zásady subsidiarity trestní represe a z ní vyplývajícího principu ultima ratio nepochybně vyloučena zejména v případech zvlášť závažných zločinů a zpravidla i u zločinů*" není přesný. Kategorie trestných činů, které jsou vymezeny jako zločiny či zvlášť závažné zločiny, se odvíjí od trestní sazby (viz § 14 tr. zákoníku) a ta v případě ekonomické kriminality závisí především na způsobeném následku ve formě majetkové škody. Ovšem následek, jak bude podáno dále, není jediným znakem skutkové podstaty rozhodující o společenské škodlivosti skutku. Proto i skutek, jehož jiný zákonný znak vykazuje „deficit" v nedostatečné společenské škodlivosti, nelze považovat za trestný čin.

[9] Často tak argumentuje obviněný či jeho obhájce tehdy, je-li paralelně s trestním řízením veden soukromoprávní spor, zvlášť je-li v něm obviněný neúspěšný. Např. obviněný z trestného činu poškození věřitele dle § 222 tr. zákoníku argumentuje tím, že poškozený úspěšně namítal relativní neúčinnost právního jednání dle § 589 a násl. občanského zákoníku (OZ).

[10] „*Damages, other than compensatory or nominal damages, awarded against a person to punish him for his outrageous conduct and to deter him and others like him from similar conduct in the future*" - náhrada škody, jiná než kompenzační či nominální, uplatněna vůči osobě jako trest za její nehorázné jednání, za účelem, aby ona a jí podobné byly v budoucnosti od takového jednání odrazeny. MEURKENS a NORDIN (2012), s. 4.

[11] GERLOCH a BERAN (2014), s. 37-66.

[12] Stanovisko kolegia Nejvyššího soudu ČR ze dne 30. 1. 2013, sp. zn. Tpjn 301/2012.

III. Trestní odpovědnost právnických osob

S účinností od 1. 1. 2012 byla zákonem o trestní odpovědnosti právnických osob (TOPOZ) [6] zavedena rovněž trestní odpovědnost právnické osoby.[7] Ta je založena na konceptu tzv. přičitatelnosti. Pokud je tedy fyzickou osobou jednající za osobu právnickou (§ 8 odst. 1 písm. a) až d) a odst. 2 TOPOZ), v jejím zájmu či v rámci její činnosti (§ 8 odst. 1 TOPOZ),[8] spáchán trestný čin, s výjimkou trestného činu uvedeného v § 7 TOPOZ, je přičten i osobě právnické.[9]

Odpovědnost právnické osoby není kolektivní odpovědností v tom smyslu, že by bylo možné automaticky činit odpovědnými všechny fyzické osoby, které byly členem rozhodujícího kolektivního orgánu (zastupitelstvo obce, představenstvo obchodní společnosti apod.). Nutno tedy vždy zkoumat trestní odpovědnost každé fyzické osoby, a jsou-li splněny podmínky přičitatelnosti, vyvodit i trestní odpovědnost osoby právnické.[10]

Zákonodárcem zvolená varianta trestní odpovědnosti právnické osoby je závislá na trestní odpovědnosti fyzické osoby do shora uvedené míry – tj. jako výraz přičitatelnosti. Proto se uplatní i tehdy, není-li zjištěna konkrétní fyzická osoba-pachatel (§ 8 odst. 3 TOPOZ), i tehdy je-li fyzická osoba-pachatel potrestána. Posledně zmíněný fakt, tedy souběžná přičitatelnost, zásadně odlišuje pojetí trestní odpovědnosti od odpovědnosti soukromoprávní.

Důsledkem konceptu přičitatelnosti je tak zvláštní forma odpovědnosti, již nelze nazvat odpovědností subjektivní (za zavinění), ale ani přímo objektivní (za výsledek), byť posledně uvedené se podobá více. V podstatě jde o to, že pro trestní odpovědnost musí být objektivně splněny podmínky přičitatelnosti, přičemž jednou z nich je zaviněné trestněprávní jednání pachatele-fyzické osoby (podmínka zavinění se tak ve vztahu k právnické osobě-pachateli „objektivizuje“).

Lze říci, že trestní odpovědnost právnické osoby (přičitatelnost) je do značné míry postavena na zjištěném deficitu v kontrolní a řídící činnosti,[11] takže existence příslušných opatření v této oblasti znamená ve smyslu § 8 odst. 2 písm. b) TOPOZ nebo § 8 odst. 5 TOPOZ trestní neodpovědnost/„vyvinění“. Příslušná opatření (tzv. compliance program, etický kodex, provádění kontrol, trestání za prohřešek atd.) však musí být výrazem reálné snahy právnické osoby, aby ochranná opatření fungovala v praxi.[12]

Logicky nelze uvažovat o tom, že by se materiální naplnění formálních znaků zkoumalo i ve vztahu k právnické osobě, avšak je možné uvažovat, jak bylo naznačeno výše, o korekci prostřednictvím *sufficiens ratio* (§ 12 odst. 2 in fine). V praxi lze objevit minimálně dvě situace, kdy se jeví trestní represe proti právnické osobě nadbytečná. První z nich je obchodní

[13] Zákon č. 418/2011 Sb., o trestní odpovědnosti právnických osob a řízení proti nim, ve znění pozdějších předpisů.
[14] K argumentaci v tomto směru týkající se setrvání u správního trestání právnických osob v Německu (na místo zavedení trestní odpovědnosti), zejména s ohledem na absenci „morální viny“ právnické osoby a nepřípadnost aplikace trestních sankcí viz DUBBER a HÖRNLE (2014), s. 335-338.
[15] Judikatura přitom (správně) směřuje k tomu výkladu, že trestný čin spáchaný nikoliv v zájmu právnické osoby, nelze právnické osobě přičítat (např. Usnesení Nejvyššího soudu ČR ze dne 24. 11. 2015, sp. zn. 8 Tdo 627/2015 či Usnesení Nejvyššího soudu ČR ze dne 27. 9. 2016, sp. zn. 8 Tdo 972/2016). Každopádně se jeví jako příhodnější nahradit oba uvedené termíny („zájem“ a „v rámci činnosti“) termínem „prospěch“, jak činí např. rakouská úprava („*zu seinen Gunsten*“), tedy směřující k obohacení či k ušetření výdajů právnické osoby. FABRIZY (2010), s. 1099.
[16] Pojetí trestní odpovědnosti právnických osob v ČR ve vztahu k fyzickým osobám, jejichž jednání je právnické osobě přičitatelné, je blízký model v USA, tedy lze v zásadě dovodit trestní odpovědnost za jednání každého zaměstnance, bez ohledu na postavení v korporaci. Naproti tomu v Anglii a v jiných zemích s právem common law, je odpovědnost odvozena od „*directing mind“ of the corporation*, tj. řídících osob. DUBBER a HÖRNLE (2014), s. 339-340.
[17] V souladu s tím Púry a Šámal uvádějí, že v případě rozhodování kolektivních orgánů „*nejde o žádnou kolektivní odpovědnost všech členů takových orgánů, ale vždy se musí individuálně zkoumat, zda určitá fyzická osoba nebo právnická osoba naplnila všechny podmínky k tomu, aby mohla odpovídat za trestný čin, byť může jít o více takových osob jako spolupachatelů*“. PÚRY a ŠÁMAL (2018).
[18] Viz Důvodová zpráva k zákonu č. 418/2011 Sb., komentář k § 8.
[19] CHROMÝ, J. a LOGESOVÁ, J. (2018), s. 26.

společnost, která je nefunkční – tj. jako „mrtvá schránka“ nebo „kriminální společnost“.[13] Taková společnost by měla být dle ustanovení příslušného právního předpisu o nucené likvidaci zrušena (viz zejména § 172 odst. 1 písm. b) a c) OZ a § 93 písm. a), b) a c) zákona o korporacích č. 90/2012 Sb., ve znění novely č. 458/2016 Sb.). Trestní postih, který nemůže být nikdy přísnější než zrušení společnosti, je tak zjevně nepřípadný. Nehledě k tomu, že jakýkoliv trest proti právnické osobě, která je nefunkční, se míjí účinkem a činí z trestní odpovědnosti právnické osoby karikaturu.[14] Druhou situací je trestný čin, který vyjde najevo až v okamžiku, kdy se již obměnil „personální substrát“ právnické osoby (majitel i statutární orgán). Pokud nové osoby angažované ve společnosti neměly s činností předchozích nic společného a neprokáže se, že o trestném činu věděly, bylo by trestání právnické osoby – tj. vlastně těchto nových, s trestnou činností nijak nespjatých osob, v rozporu s principem, že každý by měl odpovídat jen za jednání, které je v jeho sféře vlivu. Aplikace § 12 odst. 2 in fine tr. zákoníku se zde jeví vhodným prostředkem, jak neuplatnit trestní represi: tedy onou dostatečnou „*odpovědností podle jiných právních předpisů*“ bude trestní odpovědnost fyzické osoby za právnickou osobu jednající.[15] Ustanovení § 12 odst. 2 in fine tr. zákoníku by tak zafungovalo jako jakési „pošvýcarštěním“ české trestněprávní úpravy, tj. trestní odpovědnost právnické osoby – s ohledem na trestní odpovědnost fyzické osoby – by se uplatnila subsidiárně.[16]

IV. Skutková podstata trestného činu obecně

Jak již bylo naznačeno, základem trestní odpovědnosti jsou znaky skutkové podstaty trestného činu, tedy všechny znaky, z nichž je skutková podstata složena.[17] Ty jsou tradičně a výstižně reprezentovány objektem, objektivní stránkou, subjektem a subjektivní stránkou. Při výkladu trestní odpovědnosti (ale i při výkladu jakékoliv jiné právní odpovědnosti za delikt) považuji za logickou posloupnost, která sleduje algoritmus aplikovaný autory brněnské publikace Praktikum z trestního práva:[18] *subjekt › objektivní stránka* (jednání a následek spojené příčinnou souvislostí) › *objekt* (chráněný zájem) › *subjektivní stránka* (zavinění). To znamená, že účelný postup při stanovení trestní odpovědnosti, tedy předpokladů odpovědnosti pro udělení trestní sankce postupně identifikuje odpovědný subjekt (pachatele), jeho protiprávní jednání související s následkem (jež lze subsumovat pod skutkovou podstatu určitého trestného činu), ohrožený/porušený chráněný společenský statek a požadovanou formu zavinění.

Vzhledem k tomu, že trestní odpovědnost je v této práci zaměřena na ekonomickou kriminalitu, nutno zdůraznit, že uvedené znaky skutkové podstaty budou analyzovány právě s ohledem na tuto trestnou činnost, a že budou podrobeny „ostrému materiálnímu pohledu“.

V. Subjekt trestného činu (pachatel)

Subjektem trestného činu je osoba deliktně způsobilá, tj. ve věku nejméně 15 let (§ 25 tr. zákoníku), a taková, která nebyla v době spáchání skutku (zaviněně)[19] nepříčetná (§ 26 tr.

[20] Blíže viz KOTLÁN (2016), s. 242.

[21] „Nepřímý důkaz“ o tom, že Nejvyšší soud dovozuje trestněprávní závěry pro případ, kdy se právnická osoba ukazuje v průběhu trestního řízení nefunkční, je rozhodnutí (Usnesení Nejvyššího soudu ČR ze dne 8. 1. 2014, sp. zn. 15 Tdo 902/2013), v němž připouští uplatnění náhrady škody po fyzické osobě, jednající za osobu právnickou, je-li náhrada škody na právnické osobě „nevykonatelná“ (podobně i DOLEŽEL, R. (2014)). Pokud je tedy připuštěno, že nefunkčnost společnosti je důvodem pro rozšíření odpovědnosti za náhradu škody na fyzickou osobu, pak není důvod trvat na potrestání nefunkční právnické osoby.

[22] To by byl logický důsledek argumentu hodnotové bezrozpornosti právního řádu *argumentum a fortiori* (k argumentu viz MELZER (2011), s. 169-170), tj. v případě, že odpovědnost netrestněprávní je dostatečná, musí být tím spíše dostatečná odpovědnost trestní.

[23] Trestní odpovědnost právnické osoby se týká, s výjimkou vybraných trestných činů korupčních, financování terorismu a obchodu se zbraněmi – jen situace, kdy v důsledku nedostatečné organizace právnické osoby („*wegen mangelhafter Organisation*“) nelze trestný čin přičíst konkrétní fyzické osobě. Viz čl. 102 odst. 1 švýcarského trestního zákona.

[24] TRIFFTERER (1985), s. 10.

[25] KRATOCHVÍL, KALVODOVÁ, KUCHTA a ZEZULOVÁ (1998), s. 9-10.

[26] Okolnosti zaviněné nepříčetnosti ve vztahu k tzv. Rauschdeliktu (viz trestný čin opilství dle § 360 tr. zákoníku) se s ohledem na zkoumaný problém nejeví podstatné.

zákoníku). Přitom nutno odlišit nepříčetnost, vztahující se zásadně ke konkrétnímu trestnému činu,[20] od nedostatku svéprávnosti, jak je chápána, co by znak subjektivity fyzické osoby (§ 55 a násl. OZ). Jinými slovy, i osoba omezena na svéprávnosti může být trestně odpovědná, pokud ve vztahu k danému skutku její rozpoznávací a ovládací schopnosti byly dostatečné.[21]

Subjektem může být i *pachatel nepřímý*, tj. ten, který využil jiného jako tzv. *živý nástroj* (§ 22 odst. 2 tr. zákoníku). Při posuzování ekonomické kriminality je v určitých případech sporné, zda je oním živým nástrojem „*nastrčená osoba*“, která se *„za odměnu propůjčuje k úkonům ve prospěch jiné osoby*“.[22] Taková osoba je, po mém soudu nesprávně, označována jako tzv. bílý kůň,[23] ačkoliv vhodnější, s ohledem na podíl na trestném činu, by byl termín „Bílý pěšec“.[24] Pokud je zjištěno, že „Bílý pěšec“ jedná s potřebnou mírou zavinění a nikoliv ve skutkovém omylu, není živým nástrojem a lze vyvozovat jeho trestní odpovědnost jako (spolu)pachatele.[25]

Dosah trestní odpovědnosti subjektu je mnohem širší než v případě soukromoprávní odpovědnosti: trestně odpovědný je i *účastník* na trestném činu (*organizátor, návodce* a *pomocník*) ve smyslu § 24 tr. zákoníku, a to v zásadě stejně jako (hlavní) pachatel;[26] případně jsou trestány i různé formy trestné součinnosti (§§ 361-368 tr. zákoníku).[27]

U určitých skutkových podstat je okruh subjektů zúžen, tedy je vyžadován *subjekt speciální* nebo *konkrétní*. Zákonodárce přitom jednoznačně stanovil,[28] že musí-li být pachatel „*nositelem zvláštní vlastnosti, způsobilosti nebo postavení*“ (§ 114 odst. 1 tr. zákoníku), postačí, že jsou dány u právnické osoby, za níž jedná.[29] Pro odpovědnost za ekonomickou kriminalitu je tak vyžadováno postavení konkrétního pachatele, tj. nadaného pro trestní odpovědnost určitou vlastností, např. jako *dlužníka/úpadce* u úpadkových trestných činů (*dlužník* u poškození věřitele dle § 222 tr. zákoníku a zvýhodnění věřitele dle § 223 tr.zákoníku, *úpadce* u zvýhodnění věřitele a „prohloubení“ úpadku dle § 224 odst. 2 tr. zákoníku), zaměstnavatele u trestného činu neodvádění povinných dávek dle § 241 tr. zákoníku nebo provozovatele nepoctivé hry/sázky (§ 213 tr. zákoníku). Jako subjekt speciální lze např. vnímat osobu, která má uloženou povinnost opatrovat/spravovat cizí majetek (§ 220 a § 221 tr. zákoníku).

Pokud je subjektem *právnická osoba*, týká se jí trestní odpovědnost po celou dobu existence, tj. tehdy, má-li právní osobnost (§ 118 OZ). Vzhledem k tomu, že právnické osoby jsou založeny na principu registračním, tedy jejich právní osobnost je vázána na registraci ve veřejném rejstříku (§ 120 a násl. OZ), jsou trestně odpovědny od jejich vzniku (zápisu do rejstříku) do zániku (výmazu z rejstříku). Zákon však navíc výslovně stanovil, že trestně

[27] Rozhodnutí Nejvyššího soudu ČSSR ze dne 7. 6. 1978, sp. zn. 11 Tz 21/78. ŠÁMAL (2010), s. 305.
[28] Takový problém nastává zejména v oblasti úvěrových podvodů, kde tyto osoby sjednávají, zpravidla na základě zadání jinou osobou (organizátorem), úvěrové smlouvy s úmyslem úvěrovou částku nezaplatit.
[29] Usnesení Nejvyššího soudu ČR ze dne 1. 4. 2015, sp. zn. 3 Tdo 1045/2014.
[30] Zatímco v 90. letech 20. století, kdy se pojem Bílý kůň používal ještě příhodně na osobu pachatele, který „*jednal podle instrukcí dalších osob*“ (Rozhodnutí Nejvyššího soudu ČR ze dne 30. 9. 1998, sp. zn. 10 Tz 104/98) a byl součástí určité organizované skupiny, v poslední době, s tím, jak tento typ pachatele mizí, je používán tento termín nižšími soudy i Nejvyšším soudem právě zmíněným nesprávným způsobem (viz zmíněné Usnesení NS ČR, sp. zn. 3 Tdo 1045/2014, Usnesení Nejvyššího soudu ČR ze dne 25. 11. 2008, sp. zn. 7 Tdo 1396/2008, Usnesení Nejvyššího soudu ČR ze dne 26. 11. 2015, sp. zn. 5 tdo 1379/2015, Usnesení Nejvyššího soudu ČR ze dne 29.3. 2017, sp. zn. 5 Tdo 1425/2016, Usnesení Nejvyššího soudu ČR ze dne 2. 8. 2017, sp. zn. 7 Tdo 809/2017 aj.); stejným způsobem je ovšem výraz používán i v odborné literatuře (viz např. ŠÁMAL (2001), s. 63).
[31] K typologii pachatelů ekonomické kriminality: KOTLÁN (2020).
[32] Obdobně Usnesení NS ČR, sp. zn. 7 Tdo 809/2017.
[33] V oblasti ekonomické kriminality tuto „rovnost“ kritizoval např. Teryngel jako pro účastníka příliš tvrdou, a to s ohledem na fakt, že neprofituje z trestného činu tolik jako (hlavní) pachatel (TERYNGEL (1998), s. 28.). Ovšem např. organizované úvěrové podvody, u nichž prospěch organizátora daleko převyšuje prospěch (hlavního) pachatele, tuto námitku vyvrací.
[34] Německá trestněprávní úprava postihuje nepsané formy účastenství jako „*Täter hinter Täter*“, tj. „pachatel (stojící/schovaný) za pachatelem. KIENAPFEL a HÖPFEL (2007), s. 224.
[35] Již novelou předchozího trestního zákona č. 253/1997 Sb. do § 90 odst. 2 tr. zákona (č. 140/1961 Sb.).
[36] V tr. zákoníku je použita formulace „*jejímž jménem jedná*“ (§ 114 odst. 2 tr. zákoníku ověřit), což je zjevná nedůslednost, neboť vzhledem ke konstrukci právnických osob po rekodifikaci soukromého práva, je právnická osoba považována za fikci (v TOPOZ příslušná změna v § 8 odst. 1 naproti tomu učiněna byla).

odpovědná je právnická osoba i za jednání fyzické osoby, ke kterému došlo před jejím vznikem (§ 8 odst. 4 písm. a) TOPOZ), a že se vztahuje (bez dalšího) i na právního nástupce právnické osoby (§ 10 odst. 1 TOPOZ).[30] V obou uvedených případech však shledávám trestní odpovědnost subjektu/právnické osoby nepřiměřenou. Trestní odpovědnost právnické osoby se totiž dostává do určité kolize se soukromoprávní odpovědností, a to v případě, že právnická osoba ve smyslu § 127 OZ nepřevezme účinky jednání fyzické osoby. Paradoxně tak je soukromoprávně neodpovědná, avšak trestněprávně ano.[31] „Automatická" trestní odpovědnost právního nástupce pak zpochybňuje již zmíněný princip odpovědnosti za jednání, které je ve sféře vlivu jednajícího. Minimálně by bylo na místě, aby byla v zákoně možnost „vyvinění" v případě dobré víry a dostatečně opatrného postupu právního nástupce (při převzetí právnické osoby).

Rekodifikací soukromého práva bylo umožněno zřídit tzv. svěřenský fond (§ 1448 a násl. OZ), který je ovšem nutno zásadně odlišit od právnické osoby. Trestní odpovědnost tak může vzniknout pouze u fyzických osob, jež jsou v něm angažovány, tj. především u svěřenského správce.

VI. Objektivní stránka

Objektivní stránku obligatorně tvoří protiprávní skutečnost ve formě protiprávního jednání, jež je spojená s (předpokládaným) následkem příčinnou souvislostí.

Jednání může mít formu aktivního jednání – *konání*, i formu pasivní – *opomenutí* jednání, ke kterému je pachatel povinen (§ 112 tr. zákoníku).[32] Je-li opomenutí výlučným znakem objektivní stránky, hovoříme o *pravých omisivních deliktech*, v ostatních případech se jedná o *nepravé omisivní delikty* (komisivní spáchané *per omissionem*).[33]

Pravé omisivní delikty lze u některých majetkových/hospodářských trestných činů považovat za problematické, a to zejména tam, kde spočívají v nesplnění nějaké povinnosti vůči orgánu veřejné moci, bez aspektu klamu. Je totiž otázkou, zda by trestní represe měla být podpůrným, a někdy i zásadním opatřením při jejich vymáhání (např. neodvedení povinných plateb dle § 241 tr. zákoníku).[34]

Opomenutím spáchané trestné činy, jež jsou formulovány komisivně, se vyskytují u ekonomické kriminality velmi často (např. zamlčení podstatných skutečností u podvodu dle § 209 tr. zákoníku, opomenutí uložené povinnosti opatrovat cizí majetek u „nevěrné správy" dle § 220 tr. zákoníku, zkrácení daně nepodáním daňového přiznání u zkrácení daně dle § 240 tr. zákoníku apod.).[35]

Lze podotknout, že složitost některých formulací trestněprávních jednání je (zcela zbytečně) na újmu srozumitelnosti, a tím i právní jistoty adresáta práva.[36] Stejně tak působí nepřehledně,

[37] Byť byla při tvorbě TOPOZ zvažována i alternativa trestní odpovědnosti vázané na povědomí o trestné činnosti právního předchůdce – viz Důvodová zpráva k zákonu č. 418/2011 Sb., příloha k důvodové zprávě.
[38] K tomu: KOTLÁN (2019b), s. 190-191.
[39] Omisivní delikty jsou vždy založeny na zvláštním právním důvodu (zákon nebo smlouva). FEUERBACH a MITTERMAIER (1847), s. 50.
[40] KRATOCHVÍL (2012), s. 253.
[41] V dřívější době to byla např. skutková podstata trestného činu sankcionující dlužníka za nepodání návrh na konkurs (§ 126 trestního zákona č. 140/1961 Sb.). Byť, jak uváděla důvodová zpráva k novele trestního zákona č. 253/97 Sb., jež tuto skutkovou podstatu kodifikovala, je důvodem trestní odpovědnosti za toto jednání to, že „*zamlčováním pravého stavu svého postavení strhává do finančních potíží i další podnikatelské subjekty*" (Důvodová zpráva k zákonu č. 253/97 Sb., bod 10 (§ 126).
[42] Obzvláštní „paletou" variant trestněprávních jednání „disponuje" skutková podstata trestného činu porušení povinnosti učinit pravdivé prohlášení o majetku dle § 227 tr. zákoníku: komisivní jednání – odmítnutí splnění povinnosti, pravé omisivní – vyhýbání se povinnosti, a „čistě" komisivní jednání – uvedení lží.
[43] Viz např. v mnoha skutkových podstatách opakovaný obrat „*nepravdivé nebo hrubě zkreslené*" (speciální podvody dle § 210-212 tr. zákoníku, zkreslování účetnictví dle § 254 tr. zákoníku aj.), který lze nahradit prostým výrazem „lživé".

jsou-li některé definice příliš kazuistické, což je např. záležitost dvou skutkových podstat tzv. úpadkových deliktů (poškození věřitele dle § 222 tr. zákoníku a způsobení úpadku dle § 224 tr. zákoníku). Někdy dokonce ani samotný zákonodárce neví, proč vlastně určité jednání sankcionuje. To je po mém soudu případ „obohacení" skutkové podstaty trestného činu lichvy o jednání spočívající v *zneužívání lehkomyslnosti* (§ 218 odst. 1 tr. zákoníku), přičemž lehkomyslnost poškozeného naopak dříve trestní odpovědnost za lichvu vylučovala. To je ovšem v rozporu s principem, že trestní právo nechrání nikoho před sebou samým.[37]

Materiálně formální pojetí znaku *jednání* se může projevit v případě, kdy se toto blíží uplatnění některého soukromoprávního institutu, avšak s protiprávním přesahem. To je typické u trestného činu zpronevěry, kdy dispozice pachatele je v podstatě jen překročením smluvního oprávnění (např. zápůjčka vozidla pořízeného „na leasing" třetí osobě v rozporu s leasingovou smlouvou) či nesplněním zákonných podmínek určitého institutu (např. nesplnění všech podmínek pro uplatnění zadržovacího práva ve smyslu §§ 1395-1399 OZ[38]), nikoliv však materiálně pojímaným znakem (objektivní stránky) *přisvojení* (§ 206 odst. 1 tr. zákoníku).

Trestní odpovědnost postihuje nejen způsobení ***následku*** (*následek poruchový*) na chráněném zájmu (objektu), nýbrž i jen jeho ohrožení (*následek ohrožovací*). Podle Kratochvíla je postavení ohroženého objektu „*jiné, tedy změněné, ve srovnání s jinými objekty, trestným činem neohrožovanými*".[39] Ovšem porušení/ohrožení se vztahuje jen ke škodě přímé, tj. bezprostřednímu následku protiprávního jednání,[40] a skutečné, tj. zmenšení existujícího majetku.[41]

Majetková škoda, co by obvyklá podoba následku, je „nejvděčnějším terčem" materiálního pojetí formálních znaků trestného činu. Takže se především dovozuje, že trestní odpovědnost za majetkové trestné činy, které nemají stanovenou spodní hranici škody, se má odvíjet od materiálně vnímaného znaku *následku*, tj. od spodní hranice majetkových trestných činů obdobných.[42] Touto škodou nemusí být přitom nutně škoda nepatrná, ale např. i škoda nikoli malá, a to u úpadkových trestných činů způsobení úpadku dle § 224 tr. zákoníku a pletichy v insolvenčním řízení dle § 226 tr. zákoníku – analogicky k poškození věřitele dle § 222 tr. zákoníku resp. zvýhodnění věřitele dle § 223 tr. zákoníku. Zásadně však nutno odmítnout přístup, který se jeví převažující i např. v přístupu Ústavního soudu, že prostřednictvím subsidiarity trestní represe lze zabránit vyvození trestní odpovědnosti (tj. v otázce viny) i tehdy, převyšuje-li škoda způsobena trestným činem jasně stanovenou hranici škody nikoliv nepatrné jen mírně.[43] Takový výklad subsidiarity trestní represe, tedy mimo hranice zákonných znaků, je nepřípustný, neexistuje pro něj žádná argumentační opora a v konečném důsledku vede k nejistotě adresátů práva.

Orgány činné v trestním řízení mají někdy tendenci při objasňování ekonomické kriminality přeceňovat následek ve formě škody, aniž by zhodnotily veškeré ekonomické faktory nebo netrestněprávní stránku věci. Upnutí se na škodu, vycházející pouze z ceny obvyklé, lze zejména vnímat u porušení povinnosti při správě cizího majetku dle § 220 tr. zákoníku. V oblasti podnikatelské se tak tento přístup může dostat do rozporu s nedoceněním momentální

[44] Důkazem toho budiž následující výklad znaku *zneužívání lehkomyslnosti* Nejvyšším soudem: *„… v důsledku neschopnosti uvědomění si rozsahu a závažnosti důsledků plynoucích z jejího právního jednání, jež poškozená nebyla schopna sama adekvátně vyhodnotit, šlo tedy o ledabylost a lehkomyslnost, když poškozená nevěnovala dostatečnou péči ochraně svých zájmů*." Usnesení Nejvyššího soudu ČR ze dne 21. 3. 2017, sp. zn. 4 Tdo 225/2017. Zavedení zákonného znaku „lehkomyslnost" přitom nebylo zákonodárcem nijak zdůvodněno – viz Důvodová zpráva k zákonu č. 40/2009 Sb., komentář k §§ 216-219.
[45] Viz Nález Ústavního soudu ČR ze dne 22. 12. 2004, sp. zn. II. ÚS 372/03.
[46] KRATOCHVÍL (2012), s. 259.
[47] TICHÝ a HRÁDEK (2017), s. 103-104. Viz kritéria pro stanovení výše škody dle § 137 tr. zákoníku.
[48] Tamtéž.
[49] Stanovisko kolegia NS ČR, sp. zn. Tpjn 301/2012.
[50] Nález Ústavního soudu ČR ze dne 26. 5. 2020, sp. zn. Pl. ÚS 46/18.

ekonomické situace, ve které se obchodní společnost nachází;[44] u jednání samosprávných orgánů se zase ne vždy zohledňují i jiná než ekonomická kritéria.[45]

V souvislosti s majetkovými a hospodářskými trestnými činy je na místě upozornit na to, že se přísnější trestní odpovědnost, tj. kvalifikovaná skutková podstata může odvíjet nejen od výše škody ale i prospěchu. Výše prospěchu ovšem musí být stanovena s ohledem na danou skutkovou podstatu trestného činu, takže se nemusí rovnat příjmu pachatele z trestné činnosti (např. prospěch pachatele z neoprávněného podnikání dle § 251 odst. 2 písm. b) nebo odst. 3 písm. b) tr. zákoníku[46]).

Příčinnou souvislostí je rozuměn fakt, že jednání musí být příčinnou následku, a to buď v tom smyslu, že by bez něj následek nenastal vůbec, nebo nastal, ale podstatně jinak.[47] Z korektivů příčinné souvislosti (objektivní korektivy, jež jsou prezentovány „*gradací*" a „*umělou izolací*", a subjektivní korektiv, jež předpokládá „pokrytí" příčinného vztahu jeho zaviněním),[48] se objevuje při posuzování ekonomické kriminality problém s korektním vyhodnocením gradace příčinné souvislosti u podvodných jednání. Pokud totiž poškozený svým jednáním, které se vymyká, i v dané situaci, rámci „*běžné péče a opatrnosti*" (§ 4 odst. 1 OZ), nebo v případě jednání (poškozeného) podnikatele bez „*znalosti a pečlivosti, která je s jeho povoláním nebo stavem spojena*" (§5 odst. 1 OZ), lze stěží tvrdit, že následek (způsobení škody) je důsledkem klamavého jednání pachatele. Spíše by se dalo hovořit o tom, že škoda je v příčinné souvislosti se zjevnou neopatrností poškozeného. U trestného činu podvodu dle § 209 tr. zákoníku např. tehdy, pokud se poškozený cítí být oklamán tím, že mu byla zatajena právní vada na nemovitosti, která je ovšem zřejmá z veřejně přístupného katastru nemovitostí. U kvalifikované skutkové podstaty trestného činu úvěrového podvodu dle § 211 tr. zákoníku, jež sankcionuje způsobení škody úvěrující společnosti v důsledku uvedení nepravdivých údajů žadatelem o úvěr (např. neověření zaměstnání a příjmu či finanční situace tvrzených zadluženým žadatelem), lze v určitých případech dovozovat nenaplnění příčinné souvislosti právě z důvodu neprofesionálního přístupu úvěrující společnosti. Způsobená škoda je tak zde v příčinné souvislosti se zjevně neprofesionálním přístupem úvěrujícího, nikoliv lži uváděné žadatelem.[49]

Z jiného úhlu pohledu na zmíněná podvodná jednání lze zpochybnit i materiální naplnění znaku objektivní stránky *jednání*. Pokud totiž klamavost jednání nespočívá, řečeno soukromoprávní terminologií, ve skryté vadě, nýbrž v klamu snadno odhalitelném, je společenská škodlivost *jednání* nízká.[50]

Tyto „formálně materiální názory" na příčinnou souvislost podporuje i nález Ústavního soudu, který říká, že trestní právo „*nemůže sloužit jako prostředek nahrazující ochranu práv a právních zájmů jednotlivce v oblasti soukromoprávních vztahů".*[51] Obdobně pak judikuje Nejvyšší soud, že v případě, kdy „*poškozený svou zjevnou neopatrností, které se mohl snadno vyvarovat, přistoupil k nejisté finanční dispozici a vynaložil finanční prostředky, pak se s důsledky této nejistoty musí také vypořádat sám, a to za použití prostředků soukromého práva".*[52]

[51] Např. nutnost prodat určitý majetek v krátké době, byť „pod cenou", aby se zachovala provozuschopnost společnosti.
[52] Např. povinnost zohlednit zájem obce ve smyslu § 2 odst. 2 zákona č. 128/2000 Sb., o obcích, ve znění pozdějších předpisů. Ovšem odchylku od tržní ceny musí příslušný orgán při prodeji/nákupu majetku odůvodnit (K tomu viz Rozsudek Nejvyššího soudu ze dne 15. 11. 2010, sp. zn. Cdo 3950/2010 nebo VICHEREK (2017), s. 127-128.
[53] Tím je čistý prospěch, tj. čistý výnos z podnikání. ŠÁMAL (2010), s. 2330.
[54] KRATOCHVÍL (2012), s. 262.
[55] Tamtéž, s. 263-265.
[56] Nebál bych se dokonce tvrdit, že odpovědná osoba ve společnosti se mohla za určitých okolností dopustit i trestného činu porušení povinnosti při správě cizího majetku dle § 220 tr. zákoníku.
[57] Požádá-li mě osoba nevalné existence v pokročilé noční hodině v restauračním zařízení o půjčku 10.000 Kč a já jí půjčím, stěží můžu tvrdit, že jsem byl, nebude-li mi půjčená částka „nečekaně" vrácena, podvodně oklamán.
[58] Nález Ústavního soudu ČR ze dne 23. 3. 2004, sp. zn. I ÚS 4/2004.
[59] Usnesení Nejvyššího soudu ČR ze dne 25. 5. 2010, sp. zn. 7 Tdo 486/2010.

VII. Objekt (chráněný zájem)

Objekt je hodnotou, které trestní právo poskytuje ochranu, tedy (abstraktní) celospolečenský (právní) statek. Tato ochrana je přitom dosti „hluboká“, neboť se týká nejen jednání způsobujícího na chráněném zájmu škodu, nýbrž i jen ohrožení pokusem trestného činu (§ 21 tr. zákoníku), a za určitých okolností i jeho přípravou (§ 20 tr. zákoníku). Oproti soukromoprávní odpovědnosti je navíc poskytována ochrana i řádnému fungování orgánů veřejné moci (např. trestný čin porušení povinnosti v insolvenčním řízení dle § 225 tr. zákoníku chránící výkon funkce insolvenčního správce) či hodnotám abstraktním (např. trestný čin neoprávněného podnikání dle § 251 chránící dodržování rovných podmínek v podnikatelském prostředí).

Objekt se u některých skutkových podstat „zhmotňuje“ v podobě (fakultativního) znaku *předmět útoku*, např. „*cizí věc*“ u trestného činu zpronevěry dle § 206 tr. zákoníku, „*cizí majetek*“ u „nevěrné správy“ dle § 220 či § 221 tr. zákoníku[53] nebo „*daň“* u zkrácení daně dle § 240 tr. zákoníku.

Objekt bývá dále tříděn podle míry abstrakce – na *objekty obecné, rodové, druhové, skupinové, individuální* a *konkrétní*, a podle preference významu ochrany v dané skutkové podstatě – na *objekt primární* a *sekundární*.[54]. Z této kategorizace nás zajímá zejména druhový a skupinový objekt, jež do značné míry určují systematické zařazení trestného činu ve zvláštní části trestního zákoníku, individuální objekt, jako důležitý činitel pro určení/vyloučení jednočinného souběhu trestných činů, a odlišení objektu primárního od sekundárního.

Druhový a skupinový objekt jsou faktorem systematiky trestního zákoníku, avšak nutno poznamenat, že minimálně u majetkových a trestných činů není třídění důsledné. Mezi majetkové trestné činy jsou řazeny i skutkové podstaty, které se týkají ochrany majetku jen velmi nepřímo – např. již zmíněné trestné činy porušení povinnosti v insolvenčním řízení dle § 225 tr. zákoníku a porušení povinnosti učinit pravdivé prohlášení o majetku dle § 227 tr. zákoníku, chránící činnost příslušného orgánu (insolvenčního správce, soudu, správce daně aj.) nebo „kybernetické“ trestné činy dle §§ 230-232 tr. zákoníku, chránící zejména integritu počítačového systému; v případě dotačního podvodu dle § 212 tr. zákoníku, jež chrání zejména finanční prostředky z veřejných zdrojů, by bylo zase vhodnější zařazení k trestným činům hospodářským (podobně jako u poškození finančních zájmů Evropské unie dle § 260 tr. zákoníku).

Problematika jednočinného souběhu trestných činů je u ekonomické kriminality dosti složitá. V této souvislosti pouze zmíním, že identifikace a určení významu individuálního objektu u konkurujících skutkových podstat, tedy, která z nich je speciální či obecná, přednostní či subsidiární může být pro rozsah trestní odpovědnosti klíčové.[55]

Pokud se týká rozlišení objektu primárního a sekundárního, tak u hospodářských trestných činu, je určitým problémem identifikace všech objektů a jejich odlišení od sebe, a to pro nepochybné prolínání ochrany řádného fungování tržního hospodářství s ochranou majetku. Zvlášť výrazně se to projevuje u „sběrné“ skutkové podstaty trestného činu zkreslování údajů o stavu hospodaření a jmění dle § 254 tr. zákoníku, jež často funguje nejen jako ochrana řádného vedení účetnictví, ale i majetku poškozených soukromých osob (dotčených např. neprokázanou

[60] I zde se objevuje určitá nedůslednost zákonodárce, která má po mém soudu zásadní vliv na trestní odpovědnost: *Majetkem* je ve smyslu § 495 OZ „souhrn všeho, co osobě patří“ (důvodová zpráva k občanskému zákoníku k tomu upřesňuje, že majetek je „*souhrn věcí, práv a jiných majetkových hodnot*“. Důvodová zpráva k zákonu č. 89/2012 Sb., komentář k § 495) a teprve pod pojem *jmění* jsou kromě majetku subsumovány i dluhy. Z toho pak vyplývá, že se trestného činu „nevěrné správy“ nelze dopustit opomenutím, v jehož důsledku se zvětší dluhy na opatrovaném majetku.

[61] KRATOCHVÍL (2012), s. 268-269.

[62] Viz vztah trestných činů zkrácení daně dle § 240 tr. zákoníku kontra porušení/padělání kontrolních pásek nebo nálepek dle § 244 resp. § 245 tr. zákoníku, zkrácení daně kontra zkreslování účetnictví dle § 254 tr. zákoníku, poškození věřitele dle § 222 tr. zákoníku kontra poškození cizí věci dle § 228 tr. zákoníku atd.

zpronevěrou dle § 206 tr. zákoníku) – viz dikce „*ohrozí tak majetková práva jiného"* (§ 254 odst. 1 tr. zákoníku). U trestných činů chránících duševní vlastnictví (§§ 268-271 tr. zákoníku) lze dokonce zásah do majetkových práv vyplývajících z duševního vlastnictví chápat jako významnější (tedy by majetek mohl být objektem primárním), než narušení hospodářství.

I objekt, případně předmět útoku, musí být samozřejmě dostatečně „podpořen" materiálním vyjádřením. Nedostatečnost společenské škodlivosti objektu/předmětu útoku lze konstatovat např. u (trestněprávně relevantních) skutků vlastníků a zároveň statutárních zástupců obchodních společností. Osoba, která provede protiprávní dispozici s majetkem společnosti, jejímž je ovšem 100% vlastníkem, lze stěží považovat za pachatele trestného činu zpronevěry (§ 206 tr. zákoníku) či „nevěrné správy" (§ 220 tr. zákoníku), neboť „materiálně" vlastně zasáhla (v konečném důsledku) jenom svůj majetek.[56] Argument o rozdílnosti majetku právnické osoby (společnosti) a osoby fyzické (vlastníka společnosti) podporující závěr o trestní odpovědnosti, tj. úsudek o materiálním naplnění formálního znaku objekt/předmět útoku, není ve smyslu § 12 odst. 2 tr. zákoníku rozhodně dostatečný.[57]

Podobně lze pochybovat o porušení chráněného zájmu spočívajícího v zákazu konkurence[58] u trestného činu zneužití postavení v obchodním styku u § 255a tr. zákoníku (tzv. insider trading), kterého se měl dopustit 100% vlastník obou společností (tj. té, které měla z porušení zákazu konkurence prospěch, i té, která tím byla dotčena). Porušení zákazu konkurence, které nikomu neuškodilo a nikomu nepřineslo prospěch (aktiva si vlastně vlastník přesunul „z jedné kapsy do druhé"), lze totiž stěží považovat za společensky škodlivé.

VIII. Subjektivní stránka (zavinění)

Subjektivní stránka, vyjádřena obligatorně z*aviněním*, je psychickým vztahem pachatele ke spáchanému skutku, tedy zaviněným naplněním zákonných znaků. Vzhledem k tomu, že se zavinění musí vztahovat ke všem znakům trestného činu, nutno odmítnout přístup, který zužuje zavinění pouze na *jednání*, nikoliv však na *následek*. Příkladem toho budiž podvodné vylákání půjčky (viz trestný čin podvodu dle § 209 tr. zákoníku), které ovšem bylo zajištěno zástavním právem k nemovitosti, jejíž hodnota převyšovala výši půjčky. Zde stěží hovořit o tom, že následek (způsobení škody) byl „pokryt" úmyslem žadatele.

Tradičně rozlišujeme (§§ 15-16 tr. zákoníku) zavinění ve formě úmyslu (přímého či nepřímého) nebo nedbalosti (vědomé či nevědomé). K tomu byla v nedávné době přidána i forma nedbalosti hrubé (§ 16 odst. 2 tr. zákoníku), která je vyjádřením vyšší míry nedbalosti (bezohlednosti), ať už nedbalosti vědomé či nevědomé.[59]

Pro trestní odpovědnost je nutné zavinění ve formě (jakéhokoliv) úmyslu, pokud daná skutková podstata výslovně nevyžaduje zavinění nedbalostní (§ 13 odst. 2 tr. zákoníku). Nedbalostní zavinění lze v případě ekonomické kriminality identifikovat u „nevěrné správy" dle § 221 tr. zákoníku a způsobení úpadku dle § 224 tr. zákoníku, a to v míře nedbalosti hrubé. Mám za to, že v obou případech, s ohledem na to, že objektem trestného činu je majetek, se jedná o nedůvodně přepjatou trestní represi a nadbytečnou kriminalizaci podnikatelských aktivit.

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[63] Pokud by se vlastník společnosti rozhodl ukončit existenci společnosti, případně by byla ukončena z důvodů na něm nezávislých, náležel by mu veškerý její (čistý) majetek – viz příslušná ustanovení o vypořádacím podílu či uvolněném podílu dle § 30 a násl., §§ 214-215 zákona o korporacích)

[64] Chybně resp. nedostatečně takto argumentoval Nejvyšší soud při podpoře důvodnosti odsouzení za trestný čin zpronevěry. Usnesení Nejvyššího soudu ČR ze dne 26. 6. 2013, sp. zn. 5 Tdo 575/2013.

[65] TERYNGEL (1998), s. 85.

[66] KRATOCHVÍL (2012), s. 277. V římském právu byla hrubá nedbalost vykládána jako „*neopatrnost až nepochopitelná, kdy někdo udělá něco, co by jiný neudělal*," což je dále prezentováno autory na příkladu opatrování vzácného kaktusu: „*Venku je slunný den, ale mrzne jen praští. Vím, že kaktus má rád slunce a proto jej vystavím na otevřenou terasu"*. KINCL, URFUS a SKŘEJPEK (1995), s. 112.

Naproti tomu u kvalifikovaných skutkových podstat postačuje pro trestní odpovědnost za závažnější následek, typicky vyšší škoda či prospěch, nedbalost, není-li výslovně uvedeno jinak (§ 17 tr. zákoníku).

V ekonomické kriminalitě se objevují „hraniční případy" (ne)naplnění subjektivní stránky trestného činu u již zmíněného „Bílého pěšce", a to při „přepisu" obchodní společnosti na jeho osobu, potvrzení neexistujících obchodních operací apod. Absenci požadované formy zavinění lze konstatovat tehdy, jedná-li „Bílý pěšec" kulpózně nebo ve skutkovém omylu negativním (§ 18 odst. 1 tr. zákoníku), což se v případě nevědomé nedbalosti nevylučuje.[60] To v zásadě znamená, že si není vědom, jaké právní jednání činí (např. má za to, že se podpisem listiny stává zaměstnancem společnosti).[61] Naproti tomu ovšem je trestně odpovědnou osoba, která svým lhostejným výkonem funkce statutárního orgánu přispěla k trestněprávnímu následku (např. zkrácení daně podpisem fiktivních faktur).[62]

V oblasti samosprávy lze identifikovat případy nedostatku zavinění v důsledku skutkového omylu ve smyslu § 18 odst. 1. tr. zákoníku, a to tehdy neměl-li jednající zastupitel (např. při hlasování o určitém rozhodnutí/opatření) žádné relevantní signály, že by určité odborné podklady, včetně právních byly nesprávné.[63]

Ve vztahu k trestní odpovědnosti právnické osoby se objevují určité tendence hledat jakési zavinění, tj. „vinu" právnické osoby v „*zanedbání povinné péči*",[64] což považuji za přístup nesprávný. Trestní odpovědnost právnické osoby, co by důsledek přičitatelnosti za jednání fyzické osoby, je sice výrazem deficitu kontrolní a řídící činnosti, a zavinění může vycházet i z objektivizovaného standardu náležité péče, avšak stále se nejedná o subjektivním pochybení ve vztahu ke konkrétnímu skutku. To by totiž ve svém důsledku mohlo vést k závěru, že jakási obecná nedbalost právnické osoby je subjektivní stránkou (zpravidla) úmyslných trestných činů, spáchaných osobou fyzickou.

IX. Závěr

Stanovit trestní odpovědnost za ekonomickou kriminalitu je v mnoha případech nejednoduchou záležitostí. Předložená práce se pokusila nastínit základní aspekty trestní odpovědnosti, které ji vystihují jako výraz reakce společnosti (veřejné moci) na spáchání nejzávažnější protispolečenských jednání, tj. trestných činů. Nebylo přitom smyslem komplexně vyložit všechny významné faktory trestní odpovědnosti, nýbrž jenom/zejména ty, jež jsou pro závěr o (ne)odpovědnosti za ekonomickou kriminalitu rozhodující. Stranou přitom nemohla zůstat ani trestní odpovědnost právnických osob, neboť ta je úzce spojená právě s trestnou činností v oblasti podnikání. Nebyl zde přitom prostor pro (zevrubnější) výklad některých souvisejících problémů (např. právní a skutkový omyl, okolnosti vylučující protiprávnost, zánik trestní odpovědnosti účinnou lítostí či konkurence trestných činů), které by si zasloužily spíše samostatné pojednání.

[67] KRATOCHVÍL (2012), s. 296.
[68] U osoby, která „*za určitou odměnu uskuteční právní jednání, jehož obsahu neporozuměla, nelze bez dalšího dospět k závěru o jejím úmyslném zavinění*". Usnesení Nejvyššího soudu ze dne 1. 4. 2015, sp. zn. 3 Tdo 1045/2014.
[69] Závěr o nepřímém úmyslu ve smyslu § 15 odst. 1 písm. b) tr. zákoníku tak lze učinit „*v případě, že pachatel formálně přijal funkci statutárního orgánu v obchodní společnosti, záměrně setrvával v tomto postavení, aniž působnost statutárního orgánu fakticky vykonával, a o další průběh podnikání se nezajímal. V takovém případě jde o takový typ lhostejnosti, který byl výrazem jeho kladného vztahu ke vzniku trestněprávně významnému následku*". Usnesení Nejvyššího soudu ČR ze dne 25. 11. 2008, sp. zn. 7 Tdo 1396/2008. Nehledě k tomu, že ten, kdo se stal členem voleného orgánu, se ve smyslu § 159 odst. OZ zavázal vykonávat funkci „*s potřebnými znalostmi a pečlivostí*".
[70] VICHEREK (2017), s. 129 a Usnesení Nejvyššího soudu ČR ze dne 19. 1. 2011, sp. zn. 5 Tdo 848/2010.
[71] JELÍNEK (2016), s. 16.

Prezentací konkrétních příkladů/případů jsem se pokusil ilustrovat zvolený náhled na interpretaci jednotlivých faktorů trestní odpovědnosti za ekonomickou kriminalitu, zejména tedy (formálně materiálním přístupem nahlížených) zákonných znaků trestného činu.

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SOCIAL ENTREPRENEURSHIP IN THE VISEGRAD GROUP COUNTRIES: A SYSTEMATIC LITERATURE REVIEW

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Abstract

The aim of this paper is to explore the research interest of scientific articles authors in the concept of social entrepreneurship in the Visegrad Group countries. To explore it, the methodological approach of a systematic literature review is used. In total, 44 scientific articles from Web of Science and Scopus database were analyzed. The research shows most of the analyzed articles deal with social entrepreneurship in the Czech and Polish context. The articles are placed in journals published by institutions based in the V4 countries as well as by institutions located outside these countries. Four key research topics that are addressed in the aricles were identified. These topics are social entrepreneurship from the perspective of rural development, social entrepreneurship from the perspective of its conceptualization, social entrepreneurship from the perspective of its performance and social entrepreneurship from the perspective of personality traits of social entrepeneurs and managers.

Keywords

Social Entrepreneurship, Visegrad Group Countries, The Czech Republic, Slovakia, Poland, Hungary

I. Introduction

According to the social entrepreneurship concept, social enterprises are entities that develop economic activity, they are economically self-sufficient and have a positive social impact. In the case of for-profit social enterprises, following a socially beneficial goal is as important as pursuing a profit. In the European Union countries, the so-called work integration social enterprises prevail. These enterprises orient their positive social impact into the area of employing disadvantaged groups of people in the labor market. At the same time, however, there are differences in the conceptualization of social entrepreneurship in the EU countries. These differences relate mainly to the regulation of social entrepreneurship. Some countries have already included acts regulating social entrepreneurship and its support in their legislation, some have not yet. It is not different in the V4 countries. Although the V4 countries share a common history, they cooperate in a number of areas, the conceptualization and support of social entrepreneurship differ in these states.

In the Czech Republic, social entrepreneurship has not yet been regulated. Currently, the act on social entrepreneurship is being drafted in the Czech Republic. According to this draft, two types of social enterprises should work in the Czech Republic. These two types are represented by „general social enterprise“ (social purpose of this enterprise will not be specified in the act) and „work integration social enterprise“ (this enterprise must employ at least 30% of disadvantaged people out of the total number of its employees). Although it is not possible to determine how many social enterprises currently exist in the Czech Republic, the database of the Ministry of Labor and Social Affairs of the Czech Republic provides at least limited information. In this database, currently 267 social enterprises are listed. The TESSEA (Thematic Network for Social Economy) definition in the Czech Republic serves to orientatively determine whether an enterprise could be labeled as social or not.

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Slovakia is the only V4 country that has already implemented the act on social entrepreneurship into its legislation. Act 112/2018 Coll. on social economy and social enterprises distinguishes three types of social enterprises: work integration social enterprise, social enterprise providing social housing and general social enterprise. The act also defines the types of support that registered social enterprises can receive. In July 2020, 163 social enterprises were registered in Slovakia. In Poland and Hungary, social entrepreneurship is not regulated by law. However, activities that are being developed in Poland could lead to the creation of a valid law. These activities are represented by these documents: the National Programme for Social Economy Development and the draft of the Legal Act on Social Enterprise.

In the development of social entrepreneurship in the V4 countries, academia can play an important role. It is essential to precisely define the concept of social entrepreneurship, to identify its key stakeholders and to determine the impact of social entrepreneurship on society. In these areas, academia could be helpful.

The aim of this paper is to explore the research interest of scientific articles authors in the concept of social entrepreneurship in the Visegrad Group countries. I will focus on how many scientific articles on social entrepreneurship topic in the Czech, Slovak, Polish and Hungarian context have been published in recent years, in which journals the articles appeared most frequently, in what languages are these articles written and what methodological approach is used in the articles. Moreover, I will try to reveal what are the key research topics presented in these articles and, on contrary, I will dicsuss what possible areas are not covered.

The article is structured as follows. After the introduction, methodology and research questions are introduced. In the third chapter, the results of a systematic review are presented. In the discussion, other topics that articles could address are briefly mentioned.

II. Methodology and Research Questions

As mentioned above, the paper deals with the research interest of scientific articles authors in social entrepreneurship in the Czech, Slovak, Polish and Hungarian context. To explore it, I use the methodological approach of systematic literature review. Snyder (2019) defines a systematic literature review as an approach thats main purpose is to synthesize and compare evidence using specific research questions and systematic search strategy. In case of this article, the research questions are as follows:

- RQ1: How many scientific articles on the topic of social entrepreneurship in the context of individual Visegrad Group countries have been published in the last 10 years?
- RQ2: In which journals the articles appeared most frequently and in what language are these articles written?
- RQ3: What are the key research topics introduced in the articles?
- RQ4: What methodological approaches are used in the articles?

My approach is inspired by Bansal, Garg and Sharma (2019), Rey-Martí, Ribeiro-Soriano and Palacios-Marqués (2016) and Short, Moss and Lumpkin (2009). These authors used the method of a systematic literature review to research the interest of scientific literature in social entrepreneurship context. Bansal, Garg and Sharma (2019) analyzed and reviewed 173 scientific papers from Web of Science database from the perspective of publication year, coverage (developed countries, developing countries), dimensions (economy-related, environment-related, social issues-related), methodology, themes and contribution.

Rey-Martí, Ribeiro-Soriano and Palacios-Marqués (2016) used Web of Science database to determine the research areas with the greatest research output, the countries and languages responsible for most social entrepreneurship research, the year in which research on social

entrepreneurship began, the journals that publish most research, and the most relevant authors with publications on social entrepreneurship.

For the systematic literature review, I chose BOOLEAN operators as the method for selection of appropriate scientific articles. These articles were searched not only in the Web of Science database, but also in Scopus. Conference papers and book chapters are not included in the review. BOOLEAN operators define logical relationships between terms in a search and they are used in systematic literature reviews (e. g. Henry, Foss & Ahl, 2015, Casimir & Tobi, 2011, Bansal, Garg & Sharma). The systematic search was conducted from May to June 2020 and it included articles that have been published in last 10 years, i.e. from 2010 to 2020.

The following keywords and the following BOOLEAN operators were used to select scientific documents for systematic literature review:

("social entrepreneurship" or "social enterprise" or "social enterprises“ or "social entrepreneur" or "social entrepreneurs“ or "social business") and "czech"

("social entrepreneurship" or "social enterprise" or "social enterprises“ or "social entrepreneur" or "social entrepreneurs“ or "social business") and "slovak"*

("social entrepreneurship" or "social enterprise" or "social enterprises“ or "social entrepreneur" or "social entrepreneurs“ or "social business") and ("poland" or "polish")

("social entrepreneurship" or "social enterprise" or "social enterprises“ or "social entrepreneur" or "social entrepreneurs“ or "social business") and ("hungary" or "hungarian")

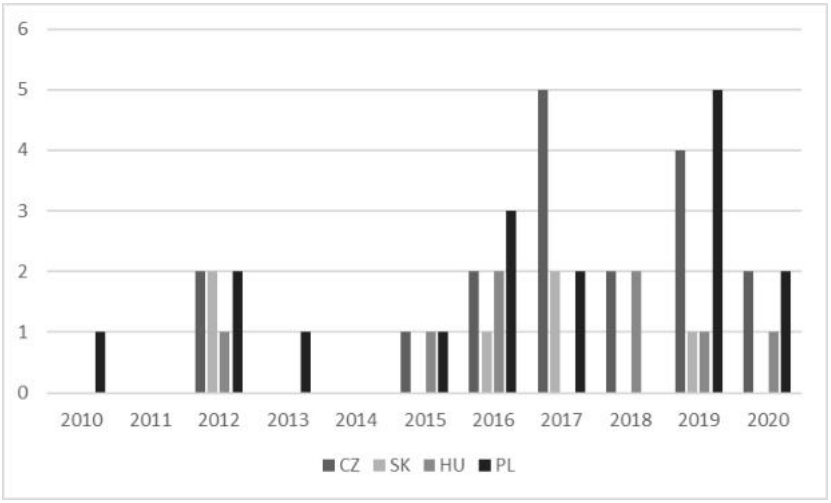
One might argue that the BOOLEAN does not contain the phrase "social economy". In this case, however, I focus exclusively on social enterprises, which I perceive as one of the actors within the social economy. In this way and after the exlusion of articles where social entrepreneurship is only marginal topic, I have identified a total number of 44 scientific articles. These articles were further analyzed.

III. Results

Articles Publication Frequency

In the period from 2010 to June 2020, 44 scientific articles on the topic of social entrepreneurship in the Czech, Slovak, Polish and Hungarian context have been published and included in WoS and Scopus database. Some of these articles covered more than one Visegrad Group country. Figure 1 shows the articles publication frequency in recent 10 years.

Figure 1 Articles publication frequency in recent 10 years (2010 – June 2020)



Source: own processing

Only in Slovakia, social entrepreneurship has a legislative background. Surprisingly, only 6 articles on the topic of social entrepreneurship in Slovak context have been published. On the contrary, most articles focused on social entrepreneurship in Czech (18 articles) and Polish (17 articles) context. The first article concerning social entrepreneurship in one of the V4 countries was published in 2010. However, in general, the articles have been published more regularly since 2015. It should be added that the graph takes into account only the first half of 2020 and it can be expected that more articles will be published in this year.

Journals and Language of Publication

In the next step, I found out the analyzed articles were published in 34 different journals. Table 1 contains the journals in which most articles dealing with social entrepreneurship in V4 countries were issued.

Table 1 Journal titles with the highest number of articles

Journal title	Publisher's country	Number of aricles
Civil Szemle	Hungary	5
Administrative Sciences	Switzerland	2
Comparative Economic Research	Poland	2
European Countryside	the Czech Republic	2
Journal of Social Entrepreneurship	UK	2
Scientific Papers of the University of Pardubice	the Czech Republic	2
Sociologia	Slovakia	2
Voluntas	USA	2

Source: own processing

Most articles on the topic of social entrepreneurship in the context of V4 countries were published in Civil Szemle journal. The journal has been published in Hungary since 2004 and it focuses on nonprofit sector and civil society which creates space for social entrepreneurship research. In the table, Journal of Social Entrepreneurship is the only platform specializing exclusively in social entrepreneurship. Two articles dealing with social entrepreneurship in Czech context were issued in this journal. These articles focuse on performance of Czech social enterprises (Asmalovskij, Sadílek, Hinčica, Mizerová, 2018) and the identification of barriers to social entrepreneurship development in the Czech Republic (Pelucha, Kourilova, Kveton, 2017). The same number of articles were published in Voluntas journal. In general, Voluntas is mentioned by Short, Moss and Lumpkin (2009) as domain journal publishing social entrepreneurship research.

With six exceptions, the articles were published in English. This fact confirms the findings of Rey-Martí, Ribeiro-Soriano and Palacios-Marqués (2016) who identified English as the dominant language of social entrepreneurship publications. The rest of articles are written in Czech, Hungarian, Polish, Slovak and Croatian languages.

Key Research Topics

Within the systematic literature review, 4 key research topics that are addressed in connection with social entrepreneurship in the V4 countries were found. In case of this review, each key topic should be addressed in at least 4 articles. Representatives of articles covering these key topics are listed below.

Social Entrepreneurship from the Perspective of Rural Development

Social entrepreneurship from the perspective of rural development is one of the key research topics included in social entrepreneurship research in V4 countries context. This finding is in line with Bansal, Garg and Sharma (2019) who presented this topic within their systematic literature review focusing on social entrepreneurship as a tool to attain sustainable development.

Hudcova, Chovanec and Moudry (2018) compared social farming and social entrepreneurship streams in their article. They found out that these streams have a lot of common features, but, according to the approach to social entrepreneurship that prevails in the Czech Republic, it is not easy to determine which social farms can be considered as social enterprises in the sense of TESSEA definition (the definition was introduced at the beginning of the article). According to the authors, social farms represent a specific, unique, and multifunctional setting that supports alternative kinds of social integration in the countryside and participate in the sustainability of the site and the maintenance of traditional farming systems. The importance of social entrepreneurship and social farming as social inclusion tools in the context of rural development in the Czech Republic is highlighted also by Kucerova (2018). Rural social enterprises as solution to Roma people exclusion in Hungary were introduced by Mihaly (2019).

Chrenekova (2019) aimed to express the extent of social economy in terms of rurality of regions of the Slovak Republic. She found out the average number of social economy entities in rural districts of Slovakia is 12.71 per 10,000 inhabitants, 10.08 entities in intermediate districts and only 6.72 in urban districts. These conclusions point to a link between social enterprises and rural areas. According to Richter (2017), for rural regions, social enterprises prove to be important change makers, because they develop new solutions to social challenges and mobilise resources and support in networks and institutions that were rarely accessible for rural communities before their appearance. Dealing with the process of social innovations in rural regions and presenting four case studies of social innovations in Hungary, Kovacs, Varga and Nemes (2016) conclude that social enterprises could be the best way of social innovations‘ institutionalisation.

Social Entrepreneurship from the Perspective of its Conceptualization

In the European Union countries, approaches to social entrepreneurship differ. This creates space for publishing articles focusing on social entrepreneurship conceptualization.

Asmalovskij and Sadilek (2017) analyzed social enterprises in the Czech Republic and Slovakia based on their legal forms and activities. The authors conclude that the perception of social entrepreneurship in the Czech Republic and Slovakia is often narrowed down to the issue of employing disabled or otherwise disadvantaged people. The most common legal form of social enterprises in the Czech Republic and Slovakia are limited liability companies, but forms of non-profit organizations are also widely used. The economic activity of social enterprises is emphasized in the Czech and Slovak concept.

According to Praszkier, Petrushak, Kacprzyk-Murawska and Zabłocka (2017), Polish mission-oriented social enterprises from the early 90s are today joined by new social enterprises that follow their approach and in many cases incorporate economic sustainability as part of their social mission. This feature is typical for the Czech Republic and Slovakia, too. Also in Hungary, social enterprises not only come from the NGO-sector, but also from traditional cooperatives with some social functions, social cooperatives, and private companies with social aims (Szalai and Svensson, 2018). This statement is supported by Buchko (2018) who claims most social enterprises in Hungary are non-profit and state-owned ones. The non-profit sector includes foundations and associations, other non-profits, while the for-profit sector mostly consists of social cooperatives. According to the author, social entrepreneurship in

Hungary is designed to solve the most pressing social issues of society, mainly related to the low level of employment.

Social Entrepreneurship from the Perspective of its Performance

Asmalovskij, Sadilek, Hincica and Mizerova (2018) focused on identification of basic economic performance of Czech social enterprises. The authors worked with two dependent (profitability and productivity) and three independent variables (size, age and debt ration). Based on their statistical analyses, they revealed that high variance is present between the given social enterprises in productivity and debt-to-equity ratio. This could be explained by socially oriented and not for-profit nature of social enterprises. Further, the authors found out most Czech social enterprises are not profitable, nearly 40% of enterprises suffer financial losses. Significant positive correlation exists between profitability and productivity, as well as between size and age of social enterprises.

Prochazkova and Noskova (2020) aimed to investigate the issue of performance measurement of social enterprises with main particular focus on economic performance approach reflecting local aspec, which is important for social entrepreneurship concept. To achieve the goal, the authors used the methods of local multiplier 3 and Input-Output analysis. They revealed that the impact of social enterprises on the Czech economy is not negligible, but it differs in individual sectors and regions.

Olinski and Burchart (2013) tried to assess the effectiveness of financial aid, received by social cooperatives in Poland. The authors argue that the funds used in supporting social enterprises should not only bring profits to the social entrepreneurs but also it should be efficient from the public point of view. Based on a sample of 20 Polish social cooperatives they revealed the effectiveness of the financial activities of all surveyed cooperatives is 54%. However, at the same time, the authors point out that also non-financial performance, which refers to social objectives should be taken into account. For example, Krocil, Dopita and Pospisil (2019) focused on Czech social enterprises‘ performance from the point of view of employment policy.

Social Entrepreneurship from the Perspective of Personality Traits of a Social Entrepreneur and Managers

Pacut (2020) identified the factors that influence the involvement of individuals in social entrepreneurship in Poland. She defined several reasons that that lead to social entrepreneurship engagement. According to her findings, social entrepreneurs are affected by the following factors: social and personal advantages, public support, random events, norms and values, selffulfilment, social and family models, beliefs and ideas. Wronka-Pospiech (2016) explored the key competencies and optimal features of a manager running a social enterprise. The research was based on the sample of 100 Polish social enterprises. The author identified 10 critical competencies that are necessary for social enterprise managers. These competencies are: creative use of minimal resources, ability to create business plans and evaluate their feasibility, conflict resolution skills, ability to communicate with customers, suppliers, and other stakeholders, identifi cation with the idea, actors and activities of the social economy, confidence to succeed at challenging task, ability to manage administrative work, optimism, ability to identify social problems and ability to lead and develop others. This research can be linked to the study of Greblikaite, Sroka and Gerulaitiene (2016) who aimed to reveal how Polish university students perceive the development of skills and abilities gained during their university studies that are important for social entrepreneurship. According to Oancea, Pospisil and Drăgoescu (2017), in the new era of the knowledge society, education in general and particularly higher education is one of the most important determinants of the economic growth. It could be important also from the perspective of social entrepreneurship development.

Balgiashvili (2017) focused on comparison of entrepreneurial passion of social and commercial entrepreneurs in the Czech Republic. The author chose the questionnaire survey approach and obtained 119 responses from social entrepreneurs and 87 responses from commercial entrepreneurs. The entrepreneurial passion consisted of three domains: passion for innovating, passion for foundation and passion for development. The study didn't prove statistically significant difference between these two groups of entrepreneurs in relation to entrepreneurial passion.

Other Topics

Literary review also revealed a number of topics, which were dealt with in only 1-2 articles. These topics are not key in the context of social entrepreneurship in the V4 countries, so only some of them are mentioned in this subsection.

Pelucha, Kourilova and Kveton (2017) and Wildmannova (2017) researched barriers of social entrepreneurship development in the Czech Republic. In other V4 countries, this topic is not addressed. Mikolajczak (2020) examined the successful coexistence of the market logic and the social-welfare logic in Polish NGOs acting as social enterprises. Kubickova and Hodzic (2019) analysed the role of project management in Czech social enterprises. Bilan, Mishchuk and Pylypchuk (2017) searched for factors that influence the increase of number of social enterprises in the European countries including the Czech Republic, Hungary, Slovakia and Poland.

Methodological Approaches

In a detailed analysis of scientific articles, I identified three main methodological approaches. The authors use the methods of qualitative research, quantitative research or the documents have the character of conceptual articles. Structure of scientific articles according to methodological approaches used by their authors is showned in Figure 2.

Figure 2 Scientific articles structured by methodological approaches used by their authors

Source: own processing

Most of the analyzed documents have the character of conceptual articles. This is not surprising, as the boundaries of social entrepreneurship are still not clear and social entrepreneurship is still being developed in the V4 countries. This fact creates an opportunity for the publication of conceptual articles. Many of them fall into the second key topic – Social Entrepreneurship from the Perspective of its Conceptualization. These are, for example, the research of Hyanek (2012)

who described developments in Czech social economy in the institutional context of Czech national economy, or Praszkier, Petrushak, Kacprzyk-Murawska and Zabłocka (2017) who reviewed the development of the welfare system and social entrepreneurship in Poland, including the historical perspective. The conceptual article was written also by Szalai and Swensson (2018) who provided a thick analysis of how the long-term development of civil society in Hungary impacts the scope for the creation of a social economy.

The use of qualitative research appears especially in the first key research topic - Social Entrepreneurship from the Perspective of Rural Development. For example, Hudcova, Chovanec and Moudry (2018) conducted 15 in-depth interviews with stakeholders from Czech social farms. Kucerova (2018) applied content analysis to investigate how social inclusion was conceptualized in the main Czech rural development policy documents related to the EU. Richter (2019) implemented two case studies of Austrian and Polish social enterprises.

Quantitative research is typical for the third and fourth key research topics. Asmalovskij, Sadilek, Hincica and Mizerova (2018) collected financial data on 112 Czech social enterprises and applied multiple regression analysis to reveal how and what variables affect performance of Czech social enterprises. Olinski and Burchart (2013) calculated financial efficiency of social cooperatives in Poland. Wronka-Pospiech (2016) conducted a questionnaire survey of 100 Polish social cooperatives to indicate key competencies and optimal features of a manager running a social enterprise.

IV. Discussion

In the last chapter, the key research topics addressed in the scientific articles on social entrepreneurship in the V4 countries were introduced. However, there are several other topics that should be developed.

Although social entrepreneurship from the perspective of its performance was identified as the key research topic, no research concerning the Slovak context was found. Because Slovakia is the only V4 country that has introduced systematic support for social enterprises, it could be beneficial to measure whether this support is effective or not. Based on the research of this kind, other countries can be inspired by the Slovak example in terms of social entrepreneurship support adjustment.

Another research opportunity is offered by the current COVID-19 pandemic. Undoubtedly, crisis management of social enterprises differs from that used by conventional enterprises. According to experts from TESSEA, only a minimum of Czech social enterprises work systematically with crisis management. A similar situation could be in other V4 countries. The academia could help to create procedures on the basis of which social enterprises would implement their own crisis management systems. To create them, qualitative and quantitative research focused on the perception of risks by social entrepreneurs must be carried out.

Other topics related to social entrepreneurship, but not identified in this literature review, are offered by Bansal, Garg and Sharma (2019). These topics are: environmental and ecological considerations in social enterprises and financing and crowdfunding of social enterprises. The environmental perspective should be an integral part of social enterprises. How social enterprises in V4 countries take this perspective into account could be examined. The topic of social entrepreneurship financing could also offer a lot of research opportunities, as for example in the Czech Republic and Slovakia social enterprises exist in various forms (for-profit or non-profit organizations) which financing is different.

V. Conclusion

The aim of this paper was to explore the research interest of scientific articles authors in the concept of social entrepreneurship in the Visegrad Group countries. The systematic literature review revealed that most of the analyzed articles deal with social entrepreneurship in the Czech and Polish context. Social entrepreneurship in Slovakia and Hungary is less often represented in the articles. The articles are placed in journals published by institutions based in the V4 countries as well as by institutions located outside these countries. Thus, most of articles were published by Hungarian journal Civil Szemle, but journals from Switzerland, UK and USA are also interested in articles dealing with social entrepreneurship in the V4 countries. Based on systematic review, I identified four key research topics that are addressed in the articles. These topics are social entrepreneurship from the perspective of rural development, social entrepreneurship from the perspective of its conceptualization, social entrepreneurship from the perspective of its performance and social entrepreneurship from the perspective of personality traits of social entrepeneurs and managers. These topics are associated with typical methodological approaches used by the authors of the articles. Conceptual articles are the most common approach.

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THE PHENOMENON OF FLOW IN INNER GAME AS AN IMPORTANT PROTECTIVE FACTOR IN PERSONALITY RESILIENCE (2002-2020 LONGITUDINAL INTERNATIONAL QUALITATIVE STUDY)

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Abstract

The main objective of the study performed for a period of 19 years was to determine protective factors in participants from a troubled environment of primary families. The study was implemented at Czech, Slovak, Argentinian, Chilean and Spanish universities between 2002 and 2020 (Czech Republic – 21 participants, Slovakia – 11 participants, Argentina – 10 participants, Chile – 2 participants, Spain – 7 participants). The participants came from primary families at risk where the following reportedly occurred: low solidarity among family members, weak attachment between the parents and participants, low tendency to communicate together. There was prevailing authoritative father control and a lack of emotional support from the parents in stressful situations. The study is designed as qualitative. The participants were selected based on intentional selection. Four interviews per year were conducted with each participant. In total, there were 3,544 semi-structured interviews. Case studies were prepared on the basis of the interviews, providing closer details of important protective factors promoting a resilient personality. The data obtained were analysed using the ATLAS.ti 7 program. The phenomenon of flow showed to be the most important protective factor that the participants experienced repeatedly in the inner game, and in the management style applied by their supervisors, older colleagues or research partners.

Keywords

Personality Resilience, Primary Family, Risk Factors, Protective Factors, Flow, Inner Game

I. Introduction

The article is aimed at pointing out the possibility of developing personal resilience in participants that come from problematic primary families. A problematic primary family was considered a risk in the formation of a resilient personality. The participants described low solidarity between the primary family members and authoritative approach of the father to the children. Resilience is then understood as a process of good adaptation to such difficult conditions. We focused on university students who later, during the study (after completing their university studies), started working for various companies, institutions, universities (state and private). It was a longitudinal study implemented over a period of 19 years.

II. Risk and Resilience

Resilience means flexibility, resistance and hardiness. It is used in various fields of science. Personal resilience is the ability of an individual to cope with the consequences of stressful life situations and adversities. It is a process of good adaptation after experiencing a long-lasting difficult period, a period of risk that could happen suddenly, after many years of a happy life, but we can also speak of a good adaptation to a permanently existing negative situation

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(Lacková, 2019). Furthermore, it can be an adaptation to relationship problems, serious health problems, stressful work factors and financial issues. To be able to speak of resilience, two factors need to be present: exposure to unfavourable conditions (a kind of risk) and successful adaptation to such conditions (Luthar, Cicchetti, & Becker, 2000; Villalba Quesada, 2004; Luthar, Sawyer, & Brown, 2006). Sometimes, it is complicated to even define the risks (not only the term of *resilience*). The likelihood of maladaptation is expected during the effect of a risk (Šolcová, 2009; Schoon, 2006). Šolcová (2009, p. 13) also states that: "…risks are environmental stressors that increase the likelihood of maladaptation of a child, or negative consequences in the area of physical and mental health, school performance, social adaptation." Families that fail, where there is a lack of communication, mutual openness and respect, first have to determine the cause of the problem. When the cause is not determined and the family continues to live in its dysfunctional system, it is quite likely that the children will repeat this trend, unless they have an opportunity to experience another, constructive and positive lifestyle. Such a family is a risk to the child, the consequences of which the child might bear into their adulthood, as processed individually.

III. Flow as an Important Protective Factor

Finding protective factors that promote the formation of a resilient personality is currently a hot topic all over the world. Authors focus on describing the specific processes involved in the management of negative life circumstances. We focused on guiding the client through the process of inner game, which was a source of satisfaction for the participant in the given moment and during which he or she experienced flow.

At present, the experience of flow is considered to be one of the important factors that promote mental health. Even though it is frequently mentioned in positive psychology as a factor that can help establish and develop the state of comfort and subsequent satisfaction, it is not often mentioned in relation to personality resilience. Csikszentmihalyi (1997) characterises *flow* as a state of mind when the individual is immersed in the activity, while all the other feelings and thoughts remain away. In this experience, joy replaces boredom and interest suppresses the aversion to work. Emotions are fully activated, harmonised and coordinated with the task that the individual is solving. The characteristics of the experience of flow include a spontaneous joy while the individual is performing the activity, during which *flow* is experienced (Csikszentmihalyi 1993; 1997; 2017). Nakamura and Csikszentmihalyi (2002) characterise *flow* using indicators. According to them, the most important ones are: the positive impact of flow on the individual, the high level of activation, the existence of inner motivation, and the feeling of freedom. Furthermore, they state a full concentration on the activity as an important factor. The situation that the individual has a complete control of should not be new, unknown and threatening. It should be an activity that the individual knows. Thus, the individual does not need to concentrate on how to manage the situation, but can fully experience it. The state of *flow* is linked to a strong feeling of mental balance. It is a pleasant state, regardless of the objectives achieved. A number of psychological and physiological changes occur during flow: a change in the state of mind, affectivity and perception. The individual's attention is completely absorbed in the activity. *Flow* is not likely to occur when the individual is trying too hard to reach the objective and is not enjoying the activity itself, or the activity is not bringing anything to him or her. It cannot be induced by the will. On the contrary, too much effort is a huge obstacle in achieving the state of *flow. Flow* occurs in situations when the individual has a high level of knowledge, skill, and a clear and successfully achievable objective. The individual has to experience extreme concentration on the activity that removes all other barriers (disturbing information, fear, a feeling of weakness, physical pain and discomfort).

Flow can occur in various activities that, however, should differ from everyday ones, as the process of "discovering something new" must be in place. The activity has to be mastered well enough that the individual no longer has to concentrate on whether or not the actions are performed properly, but instead can focus on the activity as a whole. Csikszentmihalyi (2017) emphasises that in order to experience *flow*, the activity should not be performed for the first time. *Flow* is the optimal balance between an insufficient challenge (boredom) and an unachievable challenge (Csikszentmihalyi 1997). Sometimes, the *experience of flow* can occur randomly, but it is much more likely to occur as an outcome of a structured activity. The experience of the *state of flow* is related to the feeling that the individual is in charge of the activity, when he or she makes the decisions on how the activity evolves further. The *phenomenon of flow* is best experienced in a moment when work becomes a play.

IV. Supporting the Experience of Flow with the Inner Game Method

Concentration is a typical and substantial element of an excellent performance in any area, regardless of the skills and age of the individual performing the activity. The best performance is delivered when one concentrates. A concentrated attention enables learning and understanding, it is a key factor in learning, understanding and effective actions. There is no space for doubts and worries in full concentration. The person only lives in the activity (Gallwey, 2010; 2012). The method of inner game helps better implement changes in everyday life. It helps develop skills required for any activity. Many people want to change their approach to learning, to tasks, to issues, and thus achieve better results. Gallwey (2012) was the first one to mention this method in 1970s when he worked as a sports instructor. A sport performance can be watched directly, its quality determined right away, and its objectives are so precisely defined that any differences in the performance are more visible than in other areas of human activity (Gallwey, 2012). Education does not only mean to learn, but to put what we have learned into practice. It should help us get to the essence of understanding changes in the system of learning, and their significance, but also any potential risks, unless the change arises from the individual.

Students take guidelines given by teachers very seriously and they use them to check their activity. However, this does not respect their natural prerequisites to solve problems without a supervisor. This is how one is aware that it is better to be led by a teacher and his or her suggestions, or critical comments. Gallwey (2010) let the clients decide for themselves during the inner game. They decided what they would learn, they accepted their own decisions and the teacher was responsible for the quality of the external environment, in which the process took place. The teacher should ask the client what they want to learn and why, and help them as much as possible in their efforts. However, students are "used to" the model of learning based on instructions and checks and it is not easy for them to work with a new model that both provides and requires a much broader scope of own choice. When they find out that the teacher does not assess their decisions as good or bad, they accept the role of the one who makes decisions and who is, at the same time, responsible for the outcomes of the decisions made (Gallwey, 2010). The work with the client is done in a system of individual steps: defining the purpose of the session, the client defines their own challenges that motivate them to work (it can be the activity itself), regular assessments of the activity (or the individual points in which the client is getting better), dialogue about the activity, creation of other plans (suggestions) for the improvement of performance, and active practicing of the activity. In addition to other methods, the STOP method is also used in the sessions with the client to stop the unconscious effect of stress and to start thinking about it. The first part – stopping, becoming aware of the stress, thinking about what causes the stress, what really triggers the stressful reaction. The second part – "what the obstacles that I struggle with are, and what my options are". In the third part, the client focuses on the preparation of a plan and then, in the fourth part, the client

continues in the activity that stressed them out, but with a clear understanding of the entire situation (the stress is not a stress but an explained action, "why this thing is happening to me"). Discipline is not enough to make an individual concentrate (Lacková, 2017; 2019). It seems that the most important thing is to get rid of the worries about achieving the required result. Interest and motivation are closely connected, as well as the ability to concentrate. Concentration creates pleasant feelings and the work that is subsequently performed is good. A creative state of mind is established, required for the experience of the *state of flow*, as described by Csikszentmihalyi (1997; 2017).

V. Studying Flow during Inner Game

Research implementation method

We decided to use the method of intentional selection of participants for the study. In this method of selection, we looked for such participants that met our requirements. The students could only be included in the study when they met all the following postulates: they were university students in the last two years of a master study programme, they were willing to describe their lives in their primary families, and their primary families manifested problematic communication between the family members.

Suitable candidates were nominated according to the criteria. Interviews were made with the first participants. At the end of the interview, we asked them to nominate other people whom they knew and who met the criteria of participation in the study. That way, we gradually obtained a theoretically saturated sample formed by participants from several consecutive selections. The participants from the Czech Republic and Slovakia joined the study in 2002, when our South American colleagues announced their interest in studying resilience in 2004, the groups from Argentina and Chile joined in 2006 after the mutual cooperation had been established. Then, in 2007, a group from Spain joined the study. The shortest interview was an hour and a half long. The interviews took two hours on average. The interviews were recorded and then transcribed. The "Transcriber" program was also used (Lacková, 2019; 2015; 2014).

An integrated approach was used for processing the study results, especially for the analysis of the occurrence of flow in the participants. The same data collection methods can be used both in the quantitative and qualitative research (interview, observation, researching documents etc.), however, their application differs. While quantitative research reduces data by definition, qualitative research strives to record data in maximum abundance and process those using specific analytical procedures. Coding is at the centre of analytical procedures; it is an operation by which data are analysed, conceptualised and re-founded in new ways.

Research group

The longitudinal study only included 303 participants (180 men and 123 women) out of the total number of 2,031 participants (with whom we performed three introductory interviews about their primary families, a total of 6,093 interviews). The last research data collection (in April 2020) only included 51 participants (22 men and 29 women). The parents of all participants had university education. No parents were divorced or separated. The students were first addressed using a list. The list was placed on the notice board at the faculty entrance or next to the study department. Also, psychology lecturers had it available (when psychology was taught at the faculty). The youngest participant was 23 years old and the oldest was 31 years old.

Table 1 Number of Participants from the Individual Countries in 2020

Country	Men	Women	Number of participants	Study duration in years
Czech Republic	7	14	21	19
Slovakia	6	5	11	19
Argentina	5	5	10	15
Chile	1	1	2	15
Spain	3	4	7	14
Total	**22**	**29**	**51**	**-**

Source: own

Table 2 Faculties Attended by the Participants at the Beginning of the Study

Faculty	CZ	SK	Argentina	Chile	Spain	Total
Technology	4	1	2	1	-	**8**
Arts	6	6	2	-	7	**21**
Economy	9	2	4	1	-	**16**
Legal	2	2	2	-	-	**6**
Total	**21**	**11**	**10**	**2**	**7**	**51**

Source: own

Study participants' employment in 2020

Take note that the participants did not always work in their areas of study in 2020.

Czech group: 1 attorney's practice, 8 personnel department, 3 economics, 1 journalism, 8 translation

Slovak group: 2 attorney's practice, 4 journalism, 2 translation, 2 economics, 1 technical area

Argentinian group: 2 attorney's practice, 2 translation, 2 oenology, 3 economics, 1 technical area

Chilean group: 2 economic area

Spanish group: 4 tourism, 3 translation

All participants work at universities, at least part-time.

Method used to obtain research data – semi-structured interview

The method of semi-structured interview, built on a prepared list of topics, was selected for research data collection. Four (at least) meetings per year (every three months) were organised with each participant in order to do an in-depth interview. In total, 3,544 semi-structured interviews were implemented.

Method used in the analysis of the research material – explanatory case study

Explanatory case studies were selected in order to understand how each of the participants coped with the experience of a dysfunctional primary family and subsequently with its consequences in their lives. Case studies should expose the casual chain of the occurrence and mutual influence of the individual protective factors. The individual connections described by the participants might not seem to be important (at first glance), however, over the years of the study, even the smallest details of the participants' lives contributed to the result of their current effect. The data were analysed using the ATLAS.ti.7 program.

Research data processing method

The following are the stages of the analysis of the acquired data:

1. **Analysis of statements concerning the participants' experience.** The individual lines of the transcript are analysed.

2. **Recognition of topics surfacing in the material on experience.** Emphasising differences and similarities between individual data collections and between individual participants.

3. **Organisation of the material** into a form enabling to trace up a trajectory from the initial comments in the transcript to the final category structure.

4. **Writing the complete narration,** documented in detail by commented citations of raw data, or supplemented with visual aids in the form of diagrams, tables, for better orientation.

5. **Reflection on concepts** that the researcher used to enter the process of data acquisition and analysis and that appeared in the story (Lacková, 2017; 2019).

The coding process in research data analysis

The process of coding was used in the data analysis. We used the approach of Strauss & Corbin (2008) who mention coding as capturing the sequences and connections between various processes featured in the study.

The following was used:

Open coding

Open coding means creating terms that define the units of text. It means assigning names to events. The created terms are then categorised, which means that those that can be assigned to the same event are grouped together.[6]

Axial coding

Axial coding is a method that follows open coding. Its objective is to create a connection between categories and subcategories.

Selective coding

Selective coding includes the selection of one crucial category.

VI. Results of the Analysis of Data Acquired in the Interview

Flow in the inner game

The participants described a deep immersion in the inner game of the coaching interview. It was an activity that fulfilled them. They lost track of time. The activity has a positive impact on their personality, as well as on achieving the required result. The activity itself made them feel good – the form of the coaching interview and particularly the work with the STOP method – not only the achieved objective, which was a subsequent improvement of work results.

[6] We started open coding with a data analysis. We used a meaning unit as a coding unit and we coded the interview transcripts line by line. The codes were then categorised.

Table 3 Flow in Inner Game in Participants from 2002 to 2020

	2002	2004	2006	2008	2010	2012	2014	2016	2018	2020
Czech Republic	1	1	1	1	1	2	2	1	1	2
Slovakia	1	1	1	1	2	2	2	2	1	2
Argentina	-	-	-	-	2	2	2	2	2	2
Chile	-	-	-	-	3	3	3	3	2	3
Spain	-	-	-	-	-	3	3	3	1	2

Source: own

When stating the codes, we use the theory of integrated research (Loučková, 2010)

Code explanations:

1. Low level of flow (2 situations in the statements when flow occurred)
2. Medium level of flow (3-4 situations in the statements when flow occurred)
3. High level of flow (5 and more situations in the statements when flow occurred)

Other protective factors that helped participants cope with stressful situations

- A helping, natural authority in the participant's environment (encouraging supervisors and colleagues) with whom the participant practiced the inner game – coaching dialogue during which flow occurred
- An interesting activity that they were able to completely immerse themselves in and during which flow occurred (university seminars, leading technical discussions).

Manifestations of resilience in participants after repeated practice of the inner game

- Concentration on solving present problems
- Deeper immersion in the study of the work text
- Ability to remain concentrated on work for a longer period of time
- Adherence to the daily work plan without the tendency to postpone task fulfilment

VII. Conclusion

Laying very high demands on the participants in their primary family, authoritative approach of the parents to children (especially the father): those were significant risk factors that the participants experienced in their childhood and puberty. As a consequence, they experienced disorders in managing stressful moments in their lives, a low level of attachment to the parents, and disrespect of formal authorities. The study focused on determination of factors that (despite the aforesaid risks) had a positive effect on the participants who then better coped with stressful situations. There are no universal factors for coping with problems that could be identified in all the participants in the same way and at the same level. However, there is the protective factor of flow that recurred in all the participants during coaching using the inner game, used by the supervisors and more experienced colleagues. The phenomenon of flow seems to be an important factor in two forms, as a short-term dynamic element and as a long-term characteristic of the participants that gradually led to achieving a high level of expertise in their field of study. Based on the longitudinal study, we described the most frequently displayed traits of the participants' resilient personality: concentration on the solution of present problems, deeper immersion in work assignments, and the ability to fully concentrate on work for a longer period

of time and the resulting better adherence to the work plan. One of the qualitative research rules is not to generalise data, therefore, we emphasise that the stated protective factors and the manifestation of resilient personalities in our participants cannot be considered generally true. However, the basic data collected over a period of 19 years represent a sufficient basis for other potential studies, whether quantitative or combined.

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WORLD TAX INDEX: METHODOLOGY CHANGES AND REVISION OF DATA FOR OECD COUNTRIES FROM 2000 TO 2018

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Abstract

Imposing taxes creates a burden on the agent. To evaluate and compare the burden of taxation among OECD countries standardly used tax quota has several shortcomings. Statutory tax rates are impotent to say anything about the actual tax burden. For these reasons, the World Tax Index has had some advantages. However, during the time it has been requiring some improvements. Therefore, the main aim of the paper is to describe methodology changes and show revised data of World Tax Index for OECD countries. Paper include all methodology changes we made and presented updated data of the World Tax Index in period from 2000 to 2018.

Keywords

Taxation, Tax Burden, Tax Quota, World Tax Index

I. Introduction

All economics agents must consider existence of all above mentioned concepts, because they affect their behaviour and can have significant influence on their decisions. Taxation level can influence majority of economic system components, e.g. work motivation (Borjas, 2020), consumer decisions (Varian, 2010), investment decisions (Vartia, 2008), shifts between legal and shadow or illegal economy (Schneider and Williams, 2013), and with the other aggregate fiscal categories plays a significant role in overall public finance outcomes (Murín, 2016). Finally, due to elementary state´s function existence of taxes is directly connected with government expenditures financing.

It is very important to realize, that final level of taxation is linked to many factors which have potential to determine it (e.g. tax deductibility cost, depreciations, tax reliefs, tax exemptions, administrative complexity payment of taxes). Therefore, information about taxation level or tax burden must be undistorted and economic-policy authorities must work with effective and objective tax approximator. Tax approximator which will cover almost all factors which determine the final level of taxation.

The most used approximator of taxation in empirical studies is tax quota, However, the tax quota has many shortages. For a long time, the authors of this study work with alternative approximator of taxation called World Tax Index of which data are available from 2000.

Aim of this paper is to describe methodology changes, show the revised data of World Tax Index for OECD countries and compare them with the tax quota. This paper, therefore, represents a methodological background of World Tax Index modifications for the further studies of the authors and other researchers interested in tax policy and topics related.

II. Measuring of Taxation – Statutory Tax Rates, Tax Quota, Implicit Tax Rates

Tax revenues represent the most significant income of national budgets. Anyway, tax structure or tax mix are the subject of extensive debate among economists, politicians or other public.

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Due to this, individual tax systems are so heterogenous (differentiated) and contain a lot of individual national specifics.

Therefore, there exists question about suitable way of comparing these differentiated systems. We have to try to find a certain common element which would aggregate these national specifics into one approximator as much as possible (Macek, 2014).

Tax Misery Index of Tax Freedom index can be considered as very popular tax burden indicators, but they have very small analytical value and cannot be used in sophisticated analysis or in full-fledged creation of economic policy. Statutory tax rates, tax quota, implicit tax rates are approximators which are very often used by politicians and economists and therefore they will be described now.

Statutory tax rates

Statutory tax rates represent very simply way of tax comparison. Because of their simplicity and availability, they can be considered as significant factor which can influence decisions about new investment realization. However, due to the complexity and diversity of tax system elements, direct definition of statutory tax rates is difficult. Individual tax systems contain in addition to nominal tax rates also temporary and permanent tax relief or exemptions, so their construction is not uniform.

Precisely because of the existence of different legislative rules, it is not possible to objectively compare level of taxation. Therefore, statutory tax rates cannot fulfill the role of objective approximator of taxation. Only if taxpayers have limited possibilities to reduce tax base, statutory tax rates can be a suitable indicator of tax burden level (Kotlán, 2010; Blechová, 2008; Szarowska, 2011). On the other hand, there have been several improvements in the vein of comparability, especially in corporate income tax. For instance, Hanappi (2018) presents the concept of corporate effective tax rates based on Devereux and Griffith models. Like Habu (2017) or ZEW (2016), Hanappi (2018) takes into account not only the statutory tax rates but also different provisions affecting the base (e. g. fiscal depreciation, deductions, allowances). This indicator could play a crucial role in an investment making process. Nevertheless, corporate effective tax rates are not suitable for the assessment of the whole tax burden. For that reason, we construct the World Tax Index.

Tax Quota

Tax Quota is one the most known and most used approximator of taxation, which can be used in more sophisticated analysis. In the simplest form it represents share of tax revenues to nominal gross domestic product (*HDPn*) for a calendar year. It also shows part of gross domestic product which is redistributed through public budgets.

There exist simple and compound tax quota. Simple tax quota includes only taxes, which are defined as taxes. Compound tax quota also includes social security contributions and therefore can be perceived as more complex indicator of tax burden.

Total tax quota categorization into individual sub-quotas can be considered as empirical rather than a technical matter. This categorization is most often done according to OECD or ESA 95 classification. Based on this classification, it is possible to determine a partial tax quota for individual types of taxes.

Tax Quota is very often used due to its simplicity, data availability (long time interval) and simple construction. Anyway, there exist a lot of shortages of tax quota which can lower an informative value of real taxation level.

Under certain circumstances tax quota may not reflect real level of taxation (according to Laffer curve), where tax quota as approximator fails. It is caused by the fact, that there may not always

exist demonstrable relationship between tax revenues and effective tax burden. Link between effective taxation size (expressed by nominal tax rates) on the one hand and tax revenues on the other hand changes significantly over time and is non-linear. Therefore, increase in tax burden does not lead to increase of tax revenues (and thus also tax quota), but on the contrary it leads to decrease.

Also, tax quota applies tax revenues to *HDPn*, which can be statistically unreliable and due to shadow economy existence tax quota can be overrated.

Existence of tax expenditures can also reduce objectivity degree of tax quota. Tax expenditures represent taxes which are not paid by economic agents, but economic agents receive them in form of tax reliefs or benefits (resulting payments directly from the law). If these tax expenditures are not added, total tax quota is lower although the nominal tax burden of the taxpayer is the same (Kotlán and Machová, 2012; Kotlán, 2010; Szarowska 2008; Szarowska, 2010; Arnold, 2008; Messere, 1993).

Implicit Tax Rates

Implicit tax rates represent another approximator of taxation. This approximator tries to remove some of shortages which tax quota has. Implicit tax rates do not consider only level of statutory tax rates but also other aspects determining effective taxation level (e.g. differently constructed tax base due to existence of tax reliefs or tax deductibility cost).

Methodology of implicit tax rates is complied according to the European Commission and these rates are calculated to correspond with harmonized system of national and regional accounts – ESA 95.

The calculation of implicit tax rates consists in determining share between tax revenues (or tax liability) from individual types of economic activities to the potential tax base (gross income from which tax is calculated).

On this basis, it is possible to determine the average effective tax burden according to the function of economic activities. Therefore, we can express effective tax burden of capital (ITRC), labor (ITRL) and consumption (ITRc) in economics.

The main problem of this approximator is, that it says nothing about real tax incidence, especially, with regard to impact among individual sectors (labor, capital, consumption). It also failures with respect to time lag between tax liability and real payment of taxes. Implicit taxes rates do not work with administrative cost of paying taxes, too.

From the comparison point of view there can be also problem with fact, that implicit taxes rates are available only for European Union countries (European Commission, 2018; Szarowska, 2009; Vogel, 2009; Bach and Buslei, 2009; Janssen and Buijink, 2000; Walden, 1996 Zechner and Swoboda, 1986, Faber, 2004).

III. World Tax Index – Complex Introduction and Actual Methodology Changes

World Tax Index (WTI) represents comprehensive multi-criteria indicator of the tax burden, which is based on combination of data on tax conditions available from internationally reputable sources (hard data) with data expressing expert opinions, so-called Qualified Expert Opinion - QEO (soft data).

Combination of soft and hard data with an effort to assess tax burden comprehensively are the main advantages of this taxation approximator.

The higher WTI value is, the higher taxation in the economy exists. It is necessary to realize, that WTI incorporates into tax burden assessment a lot of aspects, which determine the final level of tax burden. For instance, administrative complexity of taxes collection, tax exemptions,

tax-deductibility cost, tax reliefs, the importance of tax progressiveness, etc. This index can be also considered as a comprehensive tax index, which covers a substantial part of the tax burden in individual countries. WTI reflects 95% of the tax mix in OECD countries. Other parts of the tax mix are very specific taxes, and their comparison is practically impossible.

Individual sub-indexes of WTI are:

- Corporate Income Tax – (CIT)
- Personal Income Tax – (PIT)
- Value Added Tax – (VAT)
- Individual Property Taxes (PRO)
- Other Taxes on Consumption (OTC).

When we calculate values of individual sub-indexes, we evaluate the influence of several factors which determine final level of taxation (Machová and Kotlán, 2013; Kotlán and Machová, 2012; Machová et al. 2011; Macek, 2015; Macek, 2018). These factors are summarized in Table 1 which follows Machová and Kotlán (2013) latest seminal work on WTI.

Table 1: Individual sub-indexes of World Tax Index and their factors

A) Corporate Income Tax (CIT)	**B) Personal Income Tax (PIT)**
A1) Nominal tax rates	B1) Nominal tax rates
A2) Progressivity	B2) Progressivity
A3) Incentives	B3) Personal deductions
A4) Tax deductibility of costs	B4) Social security contributions
A5) Administration	
C) Value Added Tax (VAT)	**D) Individual Property Taxes (PRO)**
C1) Standard Tax Rate	D1) Net wealth tax
C2) Reduced Tax Rate	D2) Real estate tax
C3) Registration Duty	D3) Inheritance tax
	D4) Gift tax
	D5) Other property taxes
E) Other Taxes on Consumption (OTC)	
E1) Beer	
E2) Wine	
E3) Alcohol	
E4) Tobacco	
E5) Mineral oils	

Source: Machová and Kotlán (2013)

As is mentioned above, WTI is based on hard data and soft data combination. Hard data had to be standardized, and then they were recalculated with QEO component. For more complex WTI calculation, see, e.g. Kotlán and Machová (2012), where one can read methodology used for standardization of hard data and more other detailed information.

WTI as taxation approximator were revised several times. Our methodology changes will be described in following text. We have not changed calculation method of WTI, our modification is based on questionnaire research and hard data modification (improvements). Furthermore, we decided to provide a deeper description of the sources of hard data to researchers easier calculate their WTI on their own.

Structure of questionnaire corresponds to the structure of the WTI and its sub-indexes, where tax experts and selected tax researchers express their opinion on the importance of individual parts of WTI or individual parts of sub-indexes. Database of tax experts and tax researchers has been significantly modified and adjusted to make whole process of data collection more efficient. Due to this, the whole process of questionnaire acquisition is simpler and response rate of questionnaire is much higher as well. At the same time, our database has expanded considerably thanks to new acquired contacts. As a result of above mentioned, the QEO component can be considered representative.

Data on sub-indexes of World Tax Index

World tax index combines subjective (soft) data with objective (hard) data. In this section, we presented hard data based on table 1. We are describing relevant sources and sub-index calculations (if any). It has to be said that particular sub-index is not always observable directly. Therefore, some assumptions and approximations had to be made, which will be discussed later.

Corporate income tax – CIT

We begin with the Corporate income tax (CIT). This sub-index consists of 5 dimensions. They namely are nominal tax rates, progressivity, incentives, tax-deductibility costs and administration (cost, or perhaps even more precise, demandingness of tax administration). A1 has been approximated by the combined statutory corporate income tax rate retrieved from OECD (2020e) Tax Database, which follows original approach to A1 (Kotlán and Machová, 2012).

Determine tax progressivity could be a relatively difficult task. Progressivity of the corporate tax system could be far more complex to be appropriately observed by one simple proxy. Although, the questionnaire, as well as the context of CIT itself, focuses on the progressivity in statutory rates merely. A2 therefore present progressivity in tax rates, which are approximated by difference between corporate statutory tax rate (A1) and combined targeted corporate income tax rate for small business corporation (OECD, 2020f). If the country in the specific year was not using targeted statutory tax rate, the difference is automatically equal to 0. Bigger the difference more progressive tax. In the vein of WTI purposes, A2 has been calculated the way that the higher values mean higher progressivity. What worries us most is the described view on the progressivity. It is by far the most concerning aspect of the WTI composition. The discussion of whether more progressivity directly means a higher tax burden is relevant and should be conducted. On the other hand, the questionnaire had been arranged in a way which is in line with the statement above, moreover, the original contribution of Kotlán and Machová (2012) or later Machová and Kotlán (2013) did it this way.

The proxy used for A3 is R&D tax expenditure and direct government funding of business expenditures to R&D retrieved from OECD (2020g) R&D tax incentives database. We are aware of potential shortfalls of such indicator like it does not need to include all protentional tax incentives. For instance, if the big investor decides to come into the country because of the tax vacation deal, it likely will not appears in the tax R&D incentives. Despite these facts, such tax practice is occasional and more depended on the individual measure than on systematic scheme. On the other hand, recent economic development has revealed that in term of tax incentive (especially among EU countries where tax competition is less desirable), the R&D incentives being exploiting the most. The second potential caveat is that our proxy for A3 includes not only tax incentives but the direct governmental R&D expenditures, but the direct support is an incentive and this caveat is no longer relevant.

Perhaps the most challenging was to set a good indicator for the tax deductibility costs (A4). Based on the comprehensive review we found the concept of the corporate effective average tax rate (EATR), which is a tax policy indicator reflecting the average tax contribution a firm

makes on an investment project earning above-zero economic profits. The methodology of EATR follows Devereux and Griffith approach.[3] Most importantly, EATR tracks different tax rules among countries that affect the tax base such as fiscal depreciation and other deductions or allowances, which is basically the information we need for A4. To create the dataset A4 we had to connect several sources together due to data availability. Most of the data were retrieved from Oxford Centre for Business Taxation (CBT) tax database (Habu, 2017). All countries expect for Latvia and Lithuania have data available from 2000 to 2017 in CBT. In case of Latvia and Lithuania we have relied on Centre for European Economic Research (ZEW, 2015). Years from 2018 are updated using OECD Tax Database (2020d) for all OECD countries. At time of writing this contribution the OECD Tax Database was covering only period from 2017 to 2019. Computation of A4 is based on logic, if there is a positive difference between actual statutory tax rate and EATR means that the applied tax rules allow to reduce tax obligation. The higher difference, the higher tax deductibility of costs. Thanks to the standardization of the data, they do not need to be retrieved from one source. However, we suggest that whole cross-sectional data are from one source for particular year.

In table 1 the last sub-index of CIT is A5. To capture the effect of administration costs levied on the taxpayers due to the difficulty of the tax collection process is approximated the same way as Kotlán and Machová (2012) did in their origin paper. World Bank (2020) in

its project Doing Business provides measures of business regulations for firms in 190 countries. We use an indicator called time to prepare and pay taxes in hours to estimate protentional administrative cost. This method is in line with the standard microeconomic theory of opportunity cost.

Personal income tax – PIT

From the perspective of PIT, only methodological improvement of Machová and Kotlán (2013) was made in progressivity (B2). All other parameters follow original approach in their approximation. B1 is represented by an average income tax rate. It is not easy to choose the proper definition of what is the base we should calculate the indicator of the income tax rate. There are many legal differences between country-specific tax codes. We decided to use gross wage earnings of a single person with no child at 100% of average earnings as a base and then take the average tax rate of such person in %. Data were obtained from OECD (2020b) Tax Database.

For progressivity of PIT (B2), we employed approach, which is used, e.g. by Lehman et al. (2016). They calculate the tax progressivity according to the following expression:

$$progressivity = 1 - \frac{1 - t^{167\%}}{1 - t^{67\%}} \tag{1}$$

where t^n is an average tax rate from gross wage earnings of a single person with no child at the respective percentage of average earnings of such person. According to equation (1), we compare tax rates at 167% of average wage and tax rates at 67% of the average wage. These both indicators are obtainable from OECD (2020b) Tax Database. We can divide the results of equation (1) into three intervals. If $progressivity \in (0,1)$ then we say that personal income tax is progressive. If $progressivity = 0$ it means perfect proportionality. If $progressivity \in (0, -\infty)$ then the system is regressive. Similarly to the discussion presented in A2, we cannot simply decide whether the higher progressivity means a higher tax burden. We conclude the same conclusion as we did with A2. The questionnaire had been made in the way that the higher progressivity leads to a higher tax burden.

[3] For more detailed description, see e.g. Hanappi (2018).

As it was already said, for the B3 and B4 we followed origin approach. B3 presents the share of the sum of tax allowance and tax credits to average gross earnings before taxes of one person at 100 % of the average wage. The source of the sum of tax allowance and tax credits was the OECD (2020c) Tax Database. For the gross wage earnings, we rely on the OECD Tax Wages publications, data of which are gathered in the OECD Tax Wages database. B4 is expressed by an average share of employees' social security contribution to their gross wage earnings for one person with no child at 100% of the average national wage. Data came from the OECD Tax Database OECD (2020b).

Value added tax – VAT

Value Added Tax/Goods and Services Tax (VAT/GST) is one of the most used taxes on consumption within the advanced economies. For sub-indexes of VAT, we rely on Consumption Tax Trends publications (e.g. OECD, 2018), which are the source for OECD database for Value Added Tax/Goods and Services Tax (VAT/GST) covers the period from 1976-2019. It contains information about the general tax rate, reduced tax rates and registration/collection thresholds. These data were employed for C1, C2 and C3 sub-indexes. C1 represents general VAT/GST tax rates. Reduced tax rates for C2 are the averages of reduced rates. Thresholds from the time, since the entity has been subject to VAT/GTS in C3, were converted to USD in PPS. Data for the US are roughly approximated. US consumption taxes system is different from the rest. Data for the estimation were retrieved from the State and Local Sales Tax Rates (e.g. Cammenga, 2020).

Individual Property Taxes – PRO

Sub-index PRO is practically in line with the tax category 4000 tax on property from Global Revenue Statistics Database (OECD, 2020). As Kotlán and Machová (2012) pointed out, to our knowledge there is no better indicator which can be used here. Therefore, D1 is approximated using 4100 Recurrent taxes on immovable property to GDP (%), D2 by 4200 Recurrent taxes on net wealth to GDP (%), D3 is approximated by 4300 Estate, inheritance and gift taxes to GDP (%), D4 by 4400 Taxes on financial and capital transactions to GDP (%), and D5 using 4500 Other property taxes to GDP (%). All these variables were retrieved from the Global Revenue Statistic Database (OECD, 2020a).

Other Taxes on Consumption – OTC

Sub-index called other taxes on consumption (OTC) is the only one sub-index, which, we think, should be modified in the future. The authors fully realize the original purpose of the sub-index. However, its composition is not able to truly reflect the complexity of today's modern country-specific consumption tax systems. Neither we can suggest how to construct such a sub-index. What we have become aware of is that presented approach in table 1 is relatively simple that could be no longer a proper way to understand other consumption taxes than VAT/GTS.

For these reasons, we decided to approximate OTC in several steps. In the first step, we retrieved general government revenues in national currency for category 5121 Excises from OECD (2020). Then we converted these values into purchasing power parities (USD) and divided by the population size. In the last step, we used the weights of OTC gained from the questionnaire survey and multiplied them by the PPP of excises from the previous calculations.

This procedure seems to be optimal from the point of the research purpose and the data accessibility constraint. Specific national tax systems are very different and complex in term of other taxes on consumption, which make almost impossible to create a comprehensive questionnaire approach. On the other hand, the strategy of OTC, which relies on excises only and defines them as beer, wine, tobacco, alcohol and mineral oils is not truly able to capture the complexity of actual national tax policies.

IV. World Tax Index and Comparison with Tax Quota

In the previous section, we show all the important changes we have made in methodology. It mostly involves changes in hard data. In this section, we want to present the data we gain. Table 2 shows the average values of the World Tax Index and its sub-indexes in the period from 2000 to 2018 and the comparison of the WTI with the original results of Kotlán and Machová (2012).

The table 2 is likely to difficult to read, but before we present a more meaningful figure, we need to emphasize that in comparison with original results of Kotlán and Machová (2012) our average WTI is higher for the majority of countries. Only Chile, Japan, Netherlands, Norway and Turkey have smaller WTI in our dataset than in case of Kotlán and Machová´s (2012) WTI. The last column of Table 2 shows the difference between our country average and Kotlán and Machová (2012) average WTI. Positive *diff_WTI* means that we got higher WTI and negative means we gained lower. Turkish absolute difference is the biggest among all followed countries. We can say that our sample has a smaller variance and values are little higher on average than the previous WTI.

Table 2 Average values of WTI and its sub-indexes for 2000–2018

Country	WTI	CIT	PIT	VAT	PRO	OTC	*diff_WTI*
AUS	0,447	0,151	0,189	0,041	0,040	0,025	0,157
AUT	0,612	0,029	0,330	0,211	0,003	0,040	0,102
BEL	0,693	0,017	0,407	0,201	0,045	0,023	0,063
CAN	0,495	0,259	0,142	0,006	0,076	0,012	0,175
CZE	0,479	0,035	0,209	0,201	0,001	0,033	0,119
DEU	0,639	0,068	0,391	0,159	0,009	0,012	0,109
DNK	0,858	0,025	0,507	0,261	0,012	0,052	0,278
ESP	0,431	0,025	0,210	0,143	0,036	0,017	0,081
EST	0,406	0,029	0,159	0,183	0,000	0,035	0,076
FIN	0,562	0,037	0,263	0,133	0,016	0,113	0,082
FRA	0,518	0,123	0,125	0,193	0,064	0,013	0,018
GBR	0,465	0,042	0,224	0,125	0,034	0,040	0,155
GRC	0,483	0,036	0,235	0,147	0,044	0,021	0,123
HUN	0,617	0,023	0,175	0,390	0,003	0,026	0,077
CHE	0,389	0,060	0,272	0,036	0,009	0,011	0,129
CHL	0,418	0,143	0,040	0,215	0,010	0,010	**-0,102**
IRL	0,498	0,034	0,225	0,183	0,026	0,030	0,238
ISL	0,579	0,060	0,279	0,184	0,022	0,035	0,119
ISR	0,508	0,073	0,144	0,273	0,011	0,007	0,048
ITA	0,568	0,025	0,303	0,183	0,039	0,018	0,108
JPN	0,392	0,124	0,191	0,035	0,036	0,007	**-0,158**
KOR	0,393	0,116	0,126	0,082	0,025	0,043	0,013
LTU	0,370	0,107	0,112	0,092	0,001	0,058	–
LUX	0,585	0,015	0,298	0,120	0,037	0,116	0,155
LVA	0,442	0,079	0,245	0,095	0,002	0,020	–
MEX	0,382	0,095	0,090	0,189	0,001	0,006	0,002

NLD	0,524	0,055	0,233	0,165	0,011	0,060	**-0,026**
NOR	0,594	0,065	0,249	0,222	0,009	0,049	**-0,026**
NZL	0,404	0,033	0,256	0,098	0,012	0,005	0,064
POL	0,520	0,060	0,127	0,308	0,006	0,018	0,160
PRT	0,541	0,106	0,146	0,265	0,015	0,009	0,101
SVK	0,358	0,114	0,045	0,139	0,004	0,056	0,012
SVN	0,527	0,036	0,380	0,032	0,008	0,072	0,027
SWE	0,543	0,098	0,167	0,067	0,018	0,194	0,113
TUR	0,434	0,034	0,084	0,229	0,007	0,079	**-0,526**
USA	0,542	0,345	0,110	0,018	0,045	0,024	0,152

Source: own survey and calculations, data freely available at www.worldtaxindex.com; Kotlán and Machová (2012)

Like Machová and Kotlán (2013), we were curious about how our WTI is in comparison with Tax quota. Therefore, in Figure 1, we calculated average WTI and average compound tax quota (total tax revenues of the general government to GDP). Although several countries are at the same rank (or near it) in both indicators, this is not the rule for every country. We can find some examples of the deviation. For instance, the US ended up in the fifth position in WTI. In the case of tax quota, the US is the fifth smallest one. Or Sweden. Swedish tax quota is the second highest despite this is Swedish WTI eleventh. These two cases are extremes, but they help to mould a bigger picture, which is that the WTI is not directly comparable with the tax quota.

Figure 1 Average Values of the WTI and Tax Quota, 2000 – 2018

Source: own survey and calculations, data freely available at www.worldtaxindex.com; data on tax quota retrieved from OECD (2020a)

Hence, we think it is interesting to see what the correlation between WTI, its sub-indexes and respective tax quotas is. Table 3 shows the calculated Pearson correlation coefficients for pairwise combinations of WTI or particular WTI sub-index and respective tax quota.

Table 3 Correlation between WTI (WTI sub-indexes) and respective tax quotas

Pearson correlation coefficient	WIT	CIT	PIT	VAT	PRO	OTC
	0.708**	0.0314	0.656**	0.563**	0.729**	0.262**

Source: own calculations
*Note: ** statistically significant at 1% significance level*

From the results in Table 3 stems that the WTI is positively correlated with the tax quota. It holds for all sub-indexes as well. The most correlated is PRO with respective tax quota. It is understandable due to the nature of WTI sub-index PRO construction. WTI and total tax quota are correlated only a little less. Smallest coefficient we obtained in the case of CIT and corporate income tax revenues to GDP. This is the only coefficient that was not statistically significant among all presented in Table 3.

V. Conclusion

Aim of this paper was to describe methodology changes and show revised data of World Tax Index for OECD countries. This paper represents methodological background of World Tax Index modification for further research of authors. As it was already said for several times, to make a comprehensive international comparison of taxation and the burden of taxation, standardly used tax quota has its limits and shortcomings. For a similar purpose, the statutory tax rates are even worse. Effective tax rates are able to mitigate some of the shortcomings, but they are not generated to say anything about the whole picture. Therefore, the idea behind the World Tax Index makes sense. World Tax Index is an index which focuses on the evaluation of tax burden and it deals with the major limits of tax indicator reviewed above. We made some improvements of the original World Tax Index approach. In this paper we present all these methodological changes. Furthermore, we refer to hard data more precisely, which should lead to easier recalculation of World Tax Index by other researchers. We used improved methodology to compute the World Tax Index for all OECD countries in the period from 2000 to 2018. We showed that the World Tax Index is not truly comparable with tax quota despite some similarities. World Tax Index could be a better indicator for policy evaluation purpose with the ambition to increase benefits.

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FEAR OF DEATH IN HEALTH SOCIAL WORKERS

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Abstract

Attitudes and fear of death among health and social workers can affect their approach to a dying client, so it is necessary to talk about the issue of death and fear of death. The aim of this research was to determine the level of fear and anxiety about death in health and social workers and to compare it according to age, gender, length of practice and subjective assessment of one's own health. The Revised Collet-Lester Fear of Fear Scale (FODS) by Collett and Lester (1969) was used to measure fear in four categories: fear of death, fear of death, death others and the dying of others using a 5-point Likert scale. When interpreting the data, the average value is given on a scale of 1–5, where 1 means no fear and 5 very strong fear. Spearman's correlation coefficient and Mann-Whitney test were used to compare the monitored parameters. 104 respondents participated in the research. It was found that the respondents are most afraid of their own dying (average 3.95), then the death of their loved ones (average 3.46), the death of their loved ones (average 3.22) and the least fear of their own death (average 2.61).

Keywords

Health Social Workers, Death, Fear, CL FODS

I. Introduction

Death is something we must sooner or later face in our lives. It can be the death of a loved one, colleague or client. Healthcare professionals, including health social work, encounter death more often than the general population. A number of studies have also confirmed, that if health professionals themselves are afraid of death, it is difficult to discuss this topic with their patients. This is especially sad in situations where medical science has exhausted its full potential, patients face the fear of death and healthcare professionals refuse to talk to them precisely because they cannot face the fear themselves.

In the past, people encountered death much more often than today. People have encountered death throughout their lives, and death has been a part of their lives. The average probable life expectancy was between forty and fifty years, by today's standards in middle age. At present, people live to be much older, and deaths in childhood are rare. The elderly, the sick or the dying are usually taken care of in various institutions such as a hospital, a home for the elderly or nursing homes. Adults and children come into contact with death very rarely (Šiklová, 2013).

We classify anxiety and fear among the emotions, or mental states that accompany our experience. Emotions are defined as the tendency to react with certain behaviors to external or internal stimuli (Plháková, 2003). Anxiety is usually characterized as an unpleasant, long-term emotional state. An individual has worries, experiences feelings of danger, but is often unable to identify the cause of his or her concerns or estimate when and where the threat will come from. Anxiety is usually caused by fears of something unknown, it is anxiety about something specific (Smolík, 2002). Fear is defined as an unpleasant short-term emotional state during a current or only expected stimulus, which the person cognitively processes as a stimulus that threatens or is dangerous for him. The individual is usually able to identify the cause of his fear (Nakonečný, 2012).

In recent decades, research into attitudes toward death, including fear and anxiety about death, has become very intense. Many of these studies have focused on the development of various

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tools for measuring anxiety and fear of death, while other research has focused on improving existing methods (Neimeyer, Moser, Wittkowski, 2003). Initially, the tendency towards one-dimensional scales prevailed (e.g. McMordie, 1979 or Templer, 1970), later developed tools already accept the multidimensional nature of this construct (Collett, Lester, 1969; Florian, Kravetz, 1983; Leming, Dickenson, 1985; Wittkowski, 2001).

II. Aim of the research

The aim of the research was to determine the level of fear and anxiety about death measured using the revised CL - FODS scale in health social workers. Furthermore, the aim of the research was to determine whether selected sociodemographic factors (age, gender, length of practice and subjective assessment of one's own health) correlate with the degree of anxiety and fear of death.

III. Methodology

The Revised Collett-Lester Fear of Death Scale (CL-FODS) by Collett and Lester was used to measure fear and anxiety from death, which measures the degree of fear in four subscales: fear of self death, fear of dying, fear of death of others, fear of dying of others. The scale contains 32 questions divided into 4 categories: 1 - fear of one's own death, 2 - fear of one's own death, 3 - fear of the death of others and 4 - fear of the death of others. Each category contains 8 questions. Anxiety and fear of death are measured using a 5-point Likert scale, where 1 means no fear at all of the item and 5 very strong fear (Lester, 1994). For individual categories, averages are then calculated from the eight items that make up the category. The questionnaire also included 4 sociodemographic questions focused on age, gender, length of practice of respondents in the position of health and social worker and subjective assessment of their own health. The questionnaire was distributed electronically to all hospitals and medical facilities in the Czech Republic. The condition for participation in the research was at least one year of experience as a health and social worker, qualification of a health and social worker and consent to the research. A total of 280 questionnaires were sent out, 135 questionnaires were filled in and finally 104 questionnaires were subjected to exploratory and statistical analysis. The program Statistica 13 was used for the analysis, the Spearman correlation coefficient and once the Mann-Whitney test were used to verify the hypotheses. Data were verified at a significance level of 0.05.

IV. File description

100 % of women participated in the research. The average age of the respondents was 39.12 years, the variation range 26 - 65 years, the standard deviation (SD) 8.75. The average length of their practice as a health and social worker was 15.92 years, variation range 1-47 years, standard deviation (SD) 8.18. The majority of respondents (80.77 %) rated their own health as very good and good. 18.19 % of respondents could not decide whether they perceive their health as good or bad. Only 1.04 % of respondents described their health as bad and no one chose the option very bad.

V. Results

The fear of one's own death arouses the least fear among the respondents. The respondents were most afraid of death at a young age and also of shortness of life. The slightest concern was the idea of complete isolation after death and the decay of the body after they died. The results of individual items are shown in Table 1.

Table 1 Fear and anxiety from own death on a scale of 1-5 in individual items (%)

How much fear and anxiety causes you	Not (1-2)	Little(3)	Very (4-5)	Average
Complete isolation after death	52	21	27	1,90
Shortness of life	30	27	43	3,20
Lose everything that happens after death	51	20	29	2,63
Die young	25	26	49	3,37
Not knowing what it's like to be dead	48	19	33	2,70
Never think again and experience nothing	47	23	30	2,56
The possibility of pain and suffering after death	61	17	22	2,36
Decomposition of the body after you die	63	14	23	2,18

Source: own

On the contrary, the fear of their own dying arouses the greatest fear among the respondents. The respondents were most afraid of the pain associated with dying and dying in a hospital without a family. They were least worried about the uncertainties about mastering the process of dying and the grief of others when they died. The results of individual items are shown in Table 2.

Table 2 Fear and anxiety from own dying on a scale of 1-5 in individual items (%)

How much fear and anxiety causes you	Not (1-2)	Little(3)	Very (4-5)	Average
Decline in physical strength and slow dying	12	32	56	3,95
Pain associated with dying	10	19	71	4,55
Intellectual decline in old age	16	27	57	4,21
Limitation of self-sufficiency during dying	10	19	71	3,97
Uncertainty about how I will handle the dying process	13	40	47	3,51
Impossibility to influence the dying process	15	32	53	3,85
Dying in a hospital without a family	14	15	71	4,32
The grief of others when I die	38	28	34	3,25

Source: own

The fear of death of others is the second greatest fear of respondents. The respondents were most worried about the loss of a loved one and the feeling of loneliness after the loss. The least feared were the feeling of anger from losing a loved one and seeing the body of the deceased. The results of individual items are shown in Table 3.

Table 3 Fear and anxiety from death of others on a scale of 1-5 in individual items (%)

How much fear and anxiety causes you	Not (1-2)	A little(3)	Very (4-5)	Average
Loss of loved one	11	3	86	4,61
Vision of the body of the deceased	52	25	23	2,50
Impossibility to talk to the deceased again	7	18	75	4,26
Remorse for behavior to the deceased when he lived	17	34	49	3,52
Adolescence and aging without the deceased	17	23	60	3,71
Feelings of relief when a loved one dies	47	25	28	2,63

Feelings of loneliness without a dead person	7	22	71	4,16
Feelings of anger from the death of a loved one	51	31	18	2,32

Source: own

The second least feared fear of the respondents is that others are dying. Respondents were most worried that they would see their loved one suffer and that they would witness the loved one's physical decline. The least they feared would be the person who told the other that he was dying and talked about death with the dying. The results of individual items are shown in Table 4.

Table 4 Fear and anxiety from dying of others on a scale of 1-5 in individual items (%)

How much fear and anxiety causes you	Not (1-2)	A little(3)	Very (4-5)	Average
Must be with a loved one when he dies	26	37	37	3,10
From conversations about death with the dying	35	37	28	2,79
See a loved one suffering from pain	4	13	83	4,10
To be the one who tells a loved one that he is dying	46	31	23	2,70
To witness physical decay	15	37	48	3,40
Not to control grief in the presence of the dying	17	33	50	3,34
To witness mental decay	21	33	46	3,30
A reminder of one's own death when the other dies	29	33	38	3,05

Source: own

No statistically significant correlation was found between fear and anxiety about death and selected socio - demographic factors (age, gender, length of practice and subjective assessment of health).

VI. Conclusion

Although thoughts of our mortality are largely in our unconscious, the fact that we must all die affects our behavior, actions, and actions. The fear and anxiety associated with the thought of death is so painful for us that we must all protect ourselves. It is difficult for humans to tolerate their mortality directly. Therefore, people suppress the thought of death and develop various strategies to keep the anxiety and fear of death within the norm. Existential psychologists Victor Florian and Mario Mikulincer have not remarked for nothing that the paralyzing terror caused by the awareness of human mortality leads to the denial of the idea of death (Florian, Mikulincer, 2004). Most people would say that they rarely think about death. However, on an unconscious level of knowledge of our eventual demise, it evokes feelings of anxiety from death that affect important aspects of our lives and motivate many of our actions.

Respondents were most afraid of their own dying (3.95), followed by the death of their loved ones (3.46), dying of their loved ones (3.22) and the least feared of their own death (2.61).

Anxiety and fear of death can affect the approach of health social workers to the dying, so based on the data obtained, we make the following recommendations for practice. In the context of lifelong learning, to include the topic of dying and death regularly in the offer of courses for health social workers; to enable health social workers to supervise the elaboration of the subject of their own mortality; actively offer health social workers, if necessary, the assistance of a psychologist or psychotherapist to manage anxiety and fear of death; to continuously increase the awareness of health social workers about the possibilities of palliative care.

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DAMAGE TO THE EUROPEAN COMMUNITY FINANCIAL INTERESTS IN THE SLOVAK REPUBLIC

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Abstract

The paper deals with the analysis of damage to the financial interests of the European community in the Slovak Republic. The development of damage to the financial interests in question is processed through statistical data for the period 2013–2019. The paper contains theoretical background focused mainly on the protection of the EU's financial interests in the Slovak Republic. This section describes the remit of the Central Contact Service (OLAF) for the European Anti-Fraud Office (OLAF), cooperation with selected network partners, control activities, reporting of irregularities, as well as resolving complaints from the public. The contribution includes criminal law protection of the EU's financial interests, as well an analysis a selected case of damage to the EU's financial interests.

Keywords

European Community, Financial Interest, Protection, Slovak Republic, Crime

I. Úvod

Finančné záujmy EÚ možno chápať ako príjmy a výdavky pochádzajúce z generálneho (všeobecného) rozpočtu a ďalších rozpočtov, ako aj príjmy a výdavky spravované priamo alebo prostredníctvom právomoci delegovanej EÚ, jej orgánmi a inštitúciami. Svojím rozsahom a obsahom predstavujú rozsiahly systém zozbierania a prerozdeľovania finančných prostriedkov. [5]

V rámci EÚ dochádza pri finančných záujmoch jednotlivých členských štátov častokrát k zneužívaniu ťažiska európskeho právneho priestoru, k falošnému získaniu finančných prostriedkov, k plytvaniu finančných prostriedkov, k neoprávnenému obohacovaniu sa, k porušeniu grantov, atď. Akékoľvek protiprávne konanie poškodzujúce finančné záujmy EÚ má dopady na rozpočet EÚ. Poškodzovanie finančných záujmov sa spája s príjmami (napríklad daňové a colné podvody, nedodržanie dovozných kvót) a s výdavkami (napríklad reštrukturalizačné opatrenia, výdavky na vzdelanie, vedu a výskum, energetickú, sociálnu politiku, ochranu životného prostredia).

Proti podvodom a akýmkoľvek iným protiprávnym konaniam poškodzujúcich finančné záujmy EÚ sa aktívne snažia bojovať rôzne orgány a inštitúcie EÚ v spolupráci s členskými krajinami. Ide najmä o jednotný pojem podvodu, stanovenia podmienok pre trestnú zodpovednosť, trestné stíhanie deliktov, ako aj systém kontroly tvorby a použitia finančných prostriedkov.

V zmysle Zmluvy o fungovaní EÚ (Čl. 325) vyplýva pre SR povinnosť prijímať potrebné opatrenia na zabezpečenie rovnako prísnej ochrany finančných záujmov EÚ, akú poskytuje svojim vlastným finančným záujmom. Na území SR je trestno-právna ochrana finančných záujmov zaistená prostredníctvom skutkovej podstaty trestných činov poškodzovania

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finančných záujmov EÚ zadefinovaných v zákone NR SR č. 300/2005 Z. z. – Trestný zákon v znení neskorších predpisov (§ 261 až § 263).

II. Teoretické východiská k finančným záujmom EÚ v Slovenskej republike

Európske spoločenstvo možno definovať ako komplexnú integráciu pre vytvorenie spoločného trhu s voľným pohybom osôb, tovaru, služieb a kapitálu. Vyznačuje sa supranacionálnou organizáciou s určitou vertikálnou deľbou moci medzi členskými štátmi a EÚ. Kvantitatívny charakter spočíva vo finančnej samostatnosti, orgány majú autonómne postavenie, môžu vytvárať právo s bezprostrednou záväznosťou voči členským štátom, fyzickým a právnickým osobám, ktoré je nadriadené národnému právu členských štátov. [1]

Európska únia (ďalej len EÚ) ako integračné zoskupenie vznikla na základe Zmluvy o Európskej únii z Maastrichtu, ktorá vstúpila do platnosti dňa 1. januára 1993. Slovenská republika sa stala členom EÚ dňa 1.mája 2004, čím vznikli pre ňu rozsiahle možnosti získavania a využívania finančných prostriedkov, avšak aj nové záväzky a povinnosti. V súčasnosti EÚ tvorí 27 členských štátov s takmer 437 miliónov obyvateľstva (6% svetovej populácie). EÚ predstavuje zväzok troch pilierov, a to inštitucionálny základ, ustanovenia o spoločnej zahraničnej a bezpečnostnej politike, ako aj spolupráca v oblasti justície a vnútra. Rozpočet EÚ je založený na základných princípoch, ako napríklad princíp jednoty, špecifickosti, spoľahlivého finančného riadenia a transparentnosti, každoročného zostavovania. Schvaľuje ho Rada EÚ i Európsky parlament a spravuje ho Európska komisia. V rozpočte EÚ sú zahrnuté všetky príjmy (vlastné, príspevky členských štátov, príjmy z DPH, ostatné) a výdavky (štrukturálna, vnútorná a vonkajšia politika, poľnohospodárstvo, rozvoj vidieka, administratíva, rezervy), vrátane tých, ktoré sa týkajú oblasti fondov (PHARE, SAPARD, ISPA, štrukturálne, sociálne, fondy súdržnosti. [1]

V zmysle politiky súdržnosti, ako aj Investičného plánu pre Európu (Junckerov plán) investovala EÚ do členských štátov značné finančné prostriedky, aby mohli tieto štáty dosiahnuť v raste a v príjmoch priemer EÚ. Vďaka finančnej podpore a snahe jednotlivých členských štátov zaznamenali finančné investície pozitívny dopad. V období rokov 2004–2020 získala SR investície vo výške 29,5 miliardy EUR z európskych štrukturálnych a investičných fondov, ako aj dodatočné investície vo výške 1,2 miliardy EUR z Junckerovho plánu. Podporených bolo 25 988 malých a stredných podnikov, 949 výskumných projektov a projektov podnikového výskumu, a tiež boli obnovené cestné komunikácie v dĺžke 2248 km. Štrukturálne financovanie z EÚ tvorí 60% všetkých verejných investícií na území SR. Vďaka členstvu v EÚ je zabezpečený aj voľný pohyb osôb i tovaru, možnosť voľne pracovať, študovať i podnikať v celej EÚ, spoločná mena, dostupných je viac výrobkov a za lepšie ceny, spotrebiteľ je viac chránený, zlepšila sa kvalita životného prostredia, bol zaznamenaný veľký hospodársky rozvoj, rastie životná úroveň obyvateľstva, atď. Rozpracované sú ďalšie aktivity v oblasti integrovanej infraštruktúry, regionálneho operačného programu, verejnej správy, ľudských zdrojov, životného prostredia, atď. [14]

SR je súčasťou EÚ a ako členský štát získava finančné prostriedky z rozpočtu EÚ, avšak zároveň do rozpočtu EÚ finančné prostriedky aj odvádza formou poľnohospodárskych poplatkov, odvodov z produkcie cukru a ciel, či formou príspevkov zo svojho štátneho rozpočtu, ktorých objem je odvodený od celkového objemu prostriedkov vybraných z dane z pridanej hodnoty a od výšky dosiahnutého hrubého domáceho produktu. [8]

Pri finančných záujmoch EÚ, ktoré sú úzko previazané s finančnými záujmami jednotlivých členských štátov čoraz častejšie dochádza k zneužívaniu podstaty európskeho právneho priestoru, k neoprávnenému obohacovaniu sa v neprospech predmetných finančných prostriedkov, ako aj k porušovaniu grantov, či iných spôsobov zneužívania. Finančné záujmy EÚ sú vystavené rôznym formám podvodov a iným protiprávnym konaniam aj na území SR.

V niektorých prípadoch napríklad nie sú finančné prostriedky určené na schválené projekty preinvestované, ale realizujú sa cez finančné transakcie, fakturáciu neuskutočnených výkonov, poradenstvo, reklamu, vzdelávanie, nákupy. Projekty sú častokrát nadhodnotené, ich schvaľovanie je zabezpečené cez priame osoby v riadiacich orgánoch, verejné obstarávanie má vopred určené víťazné subjekty, podnikateľské subjekty ponúkajú neexistujúce služby a výkony, atď.

Ochrana finančných záujmov EÚ sa stala jednou z hlavných priorít SR ako člena EÚ, ktorá vychádza najmä z Dohovoru o ochrane finančných záujmov ES. Tento dohovor bol prijatý dňa 26.7.1995 a do platnosti vstúpil ratifikáciou všetkých členských štátov dňa 17.10.2002. SR pristúpila k Dohovoru v roku 2004 (po vstupe do EÚ). Členské štáty majú chrániť finančné záujmy ES rovnako ako vlastné finančné záujmy a taktiež majú vzájomne koordinovať svoje postupy zamerané na ochranu finančných záujmov ES proti podvodu. Dohovor okrem iného stanovuje povinnosť postihovať ako trestný čin každé úmyselné vyhotovenie alebo predloženie nesprávnych alebo neúplných dokumentov (výkazov) so zámerom dopustiť sa trestného činu podľa Čl.1. Taktiež stanovuje povinnosť ukladať účinné, úmerné a odstrašujúce tresty, ako aj tresty odňatia slobody v závažných prípadoch. [6]

Trestný zákon NR SR č. 300/2005 Z. z. obsahuje ochranu finančných záujmov EÚ prostredníctvom trestného činu poškodzovania finančných záujmov ES spolu s jeho trestno-právnymi dôsledkami (5 hlava – Trestné činy hospodárske, 2 diel – Trestné činy proti hospodárskej disciplíne, §261–§263 – Poškodzovanie finančných záujmov Európskej únie). [15]

V zmysle §261 je objektívna stránka skutkovej podstaty trestného činu naplnená v tom prípade, ak osoba použije alebo predloží falšovaný, nesprávny, neúplný výkaz alebo doklad, ak neposkytne povinné údaje, ak použije prostriedky zo všeobecného rozpočtu ES, z rozpočtu spravovaného ES alebo v zastúpení ES na iný účel, ako boli pôvodne určené, a tým spôsobí spreneveru alebo protiprávne zadržanie prostriedkov z uvedeného rozpočtu. [15]

Podľa §262 je objektívna stránka skutkovej podstaty trestného činu naplnená, ak osoba poruší alebo nesplní povinnosť vyplývajúcu z jeho zamestnania, povolania, postavenia alebo funkcie v riadení alebo kontrole činnosti osôb ním riadených, a tým umožní spáchať zneužitie prostriedkov z rozpočtu spravovaného ES (úmyselne nesplní povinnosť riadiaceho alebo kontrolného subjektu v príčinnej súvislosti so spáchaným skutkom proti finančným záujmom ES). [15]

Objektívna stránka skutkovej podstaty trestného činu na základe §263 spočíva v poškodení záujmov ES konaním popísaným v §261 (ods.1), od ktorých sa odlišuje subjektívnou stránkou trestného činu, ktorá je naplnená zavinením z nedbanlivosti. S ohľadom na nedbanlivostnú formu zavinenia za použitie prísnejšej trestnej sadzby možno považovať spôsobenie minimálne značnej škody. Aj pri spôsobení škody, ktorá je v iných prípadoch posudzovaná ako škoda veľkého rozsahu, pôjde len o naplnenie kvalifikačného znaku značnej škody. [6]

Trestnosť činu sa posudzuje a trest sa ukladá podľa zákona účinného v čase, keď bol trestný čin spáchaný. Ak v čase medzi spáchaním činu a vynesením rozsudku nadobudnú účinnosť viaceré zákony, trestnosť činu sa posudzuje a trest sa ukladá podľa priaznivejšieho zákona pre obvinenú osobu. [6]

V aplikačnej praxi nie je možné uspokojivo vyriešiť viaceré aplikačné a interpretačné problémy predovšetkým súvisiace so štruktúrovanosťou a terminologickou nejednoznačnosťou jednotlivých pojmov, a to najmä objektívnej stránky predmetnej skutkovej podstaty trestného činu poškodzovania finančných záujmov EÚ. Vzniká tak stav právnej neistoty, potenciálne aj riziko rozširovania podmienok trestnej zodpovednosti, ako aj porušenie ústavného princípu. [5]

III. Ochrana finančných záujmov EÚ v Slovenskej republike

V súvislosti s čerpaním finančných prostriedkov EÚ vyplývajú pre SR povinnosti, ktoré sú stanovené v Zmluve o fungovaní EÚ (čl. 325, ods. 2), a to konkrétne „Členské štáty prijmú rovnaké opatrenia na zamedzenie podvodov poškodzujúcich finančné záujmy EÚ, aké prijímajú na zamedzenie podvodov poškodzujúcich ich vlastné finančné záujmy“. Ochranu finančných záujmov tvorí prevencia, odhaľovanie, zisťovanie a riešenie nezrovnalostí, prijímanie nápravných opatrení vo forme finančných opráv a vysporiadania finančných vzťahov a iných nápravných opatrení. Jej cieľom je zvyšovať dôveru verejnosti v inštitúcie a orgány SR, že finančné prostriedky EÚ a jej daňovníkov sú vynaložené a využívané správne a efektívne. [7]

Plnenie záväzkov pre účely ochrany finančných záujmov EÚ na území SR sa zabezpečuje a koordinuje v zmysle zákona NRSR č. 575/2001 Z. z. o organizácii činnosti vlády a organizácii ústrednej štátnej správy (§24, ods.4), zákona NRSR č. 528/2008 Z. z. o pomoci a podpore poskytovanej z fondov ES v znení neskorších predpisov a zákona NRSR č. 292/2014 Z. z. o príspevku poskytovanom z európskych štrukturálnych a investičných fondov a o zmene a doplnení niektorých zákonov. Tieto predmetné úlohy sú na Úrade vlády SR delegované na sekciu kontroly, odbor Centrálny kontaktný útvar pre OLAF (ďalej len OCKÚ OLAF), ktorý predstavuje kontaktné pracovisko pre Európsky úrad boja proti podvodom (OLAF). Vykonáva kontrolu v procese poskytovania a využívania prostriedkov EÚ, plní úlohu koordinačného útvaru pre boj proti podvodom v SR (AFCOS) a spolupracuje s Európskym úradom pre boj proti podvodom (OLAF), ako aj s vecne príslušnými orgánmi verejnej správy združujúcich do siete kontaktných pracovísk a koordinuje ich činnosti súvisiace s ochranou finančných záujmov EÚ. OLAF svoju činnosť vykonáva podľa troch pilierov, a to 1. chrániť finančné záujmy EÚ prostredníctvom boja proti podvodom, korupcii a iným nezákonným činnostiam, 2. ochrana dobrého mena európskych inštitúcií na základe vyšetrovania závažného zneužívania právomocí ich členov a zamestnancov (môže vyústiť do disciplinárneho konania), 3. poskytovanie podpory pre Európsku komisiu v rámci rozvoja a implementácie politík so zameraním sa na prevenciu podvodov a ich odhaľovanie. [13]

Sieťových partnerov (sieť AFCOS) predstavujú orgány a inštitúcie SR zodpovedné za riadenie, implementáciu, kontrolu a audit finančných prostriedkov z EÚ, ako aj orgány a inštitúcie zodpovedné za spätné vymáhanie, ukladanie sankcií a postihovanie pôvodcov nezákonných činností súvisiacich s poškodzovaním finančných záujmov EÚ. V oblasti ochrany finančných záujmov EÚ na území SR sú sieťovými partnermi ústredné orgány štátnej správy (Ministerstvo financií, Ministerstvo dopravy a výstavby, Ministerstvo hospodárstva, Ministerstvo pôdohospodárstva a rozvoja vidieka, Ministerstvo vnútra, Ministerstvo spravodlivosti, Ministerstvo životného prostredia, Ministerstvo kultúry, Ministerstvo práce, sociálnych vecí a rodiny, Ministerstvo školstva, vedy, výskumu a športu, Ministerstvo zdravotníctva), Úrad vlády, Finančné riaditeľstvo, Úrad pre verejné obstarávanie, Najvyšší kontrolný úrad, Generálna prokuratúra, Národná banka Slovenska, Slovenská informačná služba, Bratislavský samosprávny kraj, Protimonopolný úrad, Úrad podpredsedu vlády pre investície a informatizáciu. [13]

Základné prvky komunikácie tvoria komunikačné aktivity potrebné pre zabezpečenie kontinuálnej a efektívnej komunikácie o ochrane finančných záujmov EÚ so zámerom dosiahnuť informovanosť všetkých stanovených cieľových skupín komunikácie. Odhaľovanie nezrovnalostí je vnímané ako dôkaz zneužitia prostriedkov EÚ, ako aj dôkaz efektívneho kontrolného systému. ÚV SR v rozsahu svojej pôsobnosti vykonáva svoju činnosť podľa zákona č. 10/1996 Z. z. o kontrole v štátnej správe v znení neskorších predpisov (§2, ods.3) kontrolu na účely ochrany finančných záujmov EÚ vrátane kontroly procesu poskytovania a využívania finančných prostriedkov EÚ. Ako príklad je uvedená kontrolná činnosť v roku 2019, kedy zamestnanci OCKÚ OLAF vykonali 10 kontrol, a to 3 kontroly zamerané na

riešenie 98 prípadov nezrovnalostí a 7 kontrol zameraných na kontrolu RO/SO pri poskytovaní a využívaní finančného príspevku z fondov EÚ v rámci 11 projektoch. Pri všetkých kontrolách bol v kontrolných subjektoch vypracovaný „Protokol o výsledku kontroly“ z dôvodu zistenia porušení všeobecne záväzných právnych predpisov alebo interných predpisov. [13]

Najčastejšími kontrolnými zisteniami boli nedostatočné overovanie splnenia podmienok poskytnutia nenávratnej finančnej pomoci z fondov EÚ, nečinnosť v prípade vymáhania nezrovnalosti, nedodržiavanie lehôt (pri výkone formálnej a vecnej kontroly žiadosti o platbu, pri výkone administratívnej kontroly verejného obstarávania), ostatné (neoboznámenie žiadateľa so závermi administratívnej kontroly verejného obstarávania, fyzickej kontroly na mieste, nedostatočná archivácia dokumentov, neplnenie „deklarovaných“ splnených opatrení). [13]

Na národnej úrovni OCKÚ OLAF v rámci spolupráce s úradom OLAF zabezpečuje podporu pri získavaní informácií a dokumentácie na základe vyžiadania od dotknutých subjektov, prijíma a spracúva informácie indikované podozrenie na protiprávne konanie ohrozujúce finančné záujmy EÚ, poskytuje súčinnosť pri administratívnom vyšetrovaní a poskytuje informácie o výsledku kontrol, vyšetrovaní a ďalších konaní zameraných na zisťovanie, ako aj postih prípadov poškodzujúcich finančné záujmy EÚ. [13]

OCKÚ OLAF ako aj ostatní sieťoví partneri iniciujú opatrenia podnecujúce verejnosť k aktívnej účasti na nahlasovaní podozrení z nezrovnalostí (zistené a odhalené porušenie pravidiel pri čerpaní finančných prostriedkov z EÚ). Na webovej stránke OCKÚ OLAF (aj na webových stránkach ostatných sieťových partnerov) sú uvedené kontaktné údaje s odkazom na e-mailové adresy nezrovnalosti@vlada.gov.sk alebo afcossr@vlada.gov.sk, ktoré sú určené verejnosti pre nahlasovanie podozrení z nezrovnalostí. Taktiež sa tu nachádza informácia o on-line systéme úradu OLAF pre anonymné oznamovanie podvodov (tzv. Fraud notification system). Verejnosť môže podania nahlásiť aj písomne poštou. OCKÚ OLAF všetky nezrovnalosti zasielané sieťovými partnermi (AFCOS) analyzuje (príjem, evidencia, monitorovanie) a štvrťročne nahlasuje úradu OLAF cez systém IMS7 (webová aplikácia systému AFIS - elektronický systém, vyvinutý a poskytnutý Európskou komisiou na účely oznamovania nezrovnalostí). [13]

Na základe dostupných štatistických údajov z výročných správ o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR je v Tab.1. podrobnejšie spracovaný počet podaní od verejnosti a ich spôsoby vybavenia v období rokov 2013 – 2019.

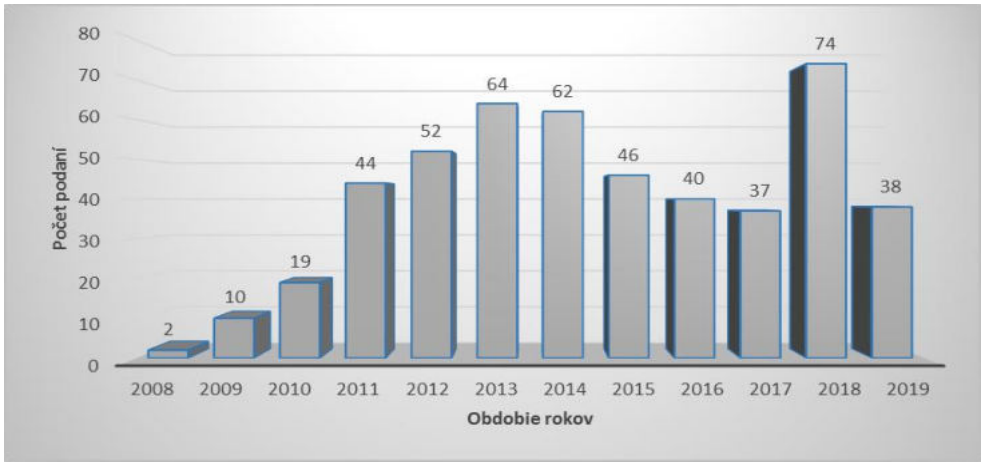
Tabuľka 1 Súhrnný prehľad o počte podaní a ich spôsoby vybavenia

		Spôsob vybavenia jednotlivých podaní					
Rok	**Počet podaní**	**Vykonané OCKÚ OLAF**	**Orgán auditu**	**OVO**	**GP SR / NAKA**	**NKÚ**	**Iný Orgán SŠ**
2013	64	16	8	7	1	2	30
2014	62	17	7	2	5	2	29
2015	46	8	1	4	4	1	28
2016	40	13	3	1	4	1	18
2017	37	12	0	5	4	0	16
2018	74	16	2	3	10	1	42
2019	38	16	0	6	1	0	15

Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2013-2019)

Podľa Tab.1 vyplýva, že v sledovanom období bolo OCKÚ OLAF celkovo zaslaných 361 podaní verejnosti o podozreniach z poškodenia alebo ohrozenia finančných záujmov EÚ, z toho najviac zaslaných podaní bolo v roku 2018, a to až 74 prípadov. Naopak, najmenej predmetných podaní bolo zaslaných v roku 2016, a to iba 40 prípadov. V súvislosti s počtom podaní v roku 2018 vybavil OCKÚ OLAF 16 podaní priamo, z toho 3 podania postúpil na ÚVO, 10 podaní na NAKU a 42 podaní bolo postúpených na iné orgány štátnej správy (napríklad na riadiace, prípadne sprostredkovateľské orgány, ktorými môžu byť MPSVaR SR, MŽP SR, atď.)

Obrázok 1 Vývoj nahlasovania počtu podaní od verejnosti v období rokov 2008 do 2019



Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2013-2019)

Na Obr.1 je zobrazený vývoj nahlasovania počtu podaní verejnosťou o podozreniach z poškodenia alebo ohrozenia finančných záujmov EÚ v období rokov 2008–2019. Podľa spracovaných štatistických údajov možno skonštatovať, že trend vývoja v počte nahlasovania podaní verejnosťou mal v sledovanom období kolísavú tendenciu. Do roka 2013 počet podaní stúpal, potom do roka 2017 klesal a následne, v roku 2018 opätovne vystúpil, čím bol zaznamenaný najväčší počet podaní za sledované obdobie (až 74 prípadov). V roku 2019 bol zaznamenaný pokles podaní o 36 prípadov. Najmenej podaní bolo v roku 2008, a to iba 2 prípady.

Národná kriminálna agentúra Prezídia Policajného zboru (ďalej len NAKA) **s** vecnou príslušnosťou pre trestné činy poškodzovania finančných záujmov EÚ (podľa Trestného zákona), v spolupráci s OCKÚ OLAF zriadila e-mailovú schránku infoirq@minv.sk na účely oznamovania podozrení z trestných činov, ktoré majú dopad na finančné záujmy EÚ. Uvedená e-mailová schránka slúži zamestnancom verejnej správy na zasielanie podnetov, ktorých obsahom je podozrenie z možného protizákonného konania subjektov v oblasti implementácie finančných prostriedkov EÚ s dopadom na finančné prostriedky EÚ a štátneho rozpočtu. [11] V Tab.2 je spracovaný prehľad nahlásených podnetov v období rokov 2013–2018.

Tabuľka 2 Prehľad nahlásených podnetov NAKA v období rokov 2013 – 2018

Rok	Počet prípadov	Neopodstatnené informácie	Opodstatnené informácie	Začaté trestné stíhanie	Preverovanie
2013	26	22	4	1	0
2014	18	14	4	2	0
2015	46	36	6	4	0

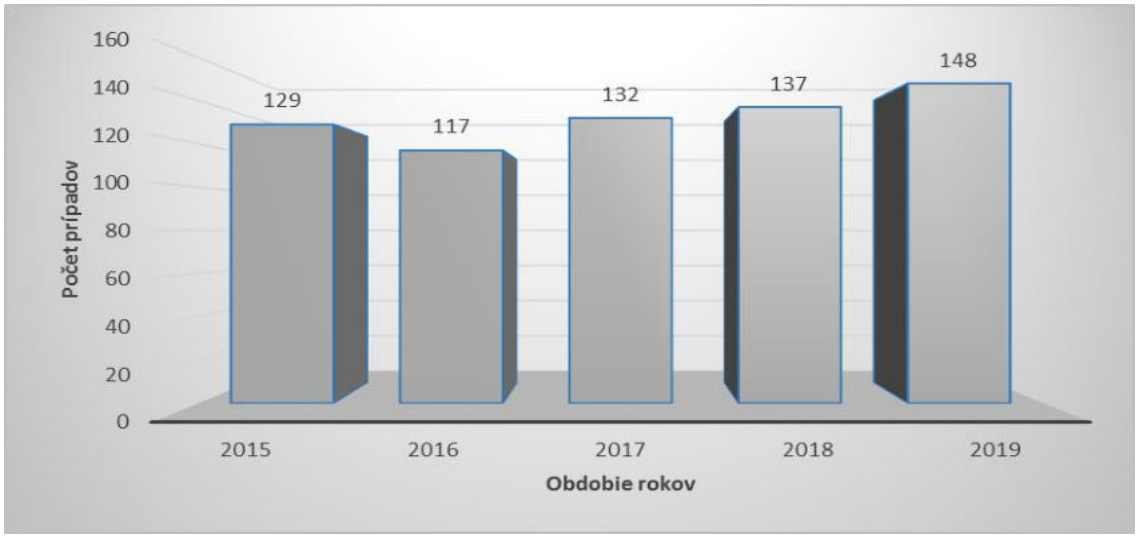
2016	25	4	21	0	18
2017	11	0	11	1	10
2018	3	0	3	1	2

Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2013-2018)

OCKÚ OLAF vedie na základe spolupráce s Generálnou prokuratúrou Slovenskej republiky (ďalej len GP SR) evidenciu trestných konaní, týkajúcich sa trestných činov v oblasti ochrany finančných záujmov EÚ na území SR pre skutky kvalifikované ako trestné činy poškodzovania finančných záujmov ES, podvodu, subvenčného podvodu, korupcie, machinácie pri verejnom obstarávaní a verejnej dražbe, zneužívania informácií v obchodnom styku, legalizácie príjmu z trestnej činnosti, založenia, zosnovania a podporovania zločineckej skupiny, zneužívania právomoci verejného činiteľa a ďalších trestných činov, pokiaľ súvisia s ochranou finančných záujmov EÚ. [12]

Na Obr.2 je spracovaný vývoj počtu trestných činov poškodzovania finančných záujmov EÚ v období rokov 2015–2019.

Obrázok 2 Vývoj počtu trestných činov poškodzovania finančných záujmov EÚ v období rokov 2015 - 2019



Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2015-2019)

Podľa Obr.2 vyplýva, že v období rokov 2015–2019 mal trend vývoja v počte trestných činov poškodzovania finančných záujmov EÚ stúpajúcu tendenciu. Iba v roku 2016 bol v počte predmetných trestných činov zaznamenaný pokles. Pri komparácií rokov 2015 a 2019 možno skonštatovať, že počet trestných činov týkajúcich sa poškodzovania finančných záujmov EÚ vzrástol o 19 prípadov. Súhrnný prehľad stavu trestných konaní v súvislosti s poškodzovaním finančných záujmov EÚ v období rokov 2013–2019 je spracovaný v Tab.3.

Tabuľka 3 Súhrnný prehľad stavu trestných konaní v súvislosti s poškodzovaním finančných záujmov EÚ

Rok	Nápad trestných vecí	§ 199 TP	§ 206 TP	Poet obvinených osôb
2013	104	64	33	46
2014	125	69	52	74
2015	129	59	48	74
2016	117	55	53	92

2017	103	50	36	86
2018	149	38	40	59
2019		51	31	66

Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2013-2019)

Trestný čin poškodzovania finančných záujmov EÚ bol spravidla spáchaný v súbehu s iným trestným činom, najčastejšie so subvenčným podvodom. Finančné prostriedky boli poskytované v percentuálnom pomere zo zdrojov EÚ a štátneho rozpočtu SR a boli viazané na podmienky stanovené všeobecne záväzným právnym predpisom, ktorý páchatelia buď nespĺňali alebo ho uviedli do omylu v otázke splnenia týchto podmienok. Protiprávnosť konania páchateľov spočívala najmä v predkladaní nepravdivých dokladov a v použití finančných prostriedkov zo všeobecného rozpočtu EÚ na iný účel, ako boli pôvodne určené. [13]

Komparácia stavu trestných konaní v súvislosti s poškodzovaním finančných záujmov EÚ v období rokov 2013–2019 je spracovaný v Tab.4.

Tabuľka 4 Komparácia stavu trestných konaní v súvislosti s poškodzovaním finančných záujmov EÚ

Prípady poškodzovania finančných záujmov EÚ	**Obdobie rokov**						
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Počet uznesení o začatí trestného stíhania	64	69	59	55	50	38	51
Počet uznesení o vznesení obvinenia	33	52	48	53	32	40	31
Počet obvinených osôb za trestné činy	46	7	74	92	80	59	66
Počet zastavených trestných stíhaní	22	21	13	21	17	17	12
Počet prípadov s výsledkom - odsúdenie	32	31	32	30	27	14	19

Zdroj: Výročné správy o aktivitách sieťových partnerov v oblasti ochrany finančných záujmov EÚ v SR (2013-2019)

Národná protikorupčná jednotka NAKA Prezídia PZ (ďalej len NPKJ) udržiava kontinuitu plnenia úloh odhaľovania a vyšetrovania trestných činov korupcie, trestných činov poškodzovania finančných záujmov EÚ, trestných činov machinácií pri verejnom obstarávaní a verejnej dražbe, ako aj vybraných trestných činov proti majetku a trestných činov hospodárskych. [11]

V roku 2019 evidovala NAKA Prezídia PZ SR vo vyšetrovaní a skrátenom vyšetrovaní 51 postupov podľa §199 Trestného poriadku, čo znamená začatie trestného stíhania. Evidovala 31 postupov podľa §206 Trestného poriadku, čo znamená počet vydaných rozhodnutí, ktorým bolo vznesené obvinenie konkrétnym fyzickým osobám a konkrétnym právnickým osobám. Za trestné činy poškodzovania finančných záujmov EÚ bolo vznesené obvinenie voči 60 fyzickým osobám a 6 právnickým osobám. Výška škodlivého následku, ktorá bola zadokumentovaná v súvislosti s trestnými činmi poškodzovania finančných záujmov EÚ bola 3 501 672,- €. [13]

Z hľadiska zamestnania (povolania/funkcie) vo vzťahu k trestným činom poškodzovania finančných záujmov EÚ podľa Trestného zákona (§261 - §263) boli obvinené nasledujúce osoby: 1 samostatne hospodáriaci roľník, 1 štatutárny zástupca obce, 32 štatutárnych zástupcov obchodnej spoločnosti, 1 osoba konajúca na základe plnej moci za obchodnú spoločnosť, 13 ďalších subjektov (zamestnanci, obchodné spoločnosti, učitelia). Vo všeobecnosti možno

konštatovať, že išlo najmä o prípady trestných deliktov za účelom získať neoprávnené príjmy. Jednotlivé prípady trestných činov poškodzovania finančných záujmov EÚ za rok 2019 možno rozdeliť do troch skupín: 1. prostriedky EÚ poskytované príslušným ÚPSVaR na samostatnú zárobkovú činnosť ako podpora drobným podnikateľom určené na prevádzkovanie živnosti v zmysle zákona č.455/1991 Zb. o živnostenskom podnikaní v znení neskorších predpisov, 2. prostriedky EÚ poskytované na projekty, ktorým predchádza výzva poskytovateľa (ústredné orgány štátnej správy ako riadiace orgány pre operačné programy, rozpočtové organizácie v ich zriaďovateľskej pôsobnosti) na predkladanie žiadostí o poskytnutie nenávratného finančného príspevku, 3. prostriedky vyplácané Pôdohospodárskou platobnou agentúrou, refundované z rozpočtu EÚ (priame podpory pre poľnohospodárov) [13]

Úrad pre verejné obstarávanie (ďalej len ÚVO) má na webovej stránke vytvorenú podstránku „OLAF“ obsahujúcu informácie pre nahlasovanie podozrení z nezrovnalostí na emailovú adresu nezrovnalosti@uvo.gov.sk. Na túto emailovú adresu bolo v roku 2019 prijatých 11 správ. 3 podnety sa týkali nezrovnalostí vo verejnom obstarávaní vo vzťahu k finančným prostriedkom EÚ. Tieto podnety boli postúpené odboru dohľadu na kontrolu. V jednom prípade úrad zistil, že konaním kontrolovaného nedošlo k porušeniu zákona o verejnom obstarávaní. V ostatných prípadoch sa úrad podnetmi riadne zaoberal, preskúmal všetky podklady a dostupné informácie, pričom úrad po úplnom vyhodnotení skonštatoval, že ďalšie konanie v týchto podnetoch nie je dôvodné, účelné a ani efektívne. [13]

V súvislosti s rozsiahlou pomocou z fondov EÚ, množstvo schválených žiadostí o poskytnutie nenávratných finančných príspevkov, počet zainteresovaných podnikateľských subjektov na realizácii projektov, nedostatočnú kontrolu zo strany riadiacich orgánov je možné predmetnú oblasť charakterizovať ako vysoké riziko trestne relevantných správaní atakujúcich hospodárstvo SR a rozpočet EÚ. Pre účinný postih je nevyhnutná adekvátna právna úprava poskytovania finančných prostriedkov, osobitne však včasnej a účinnej kontroly zo strany štátnych orgánov a v konečnom dôsledku aj ustálená súdna prax. [5, 6]

IV. Prípadová štúdia – Poškodzovanie finančných záujmov EÚ z pohľadu znaleckej činnosti

V nasledujúcej časti príspevku je pozornosť venovaná analýze vybraného prípadu poškodzovania finančných záujmov EÚ z pohľadu znaleckej činnosti, a to konkrétne vo veci trestného stíhania obchodnej spoločnosti za pokračujúci zločin poškodzovania finančných záujmov ES podľa §261, ods.1, ods.4, písm. a), písm. b) Trestného zákona, spáchaného v jednočinnom súbehu s pokračujúcim zločinom subvenčného podvodu podľa § 225, ods.1, ods.6, písm. a) písm. b) Trestného zákona, s poukázaním na §138, písm. i) Trestného zákona. [17]

Pri analýze vybraného prípadu budú na základe dostupných podkladov identifikované zmluvné vzťahy a jednotlivé predmety zmluvných vzťahov, bude zmapovaný pohyb predmetných technológií od výrobcu, cez sprostredkovateľa, až po konečného prijímateľa, ako aj cenového vývoja súvisiaceho s predmetnými technológiami. Taktiež bude popísaná hospodárnosť, účelnosť a efektívnosť obchodných aktivít, ako aj špecifikácia pohybu jednotlivých technológií spolu s finančným plnením. V rámci analýzy účtovníctva budú identifikované aj všetky služby a činnosti súvisiace s technológiami, ich príslušenstvom spolu s finančným plnením, ako aj stanovený podiel obchodných aktivít s celkovými aktivitami spoločnosti v období rokov 2008-2012.

Identifikácia zmluvných vzťahov a jednotlivých predmetov zmluvných vzťahov

V rámci znaleckého skúmania boli z dostupných podkladov vypracované tabuľkové prehľady, ktoré obsahujú dodávateľsko-odberateľské vzťahy a predmety vzťahov vyplývajúce

z predmetných zmlúv a faktúr. Tieto zmluvy a faktúry obsahujú identifikáciu odberateľa a dodávateľa, predmet zmluvy, dátum jej uzatvorenia, sumy bez DPH, sumy s DPH a v poznámke je uvedené číslo faktúry, ku ktorej sa zmluva vzťahuje. Sú to kúpne zmluvy, odberateľsko-dodávateľské zmluvy, sprostredkovateľské zmluvy, zmluvy o dielo, zmluvy o poskytnutí podnikateľského poradenstva (poradenská a konzultačná činnosť) a zmluvy o poskytnutí nenávratného finančného príspevku. [17]

Zmapovanie pohybu technológií od výrobcu, cez sprostredkovateľa, až po konečného prijímateľa

Na základe účtovných dokladov (najmä faktúr) boli vypracované tabuľkové prehľady, ktoré mapujú pohyb predmetných technológii. Taktiež boli vypracované aj tabuľkové prehľady obsahujúce sprostredkovateľské obchody, projektovú, poradenskú a marketingovú činnosť medzi posudzovanými subjektmi. [17]

Zmapovanie cenového vývoja súvisiaceho s predmetnými technológiami od výrobcu, cez sprostredkovateľa, až po konečného prijímateľa

Faktúry boli zoradené tak, aby mapovali cenový vývoj jednotlivých technológii na základe rovnakých výrobných čísel. Ide o nákup a predaj technológií od výrobcu, cez sprostredkovateľa, až ku konečnému zákazníkovi, ktorý slúži na zmapovanie cenového vývoja a je vyjadrený aj percentuálnym rozdielom. Podľa spracovaného tabuľkového prehľadu možno skonštatovať, že ceny od výrobcov za obdobie rokov 2008 až 2012 narastali v mnohých prípadoch niekoľko násobne, od 7% do cca 4500 %, čo v absolútnom vyjadrení predstavuje hodnotu cca 26 198 130,- €. [17]

Ďalej boli porovnané ceny nákupov jednotlivých technológií konečných prijímateľov s obvyklými cenami obdobných technológií na trhu v danom čase (obvyklá trhová cena výrobcu). Tento tabuľkový prehľad bol rozšírený o stĺpec 30%- né navýšenie nákupnej ceny, čo znamená že k cene technológie výrobcu bola zohľadnená zisková prirážka vo výške 10% a náklady súvisiace s obstaraním predmetných technológií vo výške 20%. Po zohľadnení zvýšenej nákupnej ceny bol vypočítaný rozdiel medzi konečnou cenou zákazníka a zvýšenou nákupnou cenou, čím bolo stanovené cenové navýšenie technológie vo vyjadrení absolútnej a relatívnej početnosti. [17]

Obstarávacia cena pozostávala nielen z ceny obstarania technológie (nákupná cena), ale aj z nákladov súvisiacich s týmto obstaraním. Tieto náklady boli odhadnuté z hľadiska opatrnosti vo výške 20% z ceny obstarania technológií, nakoľko ich nie je možné jednoznačne stanoviť, pretože sa týkajú najmä dopravy, inštalácie, sprievodnej dokumentácie a bývajú rozdielne, vzhľadom na miesto doručenia. Taktiež sa jedná o rozdielne technológie, s ktorými sú spojené rozdielne postupy inštalácie a spustenia stroja do prevádzky, ako aj rozdielne rozsahy sprievodnej dokumentácie. [17]

Je nevyhnutné si uvedomiť, že spoločnosť obchoduje za účelom dosahovania zisku, a preto v obstarávacej cene predajcu by mala byť prirátaná zisková prirážka, ktorá s ohľadom na opatrnosť bola stanovená v rámci znaleckého skúmania vo výške 10% z obstarávacej ceny technológií. Jednoznačne bol zistený rozdiel medzi nákupnými cenami výrobcu a predajnými cenami pre konečného zákazníka, pričom nákupná cena bola navýšená o 30%, čo v absolútnom vyjadrení za obdobie rokov 2008 až 2012 predstavuje hodnotu cca 24 352 573,- €. [17]

Vyjadrenie k hospodárnosti, účelnosti a efektívnosti obchodných aktivít

Hospodárnosť posudzovaných obchodných aktivít (rozdiel medzi nákupnou a predajnou cenou po zohľadnení nákladov na obstaranie a zisku) bola v mnohých prípadoch nehospodárna. Ceny od výrobcov boli mnohokrát niekoľko násobne navýšené pre konečných zákazníkov, čo v absolútnom vyjadrení prestavuje za celkové obdobie rokov 2008 – 2012 hodnotu cca

24 352 573,- €. Podľa dostupných podkladov týkajúcich sa čerpania z prostriedkov EÚ bola účelnosť v podobe strojov naplnená. Pri efektívnosti posudzovaných obchodných aktivít (úzko súvisiacich s hospodárnosťou) je možné konštatovať, že efektívnosť týchto aktivít nebola v zmysle Systému riadenia štrukturálnych fondov a Kohézneho fondu na programové obdobie 2007–2013 dodržaná, nakoľko predmetné technológie [2] v mnohých prípadoch boli predávané konečným zákazníkom niekoľko násobne vyššie ako boli ceny od výrobcov. [14]

Špecifikácia pohybu technológií spolu s finančným plnením súvisiacim s týmito technológiami

V rámci znaleckého dokazovania nebolo možné zmapovať pohyb technológií pri analýze finančného plnenia s ohľadom na ustanovenie §16, ods.2, písm. c) zákona č. 382/2004 Z. z. hospodárnosť a účelnosť posudku. Na bankových výpisoch spoločnosti za roky 2008-2012 často krát neboli uvedené variabilné symboly, mnoho krát úhrady prebiehali čiastočne a nebola bližšia špecifikácia, na základe ktorej by sa platby dali jednoznačne priradiť k predmetným technológiám. [14]

Identifikácia všetkých služieb a činností súvisiacich s technológiami, s ich príslušenstvom spolu s finančným plnením

Identifikácia služieb a činnosti súvisiacich s predmetnými technológiami ako aj ich príslušenstvom bola vykonaná prostredníctvom tabuľkových prehľadov, ktoré obsahujú zmluvné vzťahy (tieto zmluvné vzťahy boli spomínané v bode identifikácia zmluvných vzťahov a jednotlivých predmetov zmluvných vzťahov). Analýzu finančného plnenia nebolo možné vykonať s ohľadom na vyššie uvedenú štruktúru dostupných podkladov. [14]

Stanovenie podielu obchodných aktivít súvisiacich s predmetnými technológiami, príslušenstvom, ako aj službami a činnosťami v aktivitách spoločnosti v období rokov 2008-2012

V rámci znaleckého dokazovania sa postupovalo v dvoch krokoch: 1. Z tabuľkového prehľadu (Pohyb technológií) boli vyfiltrované vystavené faktúry spoločnosťou, ktoré boli spočítané za obdobie rokov 2008-2012.

Tabuľka 5 Predaj technológií za obdobie rokov 2008-2012

		Technológie	
Rok	**Suma bez DPH [€]**	**DPH**	**Suma celkom**
2008	2 811 336,41	534 153,92	3 345 490,33
2009	4 437 953,61	843 211,19	5 281 164,80
2010	9 390 218,32	1 784 141,48	11 174 359,80
2011	6 204 879,20	1 240 975,84	7 445 855,04
2012	28 063 654,08	5 612 730,82	33 676 384,90
Celkom	**50 908 041,62**	**10 015 213,24**	**60 923 254,86**

Zdroj: Znalecký posudok (2018)

Následne boli dané do pomeru spočítané faktúry z tabuľkového prehľadu – Tržby z predaja tovaru a služieb, ktoré boli prevzaté z výkazov ziskov a strát za roky 2008-2012.

Tabuľka 6 Podiel obchodných aktivít

Výkaz ziskov a strát	**2008**	**2009**	**2010**	**2011**	**2012**
Tržby z predaja tovaru	8 549 635,-	8 679 932,-	15 865 278,-	9 881 608,-	31 138 903,-
Tržby z predaja vlastných výrobkov a služieb	356 465,-	219 618,-	226 101,-	1 080 840,-	309 350,-

Tržby celkom	**8 906 100,-**	**8 899 550,-**	**16 091 379,-**	**10 962 448,-**	**31 448 253,-**
Podiel obchodných aktivít	**31,57 %**	**49,87 %**	**58,36 %**	**56,60 %**	**89,24 %**

Zdroj: Zdroj: Znalecký posudok (2018)

Z uvedenej tabuľky vyplýva, že podiel obchodných aktivít týkajúci sa predmetných technológií v spoločnosti predstavuje na celkových obchodných aktivitách tejto spoločnosti od 31,57% do 89,24% za jednotlivé roky.

Dopad obchodných aktivít spoločnosti na DPH a daň z príjmov PO, ako aj finančné toky za obdobie rokov 2008-2012

S ohľadom na dostupné podklady a najmä na opodstatnenosť výšky sprostredkovateľských, poradenských a marketingových činností uvedených vo faktúrach, v ktorých nebolo zrejmé identifikovať výrobné číslo stroja a ani určiť jeho výrobcu nie je možné stanoviť dopad týchto služieb a technológií na daň z príjmov ani na DPH. Rovnako je potrebné poukázať na hospodárnosť a účelnosť znaleckého dokazovania v zmysle ustanovenia §16, ods.2, písm.c) zákona č. 382/2004 Z. z. o znaleckej, tlmočníckej a prekladateľskej činnosti v platnom znení. [17]

Všeobecne možno skonštatovať, že porušenie zásady riadneho finančného hospodárenia spôsobuje obstaranie tovarov a služieb za podstatne vyššie ceny ako sú trhové ceny. Predstavuje to teda nezrovnalosť, ktorá má priamy vplyv na finančné záujmy EÚ. Obligačná nekonzistentnosť súvisí s nekonzistentnosťou medzi všeobecnými obligačnými povinnosťami prijímateľa nakladať s poskytnutými finančnými prostriedkami efektívne a spôsobom pre dosiahnutie deklarovanej efektivity výberu dodávateľa. Popísaná obligačná nekonzistentnosť povinností konečného prijímateľa spôsobuje tak potenciálnu, ako aj reálnu hrozbu vyvodzovania trestnoprávnych konzekvencií pre dôvodné podozrenie zo spáchania trestného činu poškodzovania finančných záujmov EÚ (podľa §261, ods.1 Trestného zákona). [5,17]

V. Záver

Hlavným cieľom EÚ ako integrovaného spoločenstva bolo pomôcť získať jednotlivým členským štátom lepšie miesto v medzinárodnej konkurencii, podporiť ekonomiku ochraňujúcu prírodné zdroje, investovať do kvalitných cestných, železničných a vodných dopravných sietí [4], podporiť vedu a výskum, poskytnúť inovácie pre malé a stredné podniky, klásť dôraz na zvyšovanie kvality života, atď. V rámci EÚ dochádza pri finančných záujmoch jednotlivých členských štátov k stúpajúcej tendencii protiprávnych konaní poškodzujúcich tieto finančné záujmy s negatívnymi dôsledkami na rozpočet EÚ.

Ochrana finančných záujmov EÚ predstavuje nosný prvok politickej agendy EÚ. Zodpovedné orgány EÚ spoločne s príslušnými členskými štátmi majú už dlhodobejšie stanovený zámer vypracovať jednotný systém kontroly a tvorby používania finančných prostriedkov EÚ. Kľúčovým orgánom je Európsky úrad pre boj proti finančným podvodom (OLAF), ktorý prispieva k navrhovaniu a vykonávaniu politiky boja proti podvodom a vedie administratívne vyšetrovania podvodov poškodzujúcich rozpočet EÚ. Na území SR zohráva významnú úlohu OCKÚ OLAF a ostatní sieťoví partneri pri ochrane finančných prostriedkov EÚ, ako aj daňových poplatníkov SR.

V období rokov 2013–2019 bolo OCKÚ OLAF zaslaných celkovo 361 podaní verejnosti o podozreniach z poškodenia alebo z ohrozenia finančných záujmov EÚ. Na základe dostupných štatistických údajov o vývoji nahlasovania nezrovnalostí verejnosťou bolo najviac podaní zaslaných v roku 2019 (74 prípadov) a najmenej v roku 2008 (2 prípady). Trend vývoja v počte trestných činov poškodzujúcich finančné záujmy EÚ mal od roku 2016 stúpajúcu tendenciu.

Tieto trestné činy mali najväčšiu súvislosť so subvenčným podvodom. V trestných konaniach súvisiacich s poškodzovaním finančných záujmov EÚ bolo najmenej obvinených osôb v roku 2013 (46 páchateľov) a najviac v roku 2016 (92 páchateľov). V roku 2019 bola výška škodlivého následku zadokumentovaná v súvislosti s trestnými činmi poškodzovania finančných záujmov EÚ v sume 3 501 672,- €.

V rámci poškodzovania finančných záujmov EÚ z pohľadu znaleckej činnosti bola vykonaná analýza vybraného prípadu, a to vo veci trestného stíhania obchodnej spoločnosti za pokračujúci zločin podľa §261, ods.1-4, písmeno a),b) Trestného zákona. Vzhľadom na štruktúru dostupných podkladov boli identifikované zmluvné vzťahy a ich jednotlivé predmety, zmapovaný pohyb predmetných technológií od výrobcu, cez sprostredkovateľa, až po konečného prijímateľa, ako aj cenového vývoja súvisiaceho s predmetnými technológiami. Zároveň bola popísaná hospodárnosť, účelnosť a efektívnosť obchodných aktivít, ako aj stanovený podiel týchto aktivít súvisiacich s predmetnými technológiami, službami a činnosťami obchodnej spoločnosti v období rokov 2008-2012. Priamy vplyv na finančné záujmy EÚ predstavuje porušenie zásady riadneho finančného hospodárenia, ktorá spôsobuje obstaranie tovarov a služieb za podstatne vyššie ceny ako sú trhové ceny.

Na záver možno skonštatovať, že v rámci prevencie (predchádzania podvodom, nezrovnalostiam a korupcii) je nevyhnutné aj naďalej vyvíjať aktivity v oblasti neustáleho zvyšovania povedomia verejnosti o potrebe ochrany finančných záujmov EÚ v SR a vyššej propagácie svojej činnosti voči subjektom implementujúcim prostriedky z Európskych štrukturálnych a investičných fondov. Pri zvyšovaní informovanosti o boji proti podvodom a korupcii je významná aj komplexná vzdelávacia a osvetová činnosť, ktorou sa zlepší informovanosť subjektov zapojených do implementácie finančných prostriedkov z rozpočtu EÚ, ako aj v celej spoločnosti. Je potrebné začleniť protikorupčné a protipodvodové témy aj do formálneho vzdelávania (vzdelávanie na základných, stredných a vysokých školách, osobitné vzdelávanie zamerané pre vyšetrovateľov, prokurátorov a audítorov). [3, 10]

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COMMUTING IN THE CONTEXT OF WLB

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Abstract

The paper deals with the issue of commuting to and from work in the conditions of the Slovak Republic. We focus on identifying the average weekly length of commuting. Travel-to-work essentially lengthens the working day and is difficult to use productively, especially when commuting by car. The aim of the paper is to identify the impact of commuting on the private life of men and women in Slovakia. Our findings show that women perceive the commuting more negatively than men, although men spend more time on average by commuting comparing to women. The results show that the vast majority of respondents have a neutral attitude towards commuting to and from work, which could be estimate positively in terms of labour mobility and labour market flexibility. Our evaluated sample of 1.043 respondents (568 men and 475 women) consisted only of individuals who had at least one paid job at the time.

Keywords

Labour Market, Paid Work, Commuting, Work-life Balance

I. Introduction

Working conditions have changed over time around the world. The biggest changes occurred because of the industrial revolution, when the demands on working time also increased. In the 19th century, people (often children) worked about 10 to 16 hours a day. Americans were among the first to promote 8-hour work. The Australians proposed dividing the day into three parts - 8 hours of work, 8 hours of rest and 8 hours reserved for private activities. Workers went on strike not only for higher wages, but also for better working conditions, including reduced working hours. At the turn of the 19th and 20th centuries, working hours were set at 8 hours a day. Currently, the situation is changing again. Not only we do work more hours a day, but the retirement age is also rising. Although the Labor Code says that an employee's working time is a maximum of 40 hours per week and the average weekly working time, even with overtime, must not exceed 48 hours per week, the reality is different and Slovaks also seem to spend more and more time at work.

Deciding how to allocate time between paid work, unpaid work (childcare, shopping, cleaning, cooking, etc.) and leisure time is largely subjective and results from the personal preferences of the individual or household. To some extent, an employer who has certain claims can influence it. However, it is clear that if time spent in paid work increases, it is at the expense of time spent with family, friends or individual activities outside of work. There are studies that show a positive correlation between long working hours and poor employee health (Spurgeon et al., 1997, Sparks et al., 1997, Vand Der Hulst, 2003). Long working hours can have an impact on health by impairing an employee's ability to recover sufficiently, both mentally and physically. Other studies have revealed the effects of long working hours, especially on women's health, although the reasons for such "gender" differences are unclear (Alfredsson et al., 1985, Starrin et al., 1990). Time spent in paid work includes not only time spent at work, but also time spent by commuting to and from work. The impact of time-consuming commuting on an individual's health was investigated by Costa et al. (1988a, 1988b) and demonstrated its negative impact. Although an extensive cohort study conducted in Finland (Muresula et al., 2006) did not show

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an increase in morbidity depending on the length of working time, it assumes an increase due to the long time spent on unpaid work and commuting to and from work.

Time spent by commuting affects how households organize their day-to-day activities. Travel-to-work is one of the key potential areas of conflict associated with work-life balance. Work-related activity of this nature, as well as linked household responsibilities including the „school run", impact transport preferences. These activities represent significant areas of „spillover" between paid work and life (Wheatley, 2012).

II. Literature review

According to Wheatley and Wu (2014) work-time is used to describe the time spent in work for an employer (working hours, overtime – paid/unpaid). Commuting time is a necessary work-related activity, but is distinct from work-time. Household time describes time in other work activity including housework, in (ill/elderly) care (unpaid work in our survey).

Travel-to-work is of strategic importance in daily living. It links personal life and working life, enables reach and access on the labour market, and can manifest gendered relationships between women and men. Accordingly, commuting is a concern at both the individual and household levels as well as for policy and planning at various levels (Solá, 2016).

Basmajian (2010, p. 77) considers commuting as a "fluid experience equally blended into home life and work-place and points in between".

The household division of labour heavily influences patterns in commuting, which evidence suggests, have important implications with respect to subjective well-being. Travel affects well-being in a range of ways (De Vost et al., 2013, in: Wheatley, 2014): through potential travel, activities during travel, participation in activity (work or leisure), enabled by travel, and travel for leisure purpose where travel is the activity which itself acts as a source of utility. It is considered that "travel-to- work" is often perceived as generating dissatisfaction" (Wheatley, 2014, p. 189).

Long journeys appear to have negative impacts on subjective well-being, especially because of stress and tiredness according to Sullivan, 2007, Lyons and Chatterjee, 2008, Stutzer and Frey, 2008, Olsson, Garling, Ettema, Friman and Fujii, 2013.

According to Sweet and Kanaroglou (2016, p. 24) identifying how travel and time use outcomes are linked with subjective well-being has important implications if improving quality of life is to be a meaningful planning policy goal. First, it provides guidance on what types of travel outcomes planners should target to improve subjective well-being. Second, it identifies what types of time use and activity participation outcomes can improve subjective well-being. Third, it can provide evidence on whom common existing policy actions and objectives are most likely to benefit.

The difficulty and ambiguity of this issue reflect, for example, Haas and Osland (2004), according to who there is no unambiguous theory that would give a coherent picture of the relationship between time spent by commuting and the subjective feeling of individual satisfaction.

How to harmonize work and personal or family life is the subject of the theory of work-life balance. According to Poulose (2014) "work-life balance is a broad concept, defines in different ways by different researchers using diverse dimensions. The origins of research on work-life balance can be essentially traced back to studies on women having multiple roles". Work-life balance was initially termed as work family conflict, Kahn et al. (1964) defined as a form of inter role conflict in which the role pressures from work and family domains are mutually

incompatible in some respect. That is, participation in the work (family) role being made more difficult by virtue of participation in the family (work) role.

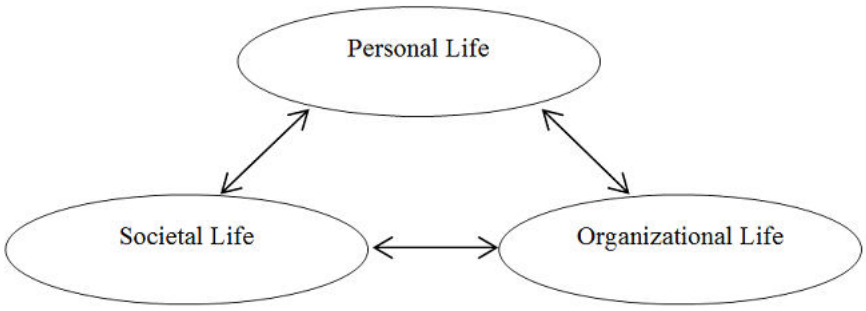
Today work-life balance is discussed with respect to multiple affected groups. In this newer perspective, multiple work and life (not just family) roles are viewed as potentially benefitting, as well as harming, one another (Rife and Hall, 2015).

As Byrne (2005) states individuals with work-life balance feel their lives fulfilled both inside and outside of work and experience minimal conflict between work and non-work roles. Those who achieve this balance tend to have higher levels of satisfaction with their jobs and life in general, as well as lower levels of stress and depression.

According to Wikipedia "work–life balance is a concept including the proper prioritization between work (career and ambition) and lifestyle (health, pleasure, leisure, family). The work–leisure dichotomy was invented in the mid-1800s. Paul Krassner, an American journalist, observed that anthropologists define happiness as having as little separation as possible between your work and your play. The expression "work–life balance" was first used in the United Kingdom in the late 1970s to describe the balance between an individual's work and personal life. In the United States, this phrase was first used in 1986".

According to Poulose and Sudarsan (2014) work-life balance is a balancing between three dimensional aspects of life namely organizational, societal and individual's personal life as depicted in the figure 1.

Figure 1 Work-life balance



Source: adapted from Poulose (2014, p. 1)

We agree with the claim, that in the context of work and life, balance does not refer to an equal weighting of the two, but rather an acceptable, stable relationship (Guest, 2002).

One of components to measure work-family or work-life balance is time that relates the amount of time spent at work with the amount of time spent on home and family activities. Time based conflict occurs when time devoted to one role makes it difficult to fulfil the demands in another role (Greenhaus and Beutell, 1985, Fisher, 2001, Greenhaus, Collins and Shaw, 2003, Poulose, Sudarsan and 2014).

III. Data and method

The aim of the paper is to identify the impact of commuting on the private life of men and women in Slovakia.Within the framework of the project VEGA No. 1/0621/17 "Decision-making Process of Slovak Households about Allocation of Time for Paid and Unpaid Work and Household Strategies´ Impact on Selected Areas of the Economic Practice" at the Faculty of Economics, Matej Bel University in Slovakia, we conducted a primary survey using a questionnaire method. Questionnaires were distributed to Slovak households in April - May in

2018 and consisted of several parts, resp. modules that aimed to find out more information (selected aspects of paid work, structure of unpaid work, division of roles in the household and others) both about Slovak households and about individuals in them. In particular, the uniqueness of the survey is that it provides aggregated data that cannot be obtained from available official statistics. By evaluating and comparing them, it is possible to stimulate a social debate in selected areas.

In connection with labor mobility, when processing the data, we focused on household members who were aged 15 to 64 and had paid job at the time. For the purposes of our survey, the type of employment relationship as well as the form of employment of the respondents was irrelevant. The questionnaire was representative of the gender, age and education of respondents. It was distributed to 732 households and attended by 1.819 respondents. Our evaluated sample of 1.043 respondents (568 men and 475 women) consisted only of individuals who had at least one paid job at the time. According to the aim of the paper we have formulated the research assumption:

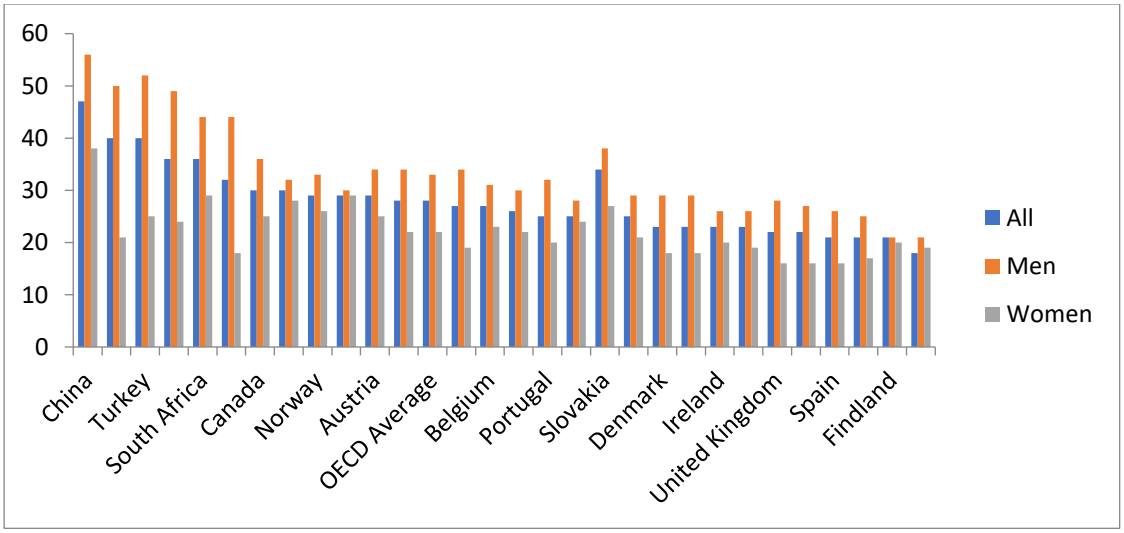
We assume that the impact of commuting on private life is perceived more negatively by women than by men. Our assumption is consistent with e. g. Dickerson et al. (2014) and Sweet, Kanaroglou (2016).

With regard to the goal of the paper, we have used simpler mainly descriptive statistical methods, which have resulted in a unique result for the first time ever.

IV. Results and discussion

In our previous research, we tried to quantify the time spent on commuting to and from work in Slovakia and compare it with other countries. It is clear that there are similarities in the world, but also significant differences in labour mobility. For better illustration, we have used the latest available OECD statistics (from 2016), which provide a comparison of time spent by traveling to and from work or studying for men and women in OECD member countries, China, India and South Africa. As these statistics do not have data for Slovakia, we supplement them with our findings. Given that we conducted our survey in 2017 and took into account only workers and not students, our comparison may be skewed. Nevertheless, in an effort to compare the situation in Slovakia with labour mobility in other countries, we illustrate the following Figure 2.

Figure 2 Average daily time of commuting to and from work or studying for men and women in selected countries (1999 - 2014) and Slovakia (2017)



Source: OECD, own processing according to VEGA 1/0621/17

Differences in labour mobility are related to the size of the economy, population density, labour market specificities and other country-specific characteristics. It is worth noting that the most time spent by commuting in the period under study was the Chinese population, who commuted an average of 47 minutes a day (men up to 56 minutes a day). In Japan, Turkey and Mexico, it averaged about 40 minutes a day. The inhabitants of Sweden spent the least time by commuting, on average only 18 minutes a day. Countries such as Finland, the USA, Spain, Italy, the United Kingdom and others are also characterized by shorter commuting times.

Based on the analysis of our questionnaire survey in 2017, we found out that Slovak workers commute on average 34 minutes a day (men 38 min / day, women 27 min / day). We can conclude that Slovakia is one of the countries where people spend more time by commuting. We are relatively well above the average of euro area countries (25 min / day) and the OECD (28 min / day) (Kollár, Mazúrová, 2019).

Further analysis revealed that there is a significant difference in the average time spent on commuting to and from work between the areas of the Slovak Republic at NUTS 2 level. The relatively longest average time spent on commuting was found in the Bratislava region, which may be related with a traffic situation in the capital (Mazúrová et al., 2017).

In addition to the time that employees spend commuting to and from work (so-called implicit costs), expenditure directly on travel expenses (so-called explicit costs) is also significant, which reduces households' disposable income. The questionnaire survey showed that a large proportion of commuters use their own motor vehicle and the average weekly monetary costs to travel to work are on an average 50 €/month. Differences in the length of commuting time as well as monetary costs are affected by the mode of transport as well as net wages. With a higher net wage, the average weekly attendance for work also increases. The above factors and more other create preconditions for the impact on the private life of employed individuals.

Table 1 shows the results of a questionnaire survey on the impact of commuting on the private life of employed men and women. The findings we present represent a subjective and retrospective view of commuting.

Table 1 The impact of commuting on the private life of men and women

Impact on private life	Men	Women
very positive	10.15 %	6.46 %
rather positive	19.37 %	14.15 %
neutral	48.89 %	49.23 %
rather negative	15.68 %	22.46 %
very negative	3.14 %	5.07 %
I can't evaluate	2.77 %	2.62 %

Source: Own processing using primary data from VEGA Project. No. 1/0621/17

Table 1 shows that about half of men and women are not affected by commuting at all. Interestingly, the attitudes of men and women in this case are very similar which we did not assume. Commuting has a more positive effect on men than women. However, the length of commuting is perceived less positively by women. Although the proportion differences are not very significant, the deviations are probably due, among other things, to the above-mentioned factors. Although we found out earlier that women spend less time by commuting compared to men in Slovakia, they perceive it more negatively. This finding may also be due to the fact that the total allocation of time during the day is different for women than for men. The difference in this case could be the subject of an even more detailed analysis, which could help to determine the cause of the impact of commuting on private life of men and women.

Table 2 shows the average assessment of the impact of commuting on the private life of employed individuals.

Table 2 Average values of the impact of commuting on the private life of men and women

Sex	Mean
Men	3
Women	3.22

Source: Own processing using primary data from VEGA Project. No. 1/0621/17

The higher value, the more negative than positive is the subjective perception of commuting (1 is very positive and 5 is very negative). In general, we can conclude that commuting of individuals is not perceived as either very positive or very negative, which we evaluate positively in terms of labour mobility and labour market flexibility.

Commuting time is the duration of the transition between the work and family domains. The theoretical status of commuting is not very clear, and not many scholars thematize commuting even when dealing with subjects such as work – family issues e. g., Powell, Greenhaus (2006) or boundary management Clark (2000). It would be appropriate, among other things, to identify what activities individuals perform during commuting. Commuting time does not have to be just a loss of time, but can be used if the mode of transport allows it also by useful activities. We agree with the idea that commuting time may also be seen as useful and beneficial for both work and family domains. According to boundary theory, people seek to minimize the effort required to disengage psychologically and physically from one role and re-enter another Ashforth et al. (2000). Achieving the optimal state as well as the greatest possible usefulness from commuting probably often requires a change in the usual stereotypes of behavior. Although our findings and interrelationships help to uncover many patterns of commuting to work, we are still unable to describe many of the links.

V. Conclusion

Commuting is in most cases a standard part of the day of employed individuals. The monetary costs of commuting reduce disposable income of households and the time costs of commuting affect allocation of time for paid and unpaid work and leisure time of households and thus the work-life balance of individuals. We are convinced that every employee strives to optimize commuting to and from work to achieve maximum efficiency. These hypotheses depend on the technical infrastructure as well as the mode of transport of commuters and their possibilities in this way (private motor vehicle, company or shared car, public transport, etc.). However, commuters do not always have the opportunity to choose the mode of transport as well as the activities they could carry out during travel.

Our findings show that, on average, men spend more time by commuting to and from work during the week compared to women. We can confirm this conclusion from multi-year surveys, which we conducted in the conditions of Slovakia. We found that commuting affects both male and female commuters. Commuting to and from work has a more positive effect on men, even though on average they spend more time by commuting during the day. An interesting finding is that the vast majority of our respondents perceive commuting as neutral which foreshadows that this activity does not evoke any feelings in them. In our opinion, this could be evaluate positively in terms of labour mobility and labour market flexibility.

This year was the labour market effected by COVID-19 pandemic almost in the whole world. Although several employers switched to home office, surveys that have been carried out in the Slovak Republic in the last period foreshadow that work from home does not suit all employees who did not have the opportunity to perform it before the pandemic. It is also one of the signals

that the lack of socialization of employees can lead to a decline in labor productivity and upsetting between their work- lives balances.

The results of several foreign scientific research have shown that commuting is perceived as stressful by commuters, which is linked to many factors accompanying the travel (e.g. Hobfoll, 2001, Bakker, Demerouti, 2016). The travel safety affects pandemics even worse. It is therefore appropriate to improve the conditions of commuting and increase the quality of travel. Despite the current state of unsatisfactory technical infrastructure in Slovakia, low quality of second and third class roads, low quality and insufficient availability of public transport (bus, train), this issue in comparison with other countries (e.g. Germany, United Kingdom, etc.) is not given sufficient attention in even scientific research nor in the public discussion. As labour mobility is one of the essential components of labour market flexibility, we consider it important to pay more attention on commuting and its impact on employees. Therefore, it is necessary to address this phenomenon from the perspective of both the public and private sectors.

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KAREL ENGLIŠ'S TELEOLOGICAL APPROACH AND THE CONFIGURATION OF HEALTH CARE SYSTEMS

Jan Mertl[1]

Abstract

This paper's aim is to reintroduce the teleological approach formulated by professor Karel Engliš approximately hundred years ago showing it as a highly useful analytical tool for social systems, including the health one. Engliš enriched the positive and normative approach of scientific analysis with teleological one, using postulates based on the principle of finality, and distinguished it both from positive causality and narrow normative measures or legal norms. Because health economics often struggles with handling the plurality of health systems, it is worth to search in theory for approaches that will improve this deficit and Engliš's approach has shown as perfectly suitable for this purpose. We therefore briefly explain the logic behind it, that was thoroughly defended in the literature in 1920s and 1930s. Then we search for specific attributes of four different health systems and sum the up into a table which briefly combines social models, fiscal and tax policy measures and ideals/postulates that those systems are based on. The result is better understanding of the health systems configuration and solid theoretical knowledge behind it, easing the need for finding the optimal or "most effective" health system by recognizing that more important is to know which properties and characteristics it should have and which principles it is built on.

Keywords

Health System, Teleological Approach, Fiscal Policy, Health Insurance

I. Introduction

Some economists worldwide are searching for single "optimal" configuration of health care system. They are assuming that using the tools of positive economic analysis such a configuration can be found. While creating abstract positive economic models, even for health economics, can prove highly useful for analysing healthcare as an economic entity, as shown e.g. by Grossman (1972) and Becker (2007), the empirical experience from world health care systems suggests different knowledge concerning searching what can be optimal for the health policy. It seems that multiple configurations do exist in practice, and while we might dispute the quality of their actual implementation, we can distinguish amongst various typologies of health care systems.

There are multiple main criteria in the typology of health systems that are usually important for classification. These are the resources of the system and the schemes of its financing (OECD, 2015), health care providers, their ownership structure and methods of payment (Culyer & Newhouse, 2000), the extent of availability of health care in the population and the method of its provision, the degree and method of regulation of individual actors. The traditional division into Beveridgean, Bismarckian and market models (Durdisová, 2005) is based on the setting of resources and schemes of financing the system.

The rational classification of health care systems related to the theory of public finance was made by Vostatek (2010; 2013), who extended the classical typology of welfare state models according to Esping-Andersen – social democratic (universalistic), christian democratic (conservative) and liberal model (Esping-Andersen, 1990) – by neoliberal model, which has

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developed approximately in the last 30 years. The benefit of this classification lies both in compatibility with classical models of social policy (Titmuss, 1958; Titmuss, 1974) and in the identification of typical economic and financial characteristics of individual models within the framework of public choice and tax policy. In analysing the use of these models in OECD countries (Vostatek, 2019), he shows examples from the setting of individual systems, such as the Swiss, Dutch and American examples of the neoliberal model, the German example of the christian democratic model, the Swedish example of the social democratic model and historical examples of liberal models. At the same time, he demonstrates deviations from the "pure" setting of these models, such as the German tendency to unify the scope of covered health care in the German statutory insurance and the partial consolidation of the number of insurance companies. He has also shown and emphasized the discrepancies between logic of social insurance and the universality of care (leading to problems with the usage of social insurance in health care) and the nature of regulation of compulsory insurance in neoliberal systems (Holub, Mertl, Šlapák, Vostatek et al, 2019).

There are also other remarkable typologies in theory that are worth considering (e.g. Field, 1973; Reibling, Ariaans, & Wendt, 2019); actually, health systems have one of the richest and diverse classifications amongst socioeconomic systems. We observe that many theorists tried to cope with this fact. Still, the economic theory sometimes struggles to capture healthcare within its framework of positive models and "laws" accompanied by normative policy suggestions and their actual implementation (Fuchs, 2000). It seems, that there is something more behind the observed plurality of health care system than just searching for the most effective or public choice-approved solution. This is to some extent valid for all social systems, but for health one is given the reality in world's health care systems very prominent.

I think that this research problem can be well resolved using the Karel Engliš's teleological approach, which I consider being a hidden gem of Czech economic thinking. Using the postulates and principle of finality, we can explain why in particular country such a system exists, what are its principles and ideals and determine the principal logic which it is based on. The teleological approach enables the researcher to overcome the limitations of both positive economic models and normative policies or analyses based on application of valid rules and possible regulations. Identifying the postulates which the health systems are created on, suddenly we can see much better their logic and we know why they are configured in a particular way, and we can even judge whether their configuration is right within the postulate's framework or not. This is especially important for health care systems as they typically are deeply rooted within a country's history, priorities, preferences, and institutional arrangements. It thus enables us to understand what is going on, not just apply positive model or suggest/evaluate normative policy.

This paper thus has got the following main aim: to reintroduce the teleological approach formulated by professor Karel Engliš approximately hundred years ago showing it as a highly useful analytical tool for social systems, including the health one.

As for the overall methodology, given the space available within the paper, we shall not describe the health systems' reality in detail, also because the reader can already find them e.g. in the European Observatory's Health in Transition series (Van Ginneken & Saltman, 2013; Cylus & Richardson, 2015; Busse, Blümel, Knieps, & Bärnighausen, 2017; Busse & Blümel, 2014; Boerma, Kroneman, Berg, & Groenewegen, 2016) and OECD Health at a Glance series (OECD, 2019). We shall rather focus first on explaining the teleological approach as defined by Engliš, then secondly on fiscal models of financing health care and then thirdly construct a synthetic table of four significant health systems (USA, the Netherlands, Germany, Great Britain) that demonstrates the different settings in practice.

II. Karel Engliš's teleological approach

An important element for the methodology of health care systems' analysis is to utilize the work of the Czech economist Karel Engliš, whose hundred-year-old work contains an elegant way to deal with the plurality of health systems at the level of economic theory and how to approach their analysis. Engliš, referring to the philosophical approaches of Immanuel Kant, in his work distinguishes the world into phenomena as they are ("simply existing") and as they should be (Engliš, 1930). This corresponds to the division of economics into positive and normative that is usual at present. There is no room for a logical intermediate between these two worlds. Engliš agrees with that and "does not insert any element into this fork" (Engliš, 1929, p. 281), but convincingly and in a number of specific polemics (Engliš, 1929; Engliš, 1929a; Engliš, 1932a) proves that the world as it should be ("other than existing") contains two aspects, two forms: the world of the wants/desirability (postulates) and the world of the obligations (norms). The very normative regulation and the form of the world to be is in Engliš's conception only subsequently created logically explainable structure based on the will of the subjects, which is attributed to them not in terms of psychic will, but the arrangement of desirable states, contents, materiality and their observation by teleological method. This is how Engliš understands the creation of economic systems (in the sense of finality and organizational purpose) based on postulates containing this will. The normative method therefore uses logical reasons to clarify certain measures (applicable specific standards) changing or regulating existing causality (if they are perceived as inadequate for a predetermined purpose or if it has proved necessary to establish certain rules for interaction between economic entities), while the teleological method is based on purpose and formulated postulates, examining the means to fulfil them and looking for usefulness in relation to purpose on the principle of finality (Engliš, 1930).

Engliš realizes that "the difference between positive (causal) thinking on the one hand and between teleological and normative thinking on the other is deeper than between the two then mentioned." (Engliš, 1930, p. 33). That might be why, at present, the normative method is often identified (without further distinction) with the principle of "as it should be" in the sense of the opposite of "as it is". However, in his time, Engliš paradoxically often defended the teleological method against the causal (positive) method and the subjective will (individual motive) leading to the observed causality (see his polemics with Bilimovič and Weyr about the impossibility of transposing teleology into causality and rejecting teleology as reversed causality). At the same time, however, Engliš points out that "normative theory is not right in that it occupies the whole area of thought outside of causal thinking, because it assumes tasks for which it is not sufficient in its formally logical construction" (Engliš, 1930, p. 25). Thus, the term *normative is seen* by Engliš *as narrower than we usually understand it today,* making space for teleological one. In the field of social policy (Engliš, 1916), this distinction is particularly important because it allows to define or understand a number of desired and desirable elements of social systems without pressure on their normative determination, or to find out on what and why valid standards (e.g. legislative, ethical or economic policy regulations) have emerged.

Table 1 Positive, teleological and normative approach as defined by Karel Engliš

	World as it is (existing)	**Other world than it is (non-existing), thus such a world that should be, either in the sense of being desirable or having an obligation.**	
Character of world	causal, natural world as seen by natural sciences and positive analysis	desirable (wanted) world, teleological approach	world of norms and obligations, normative approach

Basic knowledge	something exists	something is wanted (postulate)	something ought to be, in narrower sense (a norm)
Subject	things that we see as existing ones	postulates	norms
Understanding works by	causality (cause – result)	finality (purpose – means)	logical arrangement (application of the norms and their structure)

Source: (Engliš, 1930), adapted

Engliš states that "teleological vision sees measures forming state policy (e.g. in the form of regulation and other elements of economic policy) as a complex of means pursuing a certain common purpose, which binds them and makes them a system, produces certain benefits and prevents damage visible only from the point of view of the purpose, which forms a central valuable point ... without this purpose there is neither harm nor benefit." (Engliš, 1929). Today, we speak more about public policy or social policy then state policy, but the sense for application of teleological principle remains the same as when Engliš used it, amongst other usages because he designed this approach as a general and universally applicable, for central authority assignment. Therefore, this can be applied to health policy in specific countries by each system being constructed on certain foundations. principles and ideals; its functioning must also be assessed in relation to the postulates (in Engliš's terminology) according to which it was created.

This concept is useful for health policy, as health care is typically based on several postulates, which vary from country to country. However, the observation of causality alone cannot identify them, and in practice normative codification is typically the result of previous teleological efforts to implement them. Thus, the postulates themselves cannot be explained by a logical reason or obligation, but by a wish and a certain intention in relation to the content effects which we want to achieve on the principle of finality. We often work out their definition by creating a logical pyramid, on the top of which they exist or in the construction of which we follow a certain original purpose or principle that determines its character, and gradually decompose it into a set of partial postulates. In this way, in fact, most of the elements of health care systems are created, including the relevant normative legislation, which can already be explained for a logical reason. Including highly technically sophisticated systems such as redistribution of premiums, reimbursement of health care and medicines or construction of private health insurance products. However, their technical and logical sophistication need not determine their use within a health system – *it is the teleological view that determines whether they will be understood as a useful tool or not.* We can say that the "central maximum purpose" (Engliš, 1930, p. 95) in the teleological understanding of health care is human health. In this context, the problem of limited resources for health care can also be understood, which Engliš was aware of at a general theoretical level in relation to teleology (Engliš, 1930, pp. 89–130).

III. Three fiscal models for financing health care

In general, there are several options for setting up the health system. First, we can consider the health care system to be like the police, the military, justice and other "traditional" sectors of public finance and public services financed from general taxation. In this approach, the health care system is one of the important economic sectors and the level of health care expenditure is determined centrally through public choice and the priorities of budgetary and fiscal policy. In this sense, the position, power, and quality of governance of the Ministry of Health is particularly important, because the fiscal process is determined mainly through the legislative procedures of governments and public policy negotiations. The risks of this approach include

poor public governance practices (Greer, Wismar, & Figueras, 2015), poor public administration, and the health budget may be under pressure, especially at times when the entire state budget is tight (economic crises).

Secondly, we can set up one or more independent institutions (health insurance companies) that work on the principle of solidarity according to health status and usually income (in the case of compulsory participation). In history, these institutions were formed spontaneously on the principle of reciprocity and mutuality, then there was a tendency to use the average cost rate of the group, in the current terminology of community rating, because solidarity by income is difficult to implement on a voluntary basis. This creates a parafiscal payment that becomes the income of these health insurers. They then have their own balance sheet and budget, usually under supervision, but not through direct management of the public interest. When there are multiple insurance companies, the question of risk selection and the nature of the competition between them arises (Cutler & Zeckhauser, 1999). Examples are German statutory health insurance companies or French "mutuelles" (Brouland & Priesolová, 2016). This method is usually based on the allocation of a share of earnings or income to health care, either as social health insurance or premium payments to a mutual insurance company (in its pure form, especially in history), income tax or earmarked health tax (Bloom, Cashin, & Sparkes, 2017). Special question is whether we should have one or more of those institutions – single or multi payer model, given the scope of this paper we can only make reference to literature which clearly shows that (again) we cannot say generally which option is better (Petrou, Samoutis, & Lionis, 2018; Liu & Brook, 2017).

Third, we can make fundamental regulation (especially in terms of limiting the classification of health risks) of commercial entities that sell private health insurance on the market and provide a government subsidy for low-income or economically inactive citizens so that everyone can afford this product. at least as far as the universal (standard) level is concerned. This approach appeared in the private health insurance markets, where the public choice decided to keep their benefits as viable and at the same time wanted to achieve the goals offered by solidarity systems. There are still questions about the effectiveness of these (generally large) subsidies, and in some countries, the government is entering the market by creating large programs for poorer or more sick social groups (USA: Medicare, Medicaid). This system occurs in only a few countries around the world, such as the United States, Switzerland or the Netherlands.

These are model approaches; in many countries there is a slight overlap or creation of a dominant main system of one nature and at the same time a small "aside" system is run on another principle - for example Germany and its social (90% of the population) and private (10% of the population) health insurance (although we can see the private health insurance clients also as a social group which is compatible with the general German approach). To grasp this at the level of theory, we can usually identify the main or dominant approach to health care financing and then the complementary ones used in a given country.

From the fiscal policy point of view, these options mean the following fiscal models with corresponding funding schemes (Mertl, 2016):

- *Government expenditure program for health care* (with a significant share of budget funds within public finances) - allocation to the budget chapter of health care as a part of central systems of public finances. In the allocation of resources at the central level, supported by appropriate legislation determining the price level and volume of health care provided, health care is funded by "pure" allocation principles in the public sector. In this scheme, health care expenditures are more fiscally discrete, as the government decides on their amount and structure separately and annually, even if it does not have direct control over some variables that affect their volume (e.g. drug prices, etc.).

- *An independent institutional framework for health care financing*, where impact of political cycle and the role of the central government in health system management and running are limited. The main fiscal task is to collect and allocate the agreed amount of money to specialized autonomous institutions (health insurance companies defined by law, formerly also spontaneously created based on mutuality). In this public finance scheme, the relevant financial flows can be considered as mandatory elements and automatic stabilizers, as they are automatically allocated to health care as defined by law.
- *Subsidized / regulated scheme of private insurance products*, where people are obliged to buy a health insurance product on a regulated market, or receive support based on their social status so that they can buy a highly regulated health insurance product commercially. In this model, the degree of income differentiation and the level of regulation required are important for the government's position and fiscal volume of health care expenditures.

It is worth noting that the selection of these systems is the result of a long-term development of the financing of the health system and its configuration, public policy actors and fiscal policy alone cannot (or even ought not) oscillate between these schemes according to momentary priorities. At the same time, the question is whether and how the reserve funds of public health insurance companies should be filled, whether the cyclical development will be reflected directly in the state budget balance and will be an effort to optimize the flow of funds continuously (as does the British NHS, which moreover does not use a public health insurance institution), or whether health insurance companies will have a certain buffer to cover cyclical fluctuations (as partly is done by German statutory health insurance companies).

The individual schemes can then use earmarked payments for health care to varying degrees according to the following formula:

$$E = r_h \times w + N$$

where *E* is the obligatory earmarked payment for health care, *w* is the earnings (income – base for calculation) from which the earmarked payment for health care is paid, r_h is the rate of health insurance or health tax, *N* is the variable amount of nominal premium, paid either in full by participant or partly from a social transfer that the participant receives in connection with the obligation to pay a nominal premium.

The total amount of government and compulsory resources for health care (health resources/revenues – HR, which when we consider zero annual balance of health system are equal to health expenditure) can then be computed as follows:

$$HR = \sum_{i=1}^{n} E_i + G_T$$

It holds that for a given volume of HR, the volume of resources from general taxes (G_T variable) is inverse to the total of earmarked payments of participants $\sum E$ given their number n. The G_T variable therefore reduces the relative fiscal significance of the earmarked payment; the percentage rate r_h and the nominal payment N, on the other hand, increase it. Financing from general G_T taxes corresponds to the general setting (degree of progressivity) of the tax system, the obligatory earmarked payment is proportional at a uniform rate r_h and the nominal amount N has the character of a poll tax, i.e. without income solidarity. Individual items can be zero in specific systems. These equations can be directly computed for systems with payments defined by law, e.g. British, German and Dutch one; in the American system we could “only” sum up nominal payments and add government expenditure for government-run plans such as Medicare to get a rough estimation of these values (and then resolve the issue of tax exemptions which are very prominent there).

IV. Selected systems' configuration

When we look at the world's health systems, we can find typical representants of the particular postulates in the form of country health profiles, whose elements can be summarized in the following table. Fiscally they can fall into one of the models from previous chapter, which define the fiscal approach which is dominant for the country. This is not an attempt to create a new typology, but a comparison and synthesis of important elements of individual countries available at the Health in Transition database. The American and Dutch systems are unique in their kind, while the German performance-based (conservative) system created by the evolution of Bismarck's social insurance occurs in several OECD countries and the British universalist system of the Beveridgean type even more often. We can see that every system is based on its own ideals, principles or in Engliš's terminology postulate that determines its configuration and tools and measures used. It becomes then clear why they are utilized in particular country. The only common denominator here is the health status of the population, that is the goal that all the countries currently strive for (although e.g. 50 years ago the American system spoke rather about the individual health utility gained).

The sense of this table within this paper is to show what principle/postulate is utilized in the selected countries, which fiscal implications it has got and how it is connected with the social models which are included at the last row. We can observe, that until we identify the postulate(s), it can be hard to understand why particular system utilizes this or that norm or tool, and vice versa, when we do the identification "what is wanted" correctly, suddenly the logic of norms and policy trees become apparent. So we can clearly see, that the same element (in the first column) is fulfilled completely differently in observed countries, and still we cannot say that one of those ways is in principle wrong – as long as it is compatible with the general ideal/postulate in the first row. Thus, the table shows not only a description of the systems' properties, but it also makes link between social policy, fiscal policy and teleological postulate that the systems are built on. Understanding this link is crucial for understanding health policy, and the researchers should not get misguided by the "performance analysis" of health care systems leading to conclusions that one element is more effective than the other. As I wrote in the beginning, they are scientifically important, but all these analyses are then confronted with this framework and the only common denominator defined above. Thus e.g. the human capital model is highly useful, but whether the investment into health as a human capital will be done from public or private resources, using more equivalency or solidarity, using single-payer or multi-payer model is not given by the concept alone, but by the framework where it will be realized.

We can also say that the health systems often choose different paths to achieve common goals. At the same time, they differ in properties and values that are important for their constructions and actors, so the nature of the systems can radically differ – e.g. it would be unattainable in the USA to pay insurance premiums as a percentage of wage, and German citizens would probably not accept if large social groups are uninsured. But within the postulate that is valid in a country, we can see the payments according to income as a way to include everybody who is working into the system, we can see the uninsured as a result of free choice not to buy a plan, and so on. The same logic applies for the fiscal configurations, e.g. in Germany, where the solidarity is realized by the percentage earmarked payment, there is much less need for additional government transfers, and e.g. in the Netherlands, they accept the fiscal subsidies (health benefits) provided to large social groups as a tool enabling the people to choose the plan with a nominal (absolute) premium. This does not speak about the effectiveness of those tools, which ought to be analysed separately (and as written these analyses can be also very useful and have merit), but about their acceptance and compatibility with particular "pyramid of postulates" that applies in a country.

Table 2 Typical elements of American, Dutch, German and British health system

	USA	Netherlands	Germany	Great Britain
Ideal/postulate	purchase of insurance plan or health care on the market	managed competition of insurance companies and providers leading to improved care for all	compulsory insurance with social group differentiation and institutional autonomy of insurance companies	healthcare provided as a public service free of charge at the time of consumption
Character of earmarked payments to the system	absolute amount (individual premiums or community rating)	two-component payment (percentage rate + nominal premiums)	percentage rate of earnings up to the ceiling + percentage surcharge set by the insurance company	no specially earmarked payments
Role of general taxes (excluding general expenditures on public health and health administration)	subsidies of government programs and plans , support of community care, tax incentives and reliefs	subsidies for the purchase of insurance products, payments for children under the age of 18 years	payment of insurance premiums for the longer unemployed, contribution to central health fund, investment in the hospital network	dominant source of funding for the system
Correction / regulatory mechanisms (excluding patient participation)	rules for Medicare, Medicaid, regulation of insurance plans, FDA (drugs and treatment methods) activities, managed care	obligation to choose a product, prohibition of client rejection, redistribution of part of premiums, regulation of insurance companies and contracting of providers	redistribution of (almost) all premiums, possibility of insurance companies to set a surcharge to a uniform premium rate, regulation of legal and private insurance	waiting lists, mechanisms of effective allocation in the public sector, contracting in public sector with providers
Patient position/main task	choose an insurance plan adequate priorities and budgetary constraints and according to its content to move in the system to	choose an insurance company providing the optimal combination of nominal premium, nature and scope of services (with a guarantee of the basic package)	choose an insurance company and the amount of additional rate applied; a minority, if the income is above a certain threshold, consider switching to private insurance	to pay taxes and use health care and services according to objective needs; optionally purchase additional care and services not covered by the state
Manifestation of system imbalance, specific indicators of its development or problems	uninsured persons, insurance plans subject to "insurance health spiral", amount of administrative and legal expenses, costs of hospital emergency	number of persons non-paying premiums (defaulters), of those who get the health subsidy to buy insurance, balance of health insurance	balance of health insurance companies, movements between legal and private insurance	number of patients on waiting lists, waiting times for hospital treatment, forced use of private clinics paid for by direct payment
Health risk sharing	within individual insurance plans	at the level of individual insurance companies and at the national level accord. to % pay (6.95%)	at the national level through the central health insurance fund (14.6%)	at the national level
Mand. solidarity rate	low, need for charity	medium	high	full
Cost	high	medium	medium	lower
Root social policy model	liberal, neoliberal	neoliberal	performance based (conservative)	universalistic (social. dem.)

Source: author

IV. Conclusion

Enriching the common methodology of positive and normative economics by Karel Engliš's teleological approach proves useful also for analysis of social systems, because it works with the postulates that the systems are based on and which are behind the norms, settings and mechanisms that we see in practice; to some degree they also determine their usefulness within particular country regardless of their theoretical value or technical advance. To make space for teleological thinking, it is necessary to shrink a little the space that is currently occupied by

normative approach, Engliš was well aware of this fact and in his point of view the normative analysis is focused on the norms, mainly legal or otherwise compulsory, actually the teleological approach is seen by Engliš as a necessary prerequisite to construct and explain a "normative world". Engliš designed his theory as a general one, creating pure form of outlook, independently on any teleologically thought content. So the application of his theory on health systems can be seen as original contribution of this research paper, while Engliš mentioned the "health of the nation" several times in his books as a top priority in national economy, he did not specifically apply his theory on health systems focusing on making it as universal and general as possible, which proved to be very useful. Noteworthy is also the fact that Engliš during his career successfully defended his approach in several scientific polemics, which makes it more durable and possible current critics today ought to first be acquainted with these articles before dismissing teleology as a concept.

The institutional configuration of the universal part of the system can be organized on three basic principles which have got their fiscal implications. First, it is the provision of health care as a public service funded and organized by government and public administration. Secondly, it is an independent institutional structure of public (social, non-profit, mutual) health insurance companies with legislatively given revenues in interaction with the pluralistic ownership structure of health care facilities. Third, it is a mandatory or fiscally stimulated purchase of private insurance products on a regulated market. Decisive for health insurance is the problem of quantification and sharing of health risk connected with medical underwriting in private insurance, which has been highlighted by the development of medicine, demography and the cost of care, which has gradually changed the functioning of social and private health insurance. In the last half century, this has led to the construction of a central (national) redistribution of compulsory insurance premiums in a multi-payer system and to the significant regulation of private health insurance. Considering the teleological principle, we must decide which of those three principles we want to use as dominant in particular country, or at least correctly identify which one has there spontaneously evolved. *It is of no use just to replace one with the other claiming that this change alone will bring higher effectiveness or better performance, although it can change the nature and quality of the system.*

The basic postulate of the American system is participation in the chosen insurance plan and its individual selection on a (regulated) market. The key dispute over Obamacare was the extent to which these plans were to be regulated in terms of entry criteria for participation and pricing, and whether Americans had to buy a plan. Insurance plans with social criteria for participation and significant fiscal support are also offered by the US state (Medicare, Medicaid). The universal part of the system is reduced to catastrophic, life-saving care and is complemented by selective charity. The system has got an extremely high cost, it costs from public sources the same level as lower expenditure European countries and from private resource it adds once more again. Nevertheless, developments over the last 10 years show that the choice of insurance plans, plurality at all levels of the system, and compatibility with a socio-cultural environment based on individual choice is likely to be so important to Americans that they will not leave their system.

The Dutch system was created by unifying the previously dual system of social and private insurance based on the deliberate construction of three health markets with managed competition. This has been the main postulate, although the practical implementation must have made some compromises. The two-component fiscal space consists of a percentage rate of earnings entering the redistribution of premiums and an absolute nominal rate paid to the selected health insurance company. For its operation, the system needs significant fiscal support in the form of payments for children and contributions to the population to pay the nominal premium. The non-profit principle is significantly applied.

The German system is based on the insurance of individual social groups and the considerable autonomy of statutory health insurance companies. To participate in the (predefined or later chosen) social group covered by insurance has become main postulate. Socioeconomic development have forced the abandonment of the employee principle of social insurance and extensive central redistribution of premiums associated with the consolidation of the number of insurance companies, but at the same time from 2015 statutory health insurance companies can again set their own percentage surcharge to the central redistributed premium rate and provide specific programs for your insured. Participants in private health insurance with significant regulation are also a separate social group in Germany.

The British system is a classic example of the provision of health care as a public service organized by public administration (postulate). The volume of health care expenditures is decided centrally; health care is financed directly from the state budget and provided through a structure of general practitioners, hospital trusts and community health and social care. This determines the functioning of this model in both positive and negative terms. There has been a repeated public debate on the amount of resources allocated to British health care amongst other fiscal priorities, and the government has a major influence on the practical functioning of the system. Partial initiatives to increase internal competition and public sector management reforms usually do not last too long, but in general they follow each other and respond to the problems or bottlenecks sensitively perceived by the British public (e.g. waiting lists, low responsiveness and limited patients' choice).

We should recognize that using the teleological method, we can also analyse and formulate the implications for Czech health care, based on the conditions and context specific to Czech conditions, as the health care system has gradually developed here and what priorities in public choice appear here. It is possible to maintain principles such as solidarity-based financing, general availability of health care and a uniform rate of health insurance premium (earmarked health tax). At the same time, adjustments could be made to those elements where development since year 1993 showed the appropriateness of corrections (for example, the construction of fiscal space, reimbursement and redistribution of premiums, understanding the standard of health care and the employment of health insurance companies). We can preserve system of multiple health insurance companies, enhance the mechanisms of its operation and dynamics, pursue exploration of synergistic effects, and ways in which it can be beneficial in the universal and optional part of the system (Mertl, 2018) – if *we make these things a postulate that we shall want to achieve*. As a secondary option, we can examine the characteristics of the system managed by the government and regional health administrations as a theoretical variant, because currently the conditions under which it can be considered and work well are not met in Czechia. Czech situation is for sure out of scope of this paper, but we dare say that the teleological approach can help us in this process the same way it has been demonstrated here.

Based on an international comparison, it can be concluded that health care financing reforms cannot simply be replanted between countries; each country has a unique context, initial conditions and ideals that it reflects in the construction of its health care system. This is in line with the teleological approach of Karel Engliš, who, based on the definition of these postulates, defined a suitable approach to the analysis and conception of national economic systems, including health care. It is necessary to know the characteristics of individual forms of health care financing and in this paper I have shown the principles on which individual systems are primarily based, but their use depends on the priorities of public choice and ideals of citizens of the country, the quality of implementation of individual schemes and national targeting for specific conditions and causality.

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DEVELOPMENT OF POVERTY IN THE CZECH REPUBLIC BETWEEN 2008 AND 2018

Martin Murín[1]

Abstract

Many economists consider poverty to be one of the most urgent problems of the future. There are opinions that modern capitalism has caused an increase in poverty and income inequalities. However, it seems to depend mainly on the angle of vision, whether the authors take a country or broader region approach. Under digital progress, new socio-economic tasks are emerging, and poverty might become even more prominent problem. There is no doubt that one of the crucial factors to reduce poverty is economic growth and how economic growth affects income distribution. This study focuses on the development of poverty and income distribution development in the Czech Republic between two recent economic peaks, specifically between 2008 and 2018. The contribution aims to find how poverty and related income distribution have changed over this period and make a comparison among selected European countries. Results suggest that in the case of Czech poverty it is the lowest among followed countries. However, good performance in terms of overall data is not as satisfying in a more detailed view. Even though female poverty rate in the Czech Republic is the second-lowest, the ratio between female and male in poverty is the highest.

Keywords

Poverty, Income Distribution, Income Inequality, Economic Growth, Czech Republic, European Union

I. Introduction

Poverty is one of the struggling issues of the current world. Even though the world has made massive progress in the last two centuries, there is still a relatively high portion of people living under the most challenging conditions. World Bank (2020) estimates that in 2015 approximately 10% of the world population lived in extreme poverty, which is in comparison with 36% in 1990 significant achievement, but it still counts for 734 million people. The current pandemic of COVID-19, in conjunction with the populist and irresponsible political leadership in many countries, will make things even worse.

Extreme poverty is defined by the World Bank from the monetary perspectives as living with less than 1.90 international $ per day per head. Such conditions are desperate, and from our views, it is almost impossible to imagine it in Europe. We realize that poverty in Europe is different from the rest of the world. Majority of European countries belongs among the wealthiest and most developed counties with social policy tends to help, which has an impact on the low level of extreme poverty. For this reason, we decided to focus on the broader definition of poverty, which can be approximated by the concept of being at risk of poverty or social exclusion. Based on the literature review, this is not the only method to follow poverty but has several advantages like data availability and comparability, and it is relatively easy to track and compute. This indicator combines three features. The first is the monetary approach slightly similar to the method used in the extreme poverty threshold, the second is material deprivation, and the third is living in households with very low work intensity.

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This contribution is more of a descriptive paper rather than the contribution to the worldwide knowledge of poverty. The research interest is to investigate the development of the Czech Republic poverty in recent years, specifically period between two economic peaks 2008 and 2018.[2] As history has taught us, improvements in poverty rates are mainly due to economic growth. Economic growth has been the primary factor for millions to escape monetary and material deprivation. Logically, a positive correlation between poverty rate and economic growth is possible only because of improvements in income distribution. For these reasons, the analytical part of this study focuses not only the poverty but follows indicators of income distribution and economic growth as well. Hence the paper aims to find how poverty and related income distribution have changed in the Czech Republic over the period from 2008 to 2018 and make a comparison among selected European countries.

From the results stem that the Czech poverty rate between 2008 and 2018 could be considered as the lowest one. Macro data shows that the relationship between poverty and economic growth can be regarded as important as well in case of developed countries. There is no evidence that economic growth directly leads to change in income inequality, on the other hand, as Ravallion (2015) or Roser and Ortiz-Ospina (2019) point out, economic growth is necessary but not sufficient condition for poverty to reduce. Czech income inequality measured by the Gini coefficient is not the lowest but belongs among the low ones. Despite the relatively good overall performance in poverty, we found that the ratio between female and male poverty rates is significantly highest. Czech women could be regarded as not so poor in comparison with other countries, but their relative position to men is much different. The average ratio of female to male poverty rate was 1.27 in Czechia and 1.09 in EU-27.

II. What is poverty and how to measure it?

Poverty is a social phenomenon that could be characterized by material and income deprivation. Deprivation can have broader consequences than only social or economic but the political too. For instance, Boone et al. (2018) discussed unequal and injustice distribution of democratic power between the poor and non-poor which can lead the governments to adopt suboptimal measures for the poor. In this vein, Krumer-Nevo (2017) points out that it is not like that poor are quietly; instead, they are not wanted to be heard by the rest what creates a lack of social, hence political, power the poor have.

The question which is used as a name for this section is by Krumer-Nevo (2016) the ontological one. In his literature review, one can find relatively in-depth discussion on the ontogenesis of the academic viewing of poverty. The cultural theory of poverty sees poverty as psychological, moral, behavioral and cultural pathologies or deficit of person. Cultural poverty of Lewis (1966) somehow led to stigmatizing because it allowed portraying poor people as "clients of the welfare state", as damaged ones. There have been severe criticisms of cultural poverty, which is primarily based on a critic of neoliberalism and paradigm of individualism. This retraction has led to an understanding of poverty to be a more complicated and complex problem. The structural approach is the second ontology. Structural approach perceives poverty as societal inequality and injustice. Krumer-Nevo (2016, p. 4) claims that according to structural approach "*poverty is the result of a structure of limited opportunities that are particularly confining for certain groups like women or ethnic minorities*" and others. The best way to highlight the difference between these two ontological views is an easily imaginable example. Let´s imagine a poor single mother. From culture poverty perspective one can say that she is single because she is somehow damaged, like her personality is immoral or problematic, or it is a consequence of internalization of family´s norms. On the other hand, the structural approach perceives single

[2] The term "between two economic peaks" is used only for this study and is not mean to be semantical accurate. One should keep in mind that the economic peak in researched countries was not in 2018 but 2019. However, data for 2019 is not available yet for every cross-sectional unit.

mother, for instance, as a result of insufficient supply of men who could become reliable breadwinners in the context of poverty, violence, incarceration and unemployment For all these and more see Edin and Kefalas (2005). The main difference is while the culture of poverty places responsibility on people in poverty, structural approach places it on institutions.

According to Krumer-Nevo (2016), the third approach which answers the ontological question "what is poverty?" is covered by poverty-aware paradigm. Poverty-aware paradigm sees poverty as a violation of human rights. This approach is built upon and extends the structural approach. Krumer-Nevo (2016, p. 5) claims that *poverty not only as a lack of material and social capital (e.g. adequate housing, education and health), but also as a lack of symbolic capital, manifested in stigmatization, discrimination, 'Othering', lack of voice and ignoring the knowledge of poor people (Krumer-Nevo, 2016, p. 5).*"

Culture of poverty, structural approach and poverty-aware paradigm are crucial ontological views of poverty. The chosen one is then important for policy and social practice, especially for social work practitioners. Understanding and perceiving of poverty by politicians are consequential for open discussion. If the neoliberal paradigm, individualism or stigmatizations represented by the theory of culture of poverty is predominant, then the society will not call for severe measures, because treating the poverty is not an easy thing do.

Despite the importance of the ontological point of view, for this contribution, it is more in-need to ask not what poverty is but ask how to measure it. In this manner, we mostly rely on Ravallion (2015) and Roser and Ortiz-Ospina (2019). The first decisive thing is to settle whether we are exploring absolute or relative poverty. Absolute poverty means that we set criterion (criteria) with no relative connotation to the region by means of we distinguish whether the household is poor or not. Relative poverty could be characterized as a rule which takes into consideration the living standard in a particular region. Then one can determine whether the household is poor or not. The easiest way to explain the differences between absolute and relative poverty is to look at monetary (income) poverty. Monetary poverty is based on income criterion. World Bank (2020) sets 1.90 international $ per day of a member of the household as a threshold for extreme poverty. World Bank´s extreme poverty is an example of absolute poverty. On the other hand, monetary poverty defines by Eurostat (2018b) as people at risk of monetary poverty is an example of relative poverty. The income threshold definition is 60% of the national median equivalized disposable income after social transfers. If people have their equivalized disposable income (after social transfers) below the threshold, they are considered as being at risk of poverty or relatively poor to the rest of the nation. It is clear that the actual value of the threshold differs between countries, due to the difference in national medians.

Monetary poverty is one of the most useable method to measure mainly because it is relatively easy to follow and compute. Using historical research approach, Bourguignon and Morrisson (2002) were able to estimate income poverty as far back as 1820. They showed that the world had made enormous progress in last 200 years, and all was allowed due to the economic growth, which broke the assumptions of Malthus economy. In 1820 almost 84% of the population live below 1$ per day in comparison with 23.7% in 1992.[3] As Hellebrandt and Mauro (2015) show these positive trends will continue onto the future. They estimated that the world income distribution would be less unequal in 2035 than is today.

However, for such a long span into history like Bourguignon and Morrisson´s (2002) one, the validity of the comparison is at least questionable. In this vein, Roser and Ortiz-Ospina (2019) present some remarkable comments. It is almost impossible to compare these two periods because the different availability of goods and services in time. For instance, their example of an inter-periodic difficulty of comparison is brilliant: "*Nathan Rothschild was surely the richest*

[3] Measures are computed in PPP $, 1990 = 100.

man in the world when he died in 1836. But the cause of his death was an infection — a condition that can now be treated with antibiotics sold for less than a couple of cents. Today, only the very poorest people in the world would die in the way that the richest man of the 19th century died." (Roser and Ortiz-Ospina, 2019).

Eurostat (2018a) presents other, but a rather modern, approach to tracking poverty. It is material deprivation. From the methodical point of view, estimating poverty as far back as Bourguignon and Morrisson (2002) seems to be at least challenging if it is even possible. Material deprivation is defined as a state when households cannot afford to pay unexpected expenses, a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, the adequate heating of dwelling, durable goods like a washing machine, color television, telephone or car, being confronted with payment arrears. The indicator of material deprivation indicates that someone is deprived when she/he could not afford three items. If someone cannot afford four or more things, then she/he is severe material deprived.

Last indicator from the Eurostat (2018c) which is somehow helpful to follow poverty is persons living in households with very low work intensity. It could be characterized as the number of persons living in household where members of working age worked less than 20% of their total potential during the previous 12 mounts (Eurostat, 2018c). This indicator does not directly focus on poverty, but rather on the risk of being at poverty or better risk of being socially excluded. It is because the working income forms a substantial part of the net living income of households.

Table 1 The dimensions, indicators, deprivation cutoffs, and weights of MPI

Dimensions of poverty	Indicator	Deprived if…	Weight
Health	Nutrition	Any adult under 70 years of age or any child for whom there is nutritional information is undernourished.	1/6
	Child mortality	Any child has died in the family in the five-year period preceding the survey.	1/6
Education	Years of schooling	No household member aged 10 years or older has completed 6 years of schooling.	1/6
	School attendance	Any school-aged child+ is not attending school up to the age at which he/she would complete class 8.	1/6
Living standards	Cooking fuel	The household cooks with dung, wood, charcoal or coal.	1/18
	Sanitation	The household's sanitation facility is not improved (according to SDG guidelines) or it is improved but shared with other households.	1/18
	Drinking water	The household does not have access to improved drinking water (according to SDG guidelines) or safe drinking water is at least a 30-minute walk from home, round trip.	1/18
	Electricity	The household has no electricity	1/18
	Housing	At least one of the three housing materials for roof, walls and floor are inadequate: the floor is of natural materials and/or the roof and/or walls are of natural or rudimentary materials.	1/18
	Assets	The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.	1/18

Source: Alkire and Jahan (2018)

Eurostat´s monetary poverty, material deprivation and persons living in households with very low work intensity are used to compute indicator called people at risk of poverty or social exclusion. This indicator is substantial for this contribution. Nevertheless, we must emphasize other methods. Poverty from its nature is a multidimensional issue, see for instance Ravallion

(2015), Roser and Ortiz-Ospina (2019) or Bader et al. (2016). It means that only the income/expenditure approach could overlook broader aspects of poverty. Some certain goods and services might be affordable, but what if someone does not buy them and instead buy something useless? Income/expenditure in the context of the welfare of a person might not tell the whole story. Therefore, then the multidimensional approach of measuring poverty has in Bader´s et al. (2016) study several dimensions. Education, health and standard of living. Probably the most used indicator is MPI (multidimensional poverty index) which employs Alkire and Foster (2011) method.[4]

Table 1 shows MPI and its dimensions, indicators, deprivation cutoffs, and weights. From the table, it is well seen the multidimensionality of MPI approach to the poverty. Hence, this indicator should be better to track poverty than income/expenditure methods, although, the MPI is not compute for the OECD and EU countries yet.

III. Poverty in the Czech Republic between 2008 and 2018

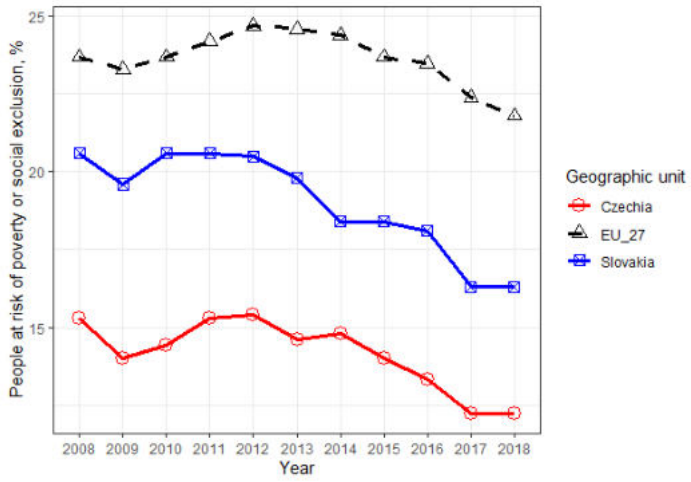
This study focuses on the development of poverty and income distribution development in the Czech Republic between two recent economic peaks, specifically between 2008 and 2018. The contribution aims to find how poverty and related income distribution have changed over this period and make a comparison among selected European countries. These countries are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden, United Kingdom plus Iceland, Norway and Switzerland.

For these reasons, we must first decide what poverty is in this study. We know that European countries have a different experience with poverty than Asia, Africa or Latin and South America. It brings as an idea that extreme poverty is not the best indicator for developed countries. Hence then we understand poverty stricter. Eurostat (2020) published indicator called people at risk of poverty or social exclusion which track a person who is below the poverty line at 60% of median equivalized income, or suffers from material deprivation, or lives in a household with low work intensity, or both (for more detailed definitions see the previous section). In the following text, this indicator is used to describe poverty and its percentage of the population is called the poverty rate.

Figure 1 shows the development of the poverty rate in Czechia (short term for the Czech Republic), Slovakia and EU_27, which represents all members of the EU from period 2007 to 2013.

[4] For more detailed information see link https://ophi.org.uk/research/multidimensional-poverty/alkire-foster-method/.

Figure 1 Development of the poverty rate in Czechia, Slovakia and EU-27

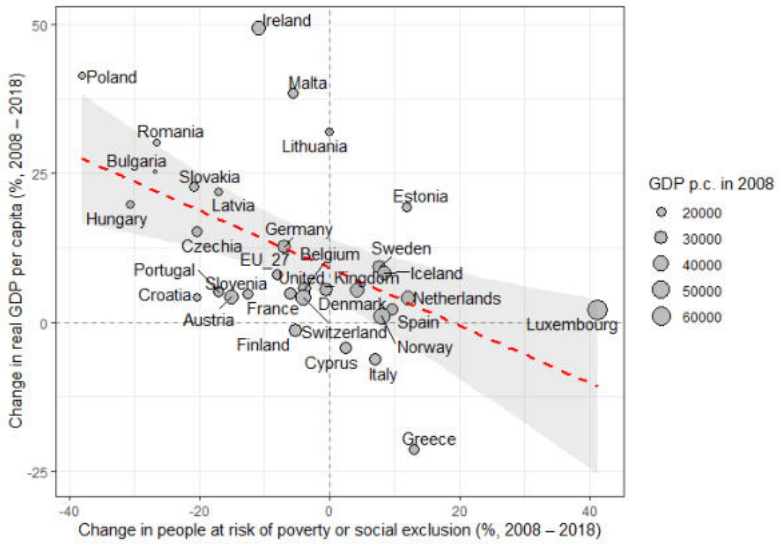


Source: own elaboration, data retrieved from Eurostat (2020)

From the selected time series, the poverty rate between 2008 and 2018 has a declining trend. However, the economic crisis reflected in the lagged inclining in poverty rates since 2009. In Slovakia and Czechia, 2009 is the year of the most significant economic downturn since separation in 1993. From figure 1, it is seen that the poverty line in Czechia is the smallest. Data for 2018 shows that Czechia´s poverty rate (12.2%) is the lowest among followed countries. The second, Iceland, has a poverty rate at 12.8% and the third, Slovenia, at 16.2%. Worst three economies in 2018 are Bulgaria (32.8%), Romania (32.5%) and Greece (31.8%). Average value for EU_27 is 21.8%.

According to many researchers, for instance, Roser and Ortiz-Ospina (2019) or Hellebrandt and Mauro (2015), the primary measure of improvement in poverty is economic growth. For this reason, we decided to look at the relationship between the change in the real GDP per capita and the change in the poverty rate during the period from 2008 to 2018. Figure 2 shows the results. It seems like a declining relationship, although not very strong because not every country behaved as predicating by the estimated line. For instance, Finland recorded a lower GDP per capita in 2018 than 2008, but the poverty rate lowered by 5.2%. The majority of economies grew. Only Cyprus, Finland, Greece and Italy did not, despite these we could not conclude that the poverty line declined in all other countries.

Figure 2 Economic growth and changed in poverty rates in European countries



Source: own elaboration, data retrieved from Eurostat (2020)

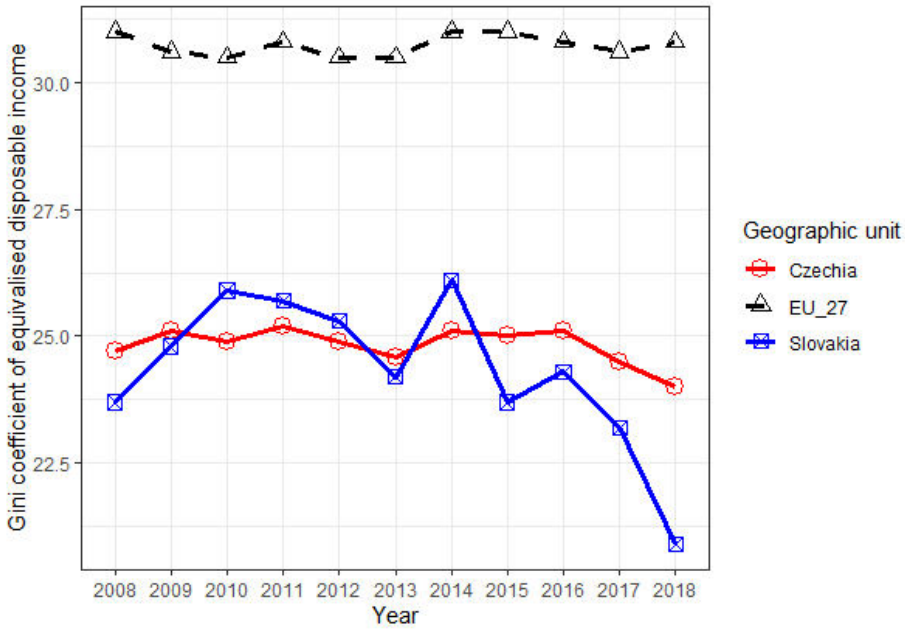
The scatter plot in figure 2 can be divided into four quarters according to vertical and horizontal lines puts at 0. First quartal represents economies which grew, and the poverty rates fell. Second quartal contains countries which grew too, but the poverty line increased. The third represents countries with negative economic growth and positive change in the poverty rate. Fourth quartal shows economies where the GDP per capita and poverty rates both fell. When we split the graph like this, we see that the distribution is:

$$(q_1, q_2, q_3, q_4) = (19, 9, 3, 1), \qquad (1)$$

where q_i stands for quartal i = (1, 2, 3, 4) in respect with text above. It means that 22 cases are in line with the expectation that economic growth leads to a decrease in poverty and vice versa. On the other hand, 10 cases go against it. Hence, economic growth itself is not the only condition. As Roser and Ortiz-Ospina (2019) economic growth should be accompanied by the appropriate change in income distribution. For that reason, we look at the Gini coefficient and its development during examined period.

Figure 3 presents time series of Gini coefficient in the period from 2008 to 2018. We can see that the Gini coefficient of EU-27 is relatively stable. In Czechia, the only a modest decline since 2016 is marked. Slovakia seems to be different because its Gini coefficient is more volatile than the other two, and we might say it has been declined since 2016. From these three cross-sectional units, Slovakia has the lowest income inequality measured by the Gini coefficient. If one look at the dataset, he could see that the Slovak Gini coefficient in 2018 is the smallest one among all examined countries. It was 20.9. The second smallest were in Slovenia (23.4) and the third in Czechia (24). The highest Gini coefficient was in Bulgaria, it reached 39.6. Second highest was obtained in Lithuania (36.9) and the third highest was the Latvia´s one (35.6).

Figure 3 Development of Gini coefficient in Czechia, Slovakia and EU-27

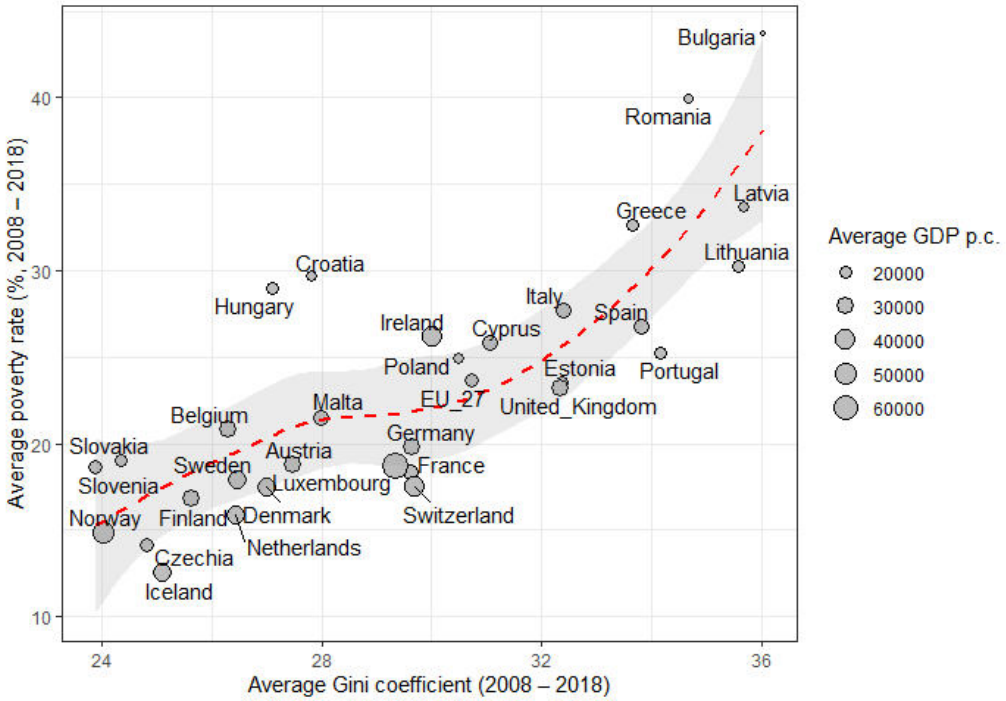


Source: own elaboration, data retrieved from Eurostat (2020)

We detect that some countries with relatively high poverty rate were seen to have relative high Gini coefficient in 2018, namely Bulgaria, Romania or Latvia. On the other hand, some countries whose poverty rates performed best had relatively small Gini coefficients. Hence, for that reason, we had decided to look at the relationship between the poverty rate and the Gini coefficient. We calculated averages of both in the period from 2008 and 2018. The result can be seen in figure 4.

The automatically estimated smoothing line of figure 4 is almost linear and increasing. It means that for nearly all cases apply that the higher poverty rate, the higher income inequality measured by the Gini coefficient. On the other hand, countries like Croatia, Hungary, Romania or Iceland seem to be slight outliers. For instance, if one looks at Croatian and Hungarian levels of poverty rate, if the relationship held perfectly, their Gini coefficient should place somewhere between Italy and Lithuania.

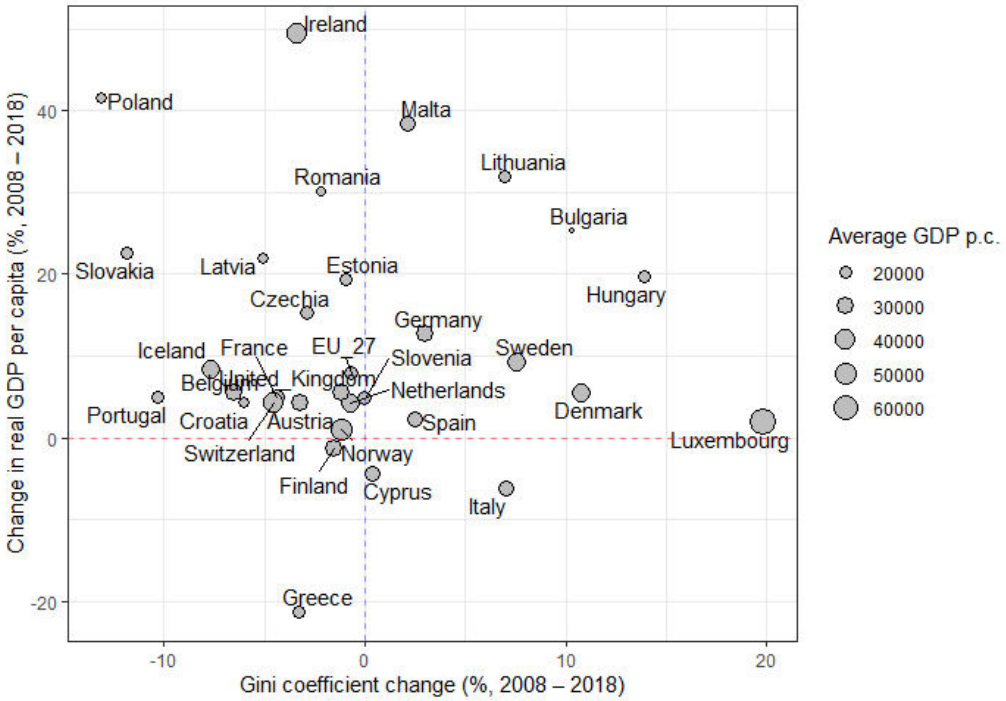
Figure 4 Gini coefficient and people at risk of poverty or social exclusion in European countries



Source: own elaboration, data retrieved from Eurostat (2020)

We were curious how is the Gini coefficient associated with the economic growth in our sample. We know that economic growth is the most influential determinant for poverty rates to decline. However, economic growth should lead to a decrease in income inequality to the previous statement holds. Figure 5 presents the scatter plot of the changes in real GDP per capita and the changes in Gini coefficient both in the period from 2008 and 2018. Figure 5 suggests no relationship between these two variables. As we already know from figure 2 only 4 economics decreased their GDP per capita between 2008 and 2018, Nevertheless, 12 economies increased their income inequalities.

Figure 5 Economic growth and change in Gini coefficient in European countries



Source: own elaboration, data retrieved from Eurostat (2020)

Figure 5 can be divided into four quadrants, like figure 2. First-quadrant represents cases when GDP per capita change was positive, and the Gini coefficient declined. Second-quadrant presents all countries with increased both GDP per capita and Gini coefficient. The third shows only Cyprus and Italy, therefore economies where economic growth had a negative trend, and the Gini coefficient increased. Last, the fourth quadrant represents all cases with declined GDP per capita and decreased Gini coefficient. Distribution among all quadrants is:

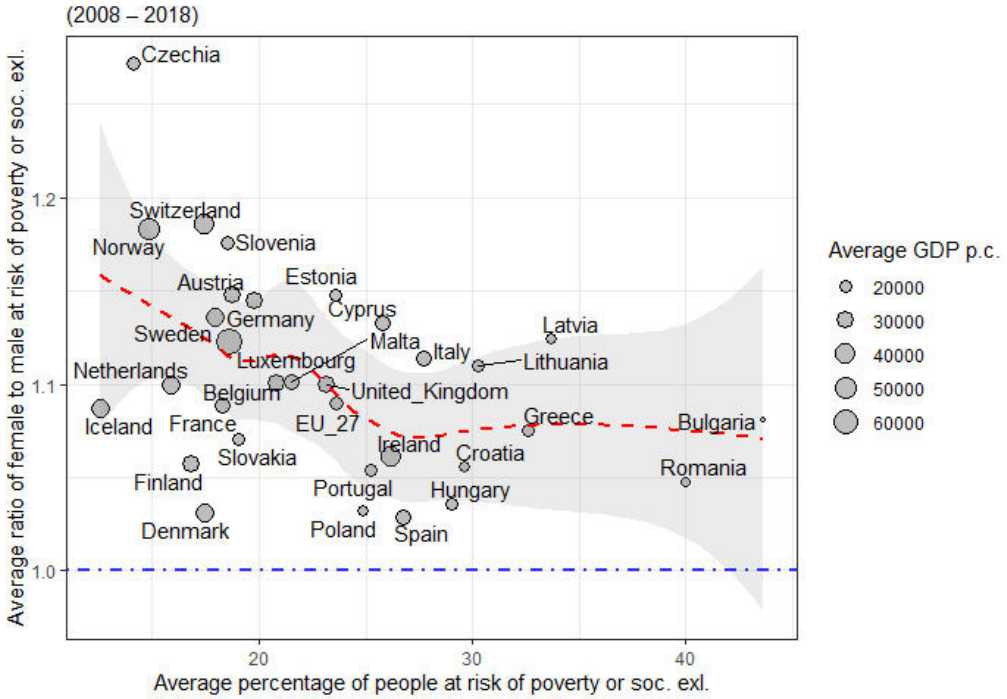
$$(q_1, q_2, q_3, q_4) = (18, 10, 2, 2), \qquad (2)$$

Macro data could help us to reveal some major information about poverty in the economy, but this approach can be very misleading. For instance, Jahoda and Sirovátka (2019) examine the in-work poverty in the Czech Republic and they show, that despite the low global in-work poverty rate, the partial results might not be so satisfying. In this introductory study, we decided to look at only one of the considering microdata, and it is the gender.

In global, Czech females' poverty rate in 2018 is the second lowest among examined countries. The same result we get, when we look at the averages. Czech female's poverty rate is 15.8% on average. The European average is 24.6%. The highest rate is in Bulgaria (45.3%). It seems like the country rank follows a similar pattern like the macro poverty rate.

We find a considerable difference when we look at the ratio between female and male poverty rates. Figure 6 shows the scatter plot of average female to male ratio and average poverty rate. The Czech position in figure 6 is evident. Despite the low average poverty rate, the ratio of female to male poverty rates is highest among all countries. When we explored the differences between 2008 and 2018 ratios, we found that the Czech ratio increased mostly. It can be seen in figure 7. The over the time change in the Czech poverty rate is not the best.

Figure 6 Average ratio of female to male and average percentage of people being both at risk of poverty or social exclusion in European countries



Source: own elaboration, data retrieved from Eurostat (2020)

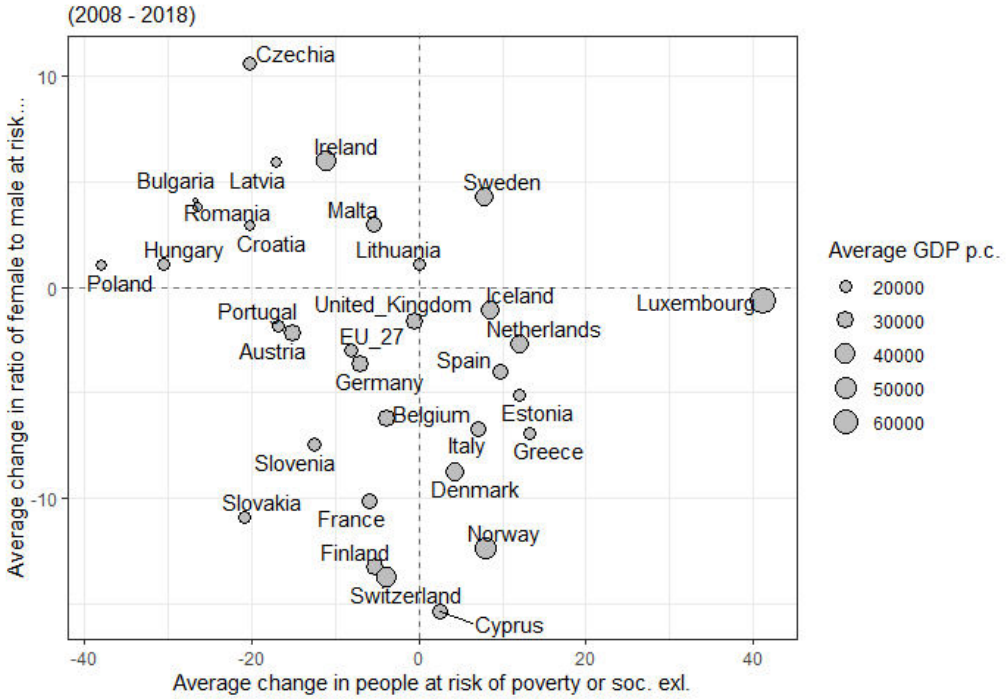
Slovakia, Romania, Bulgaria, Hungary and Poland decreased their poverty rates more than the Czech Republic. In eleven countries, the relative position of females got worse, and only in Sweden, it was accompanied by an increase in the poverty rate. Other ten countries had a higher poverty rate in 2018 than in 2008. We see that twenty-one cases improved relative position of females to males in term of poverty rates. However, we are not able to conclude that it was due to the change in global poverty. Eleven of them achieved a lower poverty rate and ten the opposite. Change in the ratio of female to male poverty rates is not influenced by the change in the poverty rate of whole population in the country.

Data reviled that the position of Czech women is very good in international comparison. However, in term of relative position within-country population, it gains the worst rank almost every year. Only in 2014, the ratio was higher in Switzerland and in 2016, which is the year with the lowest Czech value, Norway and Estonia overcame the Czech. Since 2016 the increase in the ratio is skyrocket. It goes from 1.22 in 2016 to 1.43 in 2018.[5]

When we see the outlying Czech position among all followed countries in the vein of the relative state between women and men poverty rate and its development in the period between two economic peaks, it quickly becomes a topic for the next study. From research perspectives, it is crucial to explain why it has occurred. We know that thinks like real GDP per capita, economic growth and development of the poverty rate itself is not able to explain these differences. We believe that institutions (social and political) play the main importance here. Hence then, we need to test and verified it within our future study.

[5] In 2019 the ratio was 1.40 based on data from Eurostat (2020). However, we do not incorporate 2019 into the analysis because data are not available for every cross-sectional unit.

Figure 7 Change in ratio of female to male and change in people in risk at poverty or social exclusion in European countries



Source: own elaboration, data retrieved from Eurostat (2020)

IV. Conclusion

Poverty is one of the most challenging socio-economical problems of the modern world. Even though tremendous progress made historically, there are millions of people who could be considered as a poor one. We focus on poverty development in the Czech Republic in comparison with European countries during the period between 2008 and 2018. These countries have a different experience with poverty than for instance Asian or African countries. For that reason, we defined poverty stricter than the World Bank (2020) does. In this paper, the poverty could be characterized by the indicator at-risk-of-poverty or social exclusion. As it was mentioned several times, this paper is mainly the descriptive one and has no direct aspiration to shed more light on poverty knowledge. On the other hand, a simple descriptive analysis shows some remarkable facts, which are useful for its future study.

We showed that the overall Czech poverty rate is one of the lowest. There is a positive relationship between economic growth and poverty rate. However, the effect of economic growth on income inequality seems to be ambiguous among followed countries. However, the Czech Gini coefficient is still one of the lowest. When we look at the position of females, we discovered that Czech females are at a shallow level of poverty rate in comparison with almost all examined countries. Czech females' poverty rate was 15.8% on average. The European average was 24.6%. The highest average percentage of females in poverty was in Bulgaria (45.3%). However, when we look at the ratio of females' poverty rate to the males' poverty rate, we discovered that the ratio is outlying in the Czech Republic in comparison with every other country. The average ratio of female to male poverty rate was 1.27 in the Czech Republic and 1.09 in EU-27. Hence then, in the future, we must attempt to explain these differences and try to answer the question, why is the relative state of females to males so different in the Czech Republic in comparison with other European countries.

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THE POSITION OF THE CZECH REPUBLIC IN EUROPEAN CORPORATE TAXATION

Veronika Nálepová[1]

Abstract

The aim of the article is to evaluate the degree of tax burden of corporations in the Czech Republic in the context of the European area of developed countries based on various approximations of corporate taxation. The paper uses data on the size of taxation in 2018 for 24 EU countries, where the tax burden is expressed by statutory tax rate, implicit tax rate, tax quota, effective average and marginal tax rates and world tax index. Cluster analysis is used as a key method for estimating differences in the European area. The results of the cluster analysis did not show significant differences in the taxation of corporations across the monitored countries. Mostly two apparent clusters were identified, where differences are evident between Western and Eastern Europe. However, the level of taxation differs from the point of view of various indicators.

Keywords

Corporate Taxation, Effective Tax Rates, Tax Burden, Cluster Analysis

I. Introduction

At present, all countries, not just the European Union, are facing the consequences of the COVID-19 pandemic, not just economic ones. Economic growth is slowing, and government deficits are growing. Therefore, a change in the structure of taxation can be expected in the future. The question is whether there is room for change in corporate taxation. In this regard, it is necessary to realize that corporate taxation entails costs that are one of the decision-making factors for potential investors and for the overall business environment, which is currently weakened as a result of the "lock down". In addition, the change in corporate taxation is more popular in the conditions of the Czech Republic than in the case of labor taxation. Capital is currently considered to be the most mobile production factor, so potential investors, thanks to open options, carefully consider all costs associated with it, looking for an indicator of the tax burden that best reflects the reality of the corporate environment.

An objective assessment of the corporate tax burden appears to be a relatively complex task. Tax systems across countries are different and statutory tax rates are considered to be a relatively inadequate indicator of the level of the tax burden. Effective tax rates, which are set for this reason, make it possible to better assess the tax burden on corporations. However, the name "effective" is a highly relative term, as the effectiveness of the method of calculating these rates is understood here primarily in the sense of a better indicator than statutory tax rates, and these rates also have their advantages and disadvantages.

It is obvious that this issue needs to be captured in a deeper context, but the primary analysis should lead to the initial municipal definition in the European area. The aim of the article is to evaluate the degree of tax burden on corporations in the Czech Republic in the context of the European area of developed countries based on various approximations of corporate taxation. Based on a cluster analysis, the position of individual countries in terms of several approximations of the corporate tax burden in 2018 will be compared.

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II. The importance of corporate taxes

Many published papers have examined the role of taxes in corporate decision-making (eg, Slemrod, 1990; Scholes and Wolfson, 1992; Auerbach and Slemrod, 1997 or Shackelford and Shevlin, 2001), respectively their influence not only on investment decisions, but also on the distribution of financing, dividend policy or organizational structure, etc. The results of this work clearly confirmed the impact of corporate taxation on corporate policy. Tax policy fundamentally determines the method of financing corporations. The acquisition of funds for further investments can be made either through equity, retained earnings or debt. High tax rates reduce corporate profits and thus the possibility of subsequent reinvestment. The international movement of capital allows easy selection of investment allocation. For small open economies, which are mostly investment recipients, high taxation could be a competitive problem. Harberger (1962) argues that high corporate tax rates will discourage investment. The relationship between corporate taxation and foreign direct investment (FDI) was also confirmed by Simmons (2003) in his work, when he constructed an index assessing the country's attractiveness based on corporate taxes. The impact of changes in the tax rate on intensive investments was dealt with by e.g. Devereux (2007) or De Mooij and Ederveen (2003). The works conclude that this type of investment is sensitive to changes in tax laws and the average tax rate and is more elastic than standard investments. Mutti and Grubert (2004) addressed the impact of this type of tax on horizontally integrated international organizations considering investing abroad. They concluded that investment abroad is sensitive to the tax rate in that country, and that this sensitivity is greater in developing than in developed countries and increasing over time.

There are countless works examining the role of corporate taxation, but the main controversy is how best to approximate corporate taxation itself so that the tax effect can be affected.

III. Measurement of corporate taxes

The level of statutory tax rates is undoubtedly one of the basic options for measuring the tax burden, and not only for corporations. The analysis of the tax system, which is based on statutory tax rates, is simple, but from a factual and structural point of view inadmissible. Most authors agree on this fact, e.g. Blechová (2008), Szarowska (2011) or Kotlán, Machová and Janíčková (2011).

Effective corporate tax rates are used primarily to better reflect the real tax burden on corporate profits and take into account the tax base and the way in which corporate and personal income taxes are integrated. They therefore provide information on the differences in tax approaches to companies with the same characteristics. Three main approaches to effective corporate taxation can be found, namely the micro-backward looking method, the micro-forward looking method and the macro-backward looking method. By micro-view is meant an approach aggregating data eg from reports of individual companies or within industries, macro-view on the other hand processes macroeconomic data, providing an overview of the whole country, usually obtained from national accounts systems, using backward methods using ex-post data, and vice versa forward-looking methods apply ex-ante data.

The micro-forward looking method is based on neoclassical investment theory, where the average effective tax rate depends on the marginal effective tax rate and capital costs. This methodology has been developed in its current form by Devereux and Griffith (1998) and includes effective average (EATR) and effective marginal (EMTR) tax rates. At the same time, these rates are crucial in investment decisions.

The micro-backward looking method uses mainly the financial statements of companies, where the effective tax rate is determined as the ratio between tax liabilities and revenues. Collins and

Shackelford (1995) in particular contributed to the development of this methodology. Buijink et al. (2002), who in their work applied the consolidated financial statements of the member states of the European Union in order to calculate effective tax rates. However, there are currently no data from this source for this indicator.

The macro-backward looking method uses information obtained from national accounting statistics of individual countries. This approach was first applied in the study of Mendoza, Razin and Tesar (1994) and developed, for example, in the study of Martinez-Mongay (1997). The tax quota (TQ) can also be included in this method, so this method is sometimes omitted on a global scale. At the European level, according to this methodology, implicit tax rates (ITRs) are given, which are calculated annually by the European Commission.

As Nicodème (2007) states, all approaches that generate effective tax rates can be used, for example, in econometric studies for further analysis. However, retrospective studies are more appropriate in this area, as effective tax rates from forward-looking studies are skewed by the choice of variables used. However, in terms of the choice of variables used, it appears to be complex. These variants consider not only the statutory tax rates of corporations, but also aggregate personal income taxes, depreciation rates and also take into account other economic indicators, namely interest rates and inflation. In addition, the nature of the calculation makes it possible to abstract from the effects of the economic cycle, which is not possible with other rates. The tax quota corresponds the least to the reality of the actual tax burden, but from the point of view of calculation and finding it seems to be the most available. A more appropriate indicator within this methodology is the implicit tax rates on capital (ICTR), which capture a wide range of taxation effects, but these are accompanied by possible inaccuracies caused by tax delays or the business cycle.

All the above-mentioned calculation methods abstract from no less significant facts, which form a significant indirect cost within not only corporate taxation, namely the administrative costs of taxation, resp. tax collection costs. One of the few indicators that includes administrative burdens is the World Tax Index (*WTI*). The World Tax Index is a new aggregate multi-criteria indicator of the tax burden. This indicator was compiled by Kotlán and Machová (2012), who present the values of this index for 34 OECD countries in their work. The indicator is based on the calculation of secondary data of public databases and primary data, resp. based on a Qualified Expert Opinion, which represents the opinion of an expert on a given tax in a particular country.

IV. Methodology of work and data

The aim of the paper is to define the amount of the tax burden of corporate taxation in the Czech Republic in the context of the European area of developed countries. Assessing only the level of taxation without proper comparison would be somewhat vague. Cluster analysis appears to be the best method for assessing the level of corporate taxation across countries.

The task of cluster analysis is to find its subsets in a given set of objects - clusters of objects - so that the members of the cluster are similar to each other, but are not very similar to objects outside this cluster (Hebák et al., 2007). Given the nature of the data (see Table 1), it seems most appropriate to use the k-means clustering algorithm. The principle is very simple:

1) At the beginning, so-called centroids are inserted between points in space, which are points representing the centers of the resulting clusters.
2) Each point in space is assigned to the centroid closest to it. The first division into clusters takes place.
3) The centroids move so that they are in the middle between the points that belong to their cluster at that moment. Here is the difference between k-means and k-median in

calculating a new position for centroids, where the former uses the average of the point values from the same cluster, while the latter uses the median.

Points 2 and 3 are then repeated until equilibrium is reached and the centroid movement stops. Prior to the cluster analysis itself, the suitability of the data used will be verified using the Hopkin test (see Hopkins and Gordon, 1954). The Hopkins test is based on hypothesis testing, where the null hypothesis says, "*Data records have a non-random uniform distribution*" - which means that it would be difficult to find any meaningful clusters in such data. The alternative hypothesis says: "*Data records are generated randomly*" and therefore it is possible to expect clusters. The score takes values between 0 and 1, a score around 0.5 indicates no clustering and a score with a tendency to 0 indicates a high tendency of the clusters. Then it is appropriate to use a dendrogram to identify potential clusters. All data will be processed in Python. 24 European countries and the level of their taxation in 2018 were selected according to the availability of data.

Table 1 Characteristics of input data

Variable	Characteristic	Unit	Source
STR_CIT	Statutory tax rate of corporate income.	%	OECD Revenue Statistics (OECD, 2020)
TQ_CIT	The corporate tax burden expressed by the tax quota.	%	OECD Revenue Statistics (OECD, 2020)
EATR	The corporate tax burden expressed by the effective average tax rate.	%	Spengel et al. (2018)
EMTR	The corporate tax burden expressed by the effective marginal tax rate.	%	Spengel et al. (2018)
ITR_C	The corporate tax burden expressed by the Implicit tax rate of capital accumulation.	%	Eurostat (Eurostat, 2020)
WTI_CIT	The corporate tax burden expressed by the World tax index.	Index	World Tax Index (WTI, 2020)

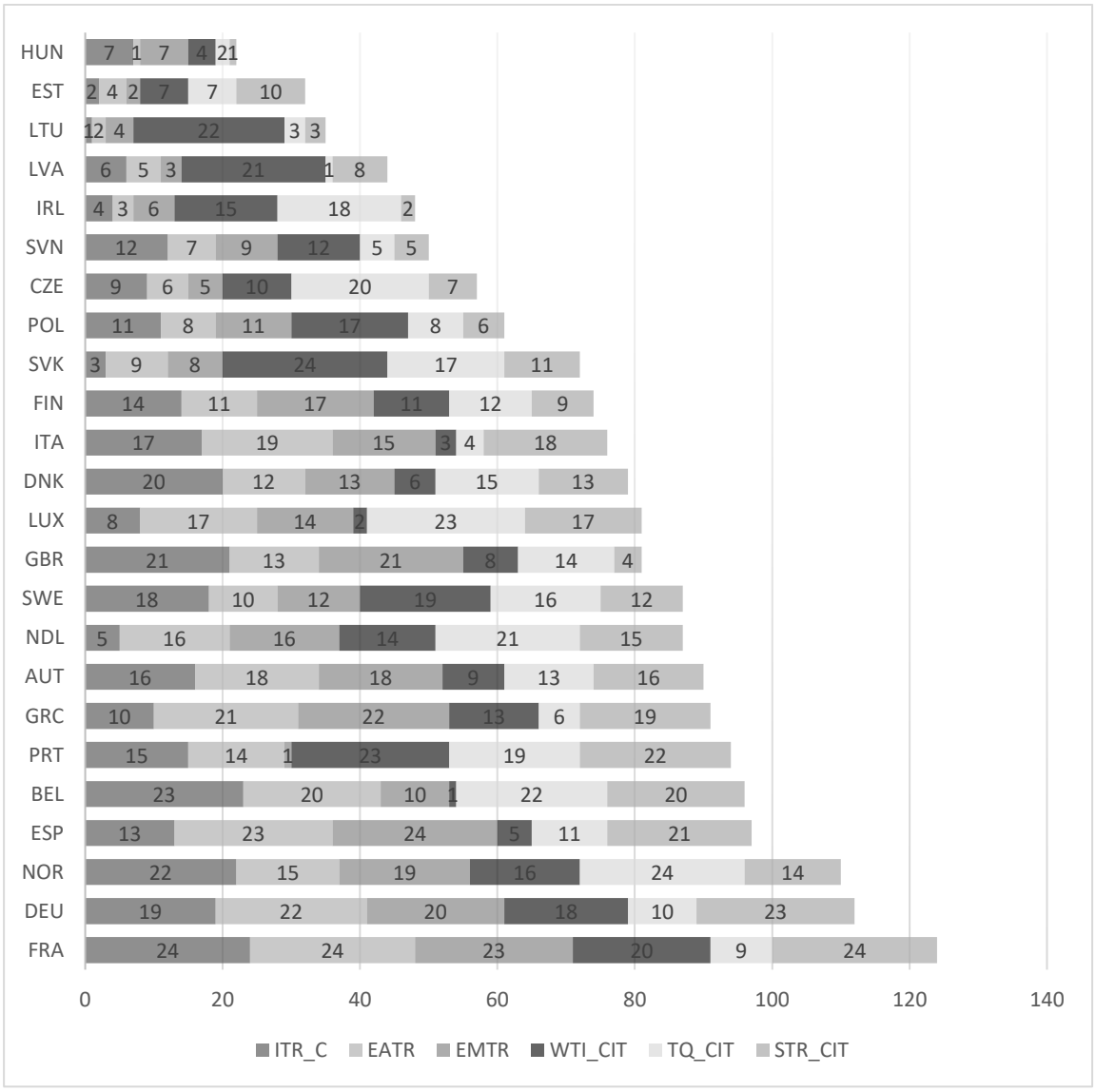
Source: own

V. Taxation of corporations in the Czech Republic and in Europe

Before proceeding to the definition of the distribution of the tax burden, it is necessary to compare the distribution of the tax burden according to the level of individual tax approximators, resp. according to the order of individual variables. The individual taxation indicators were therefore ranked for each country, from the lowest corporate tax rate (1) to the highest corporate tax rate (24).

From Figure 1 below, the differences between taxations are significant. Countries show significant differences in the case of TQ_CIT. An example is the Czech Republic, which from the point of view of the tax quota belongs to the countries with a higher tax burden, which was not confirmed in the case of other tax approximations. From the point of view of effective tax rates, the environment in the Czech investment area appears to be attractive. The same is true in the case of France or Germany, where the effect is the opposite. It is therefore clear that the tax quota causes a significant distortion, which is due to their calculation. Conversely, in the United Kingdom, low statutory tax rates do not indicate a low tax burden. From the overall point of view, taxation in the Czech Republic in the context of corporate space is one of the lower.

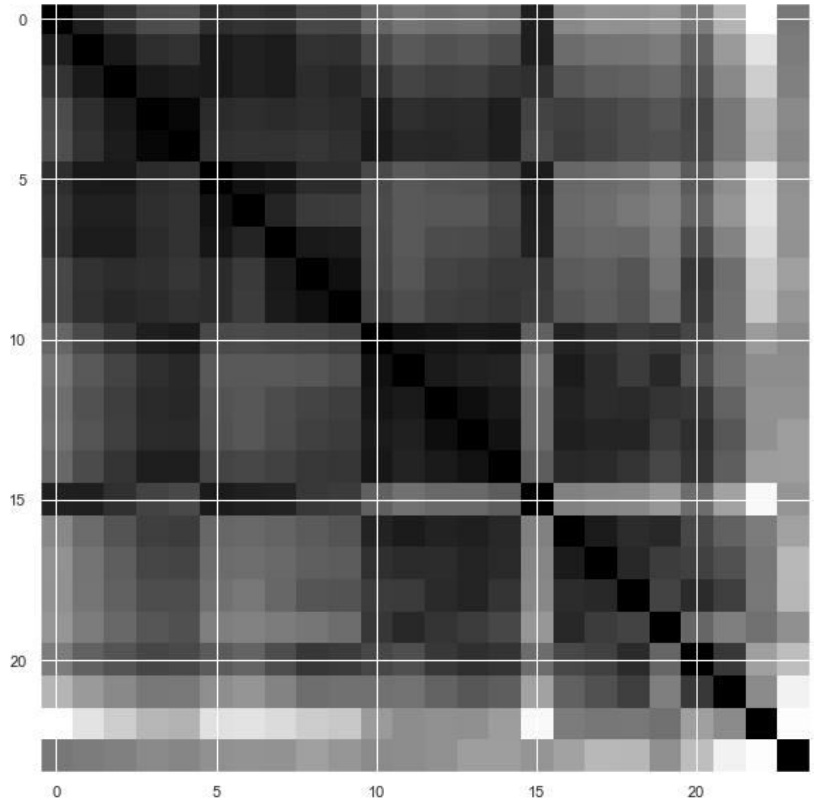
Figure 1 Distribution of the tax burden: The order of individual countries within the given indicators



Source: own

As already mentioned in the part of the methodology for spatial consideration of differences in tax rates, it is appropriate to use cluster analysis. First, however, it is necessary to verify the suitability of the data for clustering using the Hopkins test. The result of the Hopkins test is early 0.40, which results in a not very significant clustering in the data. Therefore, the visualization of potential clusters was started with the help of visual assessment of tendency (VAT). VAT creates a visualization of the distances of individual records and displays them as a color matrix. The closer the color is to black, the smaller the distance between individuals. Therefore, the probable number of clusters and their hierarchy can be read from the figure. Figure 2 also shows considerable fragmentation in the data, indicating homogeneity in the observed sample of data with a slight two clusters.

Figure 2 VAT data



Source: own

Despite the not very clear results of the Hopkins test and VAT, two apparent clusters were identified according to the dendrogram. Which are presented according to Figure 3 in the following matrix. From the given clusters and according to Table 2 below it is clear that the division can be identified mainly from the geographical distribution, ie into the countries of Eastern and Western Europe, with the exception of Luxembourg, which is considered a tax haven.

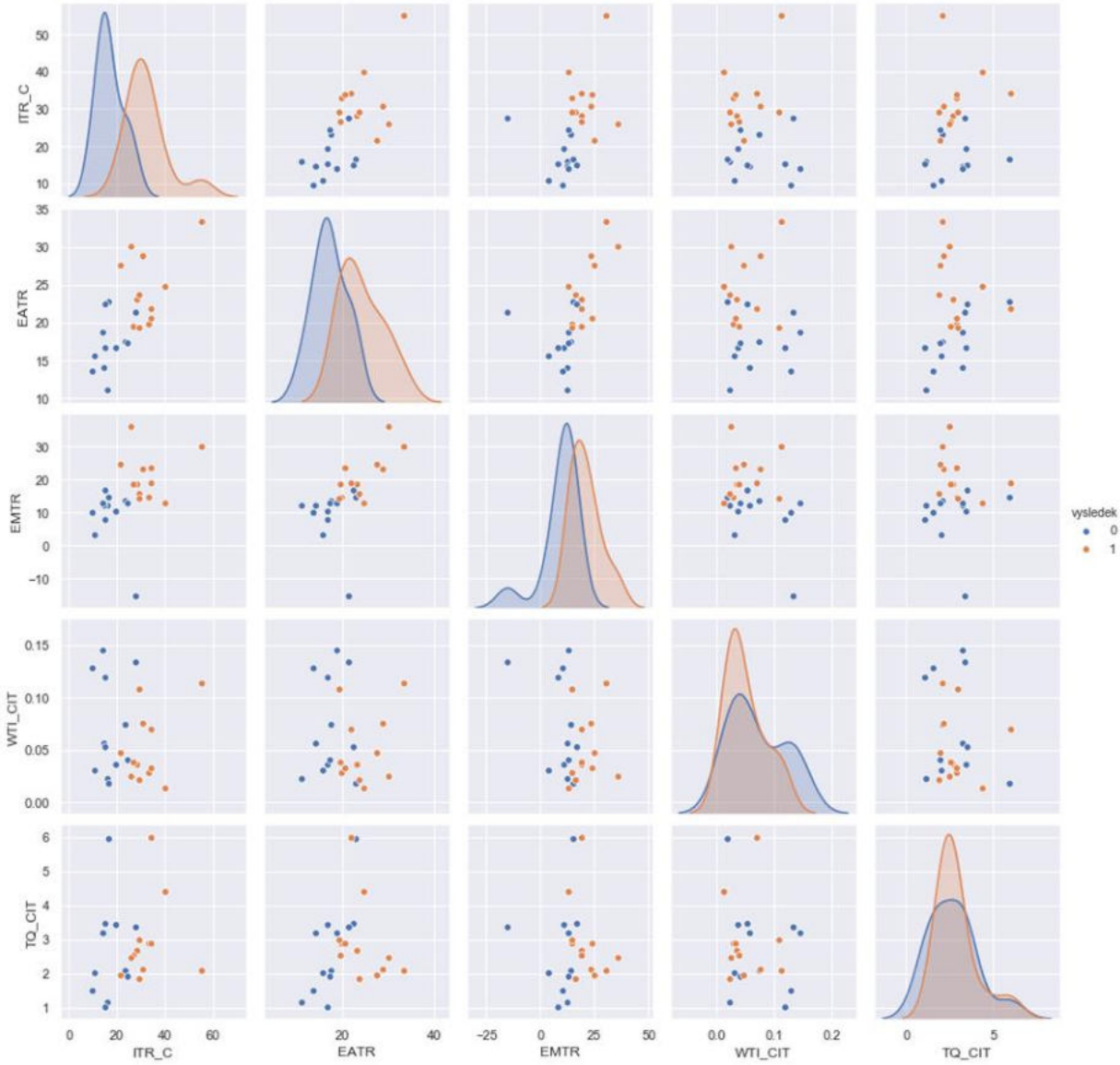
Table 2 Assignment of countries to identified clusters

AUT	BEL	DNK	FIN	FRA	DEU	GRC	ITA	NOR	ESP	SWE	GBR
1	1	1	1	1	1	1	1	1	1	1	1
CZE	**EST**	**HUN**	**IRL**	**LVA**	**LTU**	**LUX**	**NDL**	**POL**	**PRT**	**SVK**	**SVN**
0	0	0	0	0	0	0	0	0	0	0	0

Source: own

From the matrix in Figure 3, it is also possible to trace outliers that could indicate the existence of third separate clusters, which, however, was not confirmed by the Hopkins test.

Figure 3 How different is the corporate tax in the EU?



Source: own

IV. Conclusion

The aim of the paper was to evaluate the degree of tax burden on corporations in the Czech Republic in the context of the European area of developed countries on the basis of various approximations of corporate taxation. To achieve the goal, the method of comparing taxation according to various approximations was used. In this context, it was found that, based on the micro-forward looking method, the level of the tax burden is relatively low, which means a relatively favourable environment for investment. Similar conclusions can be found in the case of implicit tax rates determined according to the macro-backward looking method, which are commonly used to reveal the level of taxation at the international level. The results also showed that the methods based on the use of a tax quota are not appropriate. Here, on the other hand, the position of corporate taxation in the Czech Republic appears to be higher. Similar conclusions were also confirmed in other countries in the surveyed sample. The question, then, is whether there is room for change in corporate taxation. From the resulting initial analysis, it could be said that yes. But it is necessary to examine this issue in a broader context. It is certainly necessary to keep in mind the fact that within the Czech Republic, the biggest cost for the corporate sector is the taxation of labour, respectively. contributions to the state employment

policy paid by the employer. It is also necessary to keep in mind the fact that corporations are shifting the tax burden. However, this shift is difficult to quantify.

Furthermore, the position of corporate taxation in the European area was revealed in the work of cluster analysis. Cluster analysis confirmed two apparent clusters, but their confirmation based on the Hopkins index is not clear. However, there are significant differences between the countries of Western and Eastern Europe, which corresponds to the policy of Eastern countries and the stimulation of foreign investment. The change in the tax burden on corporations should also depend on the change in the tax system of neighbouring states. These steps should therefore be implemented in a broader context with the likely consequences of stimulating economic growth. In the future, therefore, it will be a difficult task, on the one hand it will be necessary to deal with the growing public budget deficit and on the other hand the need to stimulate the economic environment. Although European states found themselves in such a situation already in 2008 during the global economic crisis, now the situation is different, as the number of other necessary "lock downs" cannot be expected. According to current approaches to behavioural economics, it is also appropriate to keep in mind the fact that according to the validity of Prospectus theory, loss is perceived worse than the additional return. Individual government steps should also be implemented in the sense of knowledge of behavioural economics, as effectively as possible.

This article is part of a larger study dealing with corporate taxation and its contribution is mainly in the sense of the initial definition of the position of the Czech Republic in the context of corporate taxation and other ideas of research direction.

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WILL THE CZECH PRESIDENCY HELP SUCCESSFULLY MEET THE COLOSSAL CHALLENGES FACING THE EUROPEAN UNION?

Boris Navrátil[1]

Abstract

The economies of the Member States of the European Union are facing a very difficult period of recovery after the current pandemic subsides. In addition, the difficult situation will be complicated by the technological lag behind the USA and China. Will the Czech Republic be able to play its role when it becomes the country holding the Presidency of the Council of the European Union in 2022, and will not repeat the mistakes of 2009? The prerequisite is the ability to work closely within the trio with France and Sweden. The Czech Republic will have to take an active part in creating a more ambitious, comprehensive and coordinated crisis management system.

Keywords

Presidency of the EU Council, Strategic Priorities, Recovery Plan

I. Introduction

To believe in the values on which our own democratic states are founded inherently implies a belief in their universality, because the opposite amounts to a violation of these values. To pretend, for example, that human rights do not equally apply to all humans is to deny the very idea of human rights[2]. Not all governments recognize the universality of these values, but that does not affect their universal validity.

The presidency of the Council of the European Union must be based on this principle and must be respected at all times. The EU presidency is responsible for driving forward the Council's work on EU legislation, ensuring the continuity of the EU agenda, orderly legislative processes and cooperation among member states. To do this, the presidency must act as an honest and neutral broker. By *Decision 2009/908/EU*[3] the Council established the order in which the office of President of the Council was to be held for the Member States of the European Union as from 1 January 2007 until 30 June 2020 and it set out there in the division of that order of presidencies into groups of three Member States.

The COVID-19 pandemic constitutes an unprecedented challenge for Europe and the whole world. As a global health crisis, it has affected the societies and the economies of EU Member States in a dramatic way. It requires urgent, decisive, and comprehensive action at the EU, national, regional and local levels.

As the EU Council is a place of conflict of national interests, concepts such as *intergovernmental*, *compromise*, *negotiation* and *diplomacy* are key to understanding how it works. Ministers and prime ministers are often motivated by national interests, and their views are also ideologically driven. That is why the three presidencies, called the *Trio*, must find a common denominator and implement a common approach in order to strengthen Europe's resilience, protect its citizens and overcome crises, while preserving European values and ways of life.

The Czech Republic will chair the EU Council in two years' time. Preparing an EU member state for the six-month presidency of the Union is not an easy task. In order to successfully

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[2] Biscop (2019),
[3] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016D1316&rid=7

manage this task, it is necessary to prepare the presidency well in advance in terms of organization and content. Successful management of the presidency must be conditional on a stable institutional environment both in the European Union itself and in the country holding the presidency. Walter Eucken's ordoliberalism[4] must become the starting point for the implementation of current practical economic policy. Political stability in the presiding country then becomes a condition for achieving the economic policy goals of the entire European Union[5].

II. Presidencies of the EU Council in 2020 – 2021

The European Union is probably going through the most important transition since the beginning of the integration process. Over the last few years, several factors of a different nature have come together to call into question the aims, structures and balances of integration and therefore require political and institutional responses from the Union[6].

Croatian Presidency of the Council of the European Union

These four priorities were presented by Prime Minister Andrej Plenković at a conference entitled "A Strong Europe in a World of Challenges": The slogan foresaw the circumstances of the Croatian Presidency. Under unprecedented conditions, Croatia has successfully completed the task of chairing the Council. Through inter-ministerial coordination, Croatia has succeeded in responding to both expected and unexpected challenges. The successes of the Croatian Presidency in the first half of 2020 include:

- the establishment of common crisis response mechanisms;
- the decision to open accession negotiations with Albania and Northern Macedonia;
- the Zagreb Summit and the adoption of the Zagreb Declaration;
- opening of the last chapter of negotiations with Montenegro;
- the continuation of negotiations on an agreement with the United Kingdom following its effective withdrawal from the EU;
- agreement on the Council's position on the Conference on the Future of Europe;
- the Eastern Partnership Summit and the adoption of conclusions on the post-2020 policy of the initiative;
- the progress in implementing the EU Strategic Agenda in a number of areas[7].

While many measures to address the crisis have already been undertaken during the Croatian Presidency, a lot more remains to be done, in particular as regards controlling the pandemic and getting Europe's societies and economies back to full functionality by fostering sustainable and inclusive growth, integrating the green transition and the digital transformation, and by drawing all lessons from the crisis and tackling its socio-economic consequences. As an overarching

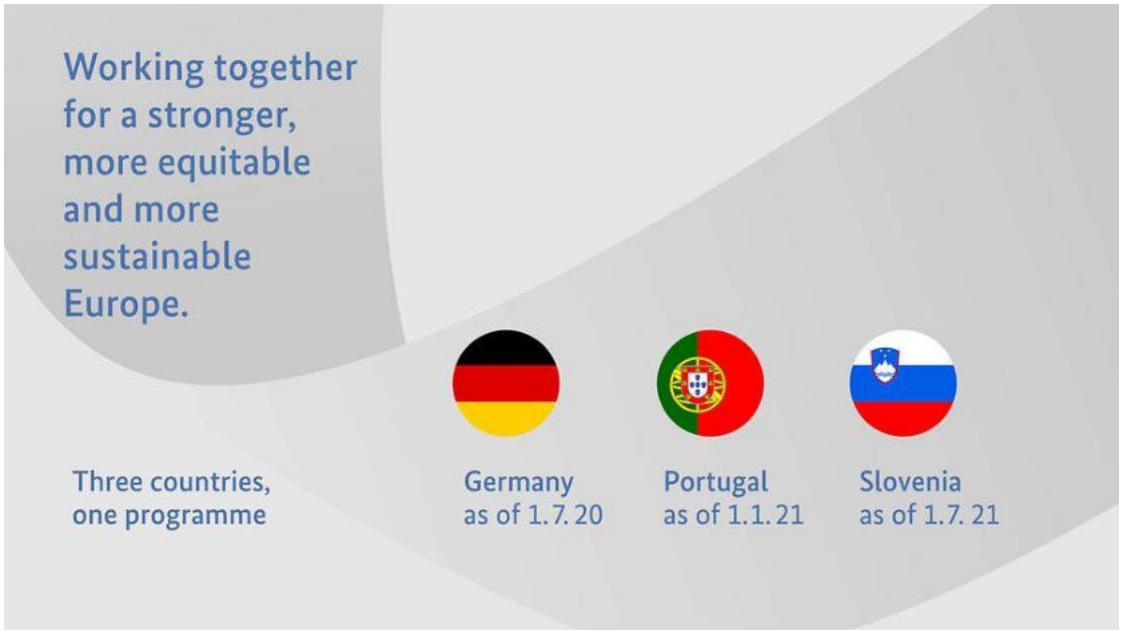
[4] Eucken's ordoliberalism, which is a special German variant of neoliberalism in its traditional definition, argues that the state has the
task to provide the political framework for economic freedom.
[5] Eucken (2004).
[6] Tortola and Vai (2017).
[7] https://eu2020.hr/Home/OneNews?id=385

priority, the three Presidencies are determined to implement all appropriate measures serving a robust recovery of the European economy, in line with a sustainable and inclusive growth strategy, that takes account of the goal to achieve climate-neutrality by 2050 and addresses the significant social impacts and human dimensions.

In doing so the Trio is committed to the five strands of action identified in the Joint statement of the Members of the European Council of 26 March 2020[8]. The COVID-19 crisis, declared a pandemic by the World Health Organization (WHO), has put and continues to put Member States' societies and particularly healthcare systems to a severe test. Member States and EU institutions have stood together in the spirit of solidarity to coordinate and implement relevant healthcare measures. Only if health policy is effective in containing and eventually overcoming the threat posed by COVID-19, can a lasting recovery in all other sectors of the economy and public life unfold. Croatia has proven to be a reliable, courageous and innovative EU Member State, able to respond to the greatest challenges of this unique mission, which the EU Council Presidency represents.

Trio of Presidencies 07/2020 – 12/2021

The Trio is committed to the principles of the *Joint European Roadmap towards lifting COVID-19 containment measures*[9] and of the *Roadmap for Recovery*[10]. The plan for recovery must be based on solidarity, cohesion and convergence; the recovery must be flexible, agile and evolving; it must be inclusive and co-owned by all involved; while fully respecting European values, rights, and the rule of law.



The presidential Trio for the next 18 months consists of Germany, Portugal and Slovenia. Germany is rightly expected to have a clear and thoughtful direction in the activities that will start the implementation of the Trio programme. The three Presidencies will do everything in their power to restore and further deepen the single market, further transition to green and digital transformation, strive for digital sovereignty, ensure the EU's strategic autonomy through a dynamic industrial policy, support SMEs and start-ups, scrutinize foreign direct investment, build more resilient infrastructure, especially in the health sector, and produce critical goods in Europe to reduce over-dependence on third countries. The programme *Taking forward the*

[8] https://www.consilium.europa.eu/en/press/press-releases/2020/03/26/joint-statement-of-the-members-of-the-european-council-26-march-2020/
[9] https://op.europa.eu/en/publication-detail/-/publication/14188cd6-809f-11ea-bf12-01aa75ed71a1/language-en
[10] https://www.consilium.europa.eu/media/43384/roadmap-for-recovery-final-21-04-2020.pdf

Strategic Agenda 18-month Programme of the Council (1 July 2020 - 31 December 2021) of current trio was published on 9th June 2020.[11]

After that, the current German - Portuguese - Slovenian Trio will be replaced on the threshold of 2022 by a French - Czech - Swedish Trio. It is the same composition of the trio as in 2009. However, the Czech Republic will have more than twelve years of experience in membership in the European Union in 2022, and it can therefore be assumed that it will play its role with high professionalism.

The interconnection of the two trios (one with the participation of Germany and the other under the baton of France) is very real. Germany and France have always been able to reach mutually acceptable compromises in the past, including unprecedented measures to support economies to overcome crises. This is evidenced by the current German-French proposal, approved by all 27 member states, for a large part of aid to individual countries of the European Union to be made up of non-repayable grants. Although Germany and France sometimes disagree for the first time, the effort to find a balanced compromise has been the absolute basis of their policy within the EU for many decades. Their cooperation is so institutionalized and takes place on so many levels that partial disagreements never mean its end.

Germany's Presidency of the Council of the European Union

Together for Europe´s recovery

On 1 July 2020, Germany took over the Presidency of the Council of the European Union, for the thirteenth time. Germany last chaired the EU Council in the first half of 2007. The German Presidency also marks the beginning of a new trio of Presidencies, together with Portugal and Slovenia. Under the motto "Together for Europe's recovery", Germany has established its guiding principles for the country's Presidency of the Council of the European Union. The guiding principles of Germany's Council Presidency are as follows:

- overcoming the COVID-19 pandemic permanently, as well as the economic recovery,
- a stronger and more innovative Europe,
- a fair Europe,
- a sustainable Europe,
- a Europe of security and common values,
- a strong Europe in the world.

Overcoming the COVID-19 pandemic is a key issue for the German Presidency of the Council of the European Union. Only by managing the health situation, investing in the European economy, making full use of our innovation potential and strengthening social cohesion can the European Union and its Member States overcome the crisis effectively and permanently. During the German Presidency of the Council of the European Union, every effort must be made to ensure that the Member States cope with this task jointly and purposefully and help Europe recover. The aim is for Europe to emerge stronger and more sustainable from this crisis. In the past, crises in the EU have always been an opportunity to make Europe even better prepared to meet the challenges of the future. Attention must be focused on the major transformation processes of our time, such as climate change, digital transformation and the evolving world of work. Germany has committed itself to the swift adoption of the multiannual

[11] https://data.consilium.europa.eu/doc/document/ST-8086-2020-REV-1/en/pdf

financial framework and to the speedy establishment of a recovery fund in order to achieve a sustainable economic and social recovery with ambitious investments in climate protection, research and digital transformation. In this way, the European Union can address the challenges posed by this crisis and pursue its long-term strategic goals in a rapidly changing world with renewed vigor.

In a world of growing rivalry between the major powers, European policy must strengthen Europe's ability to act in the wider world in order to defend European interests and values and take responsibility in the world. Also migration policy remains an urgent issue. Europe needs a fresh start in the reform of the Common Asylum System. The political dialogue on the rule of law is to be strengthened in the long term between the Member States through comprehensive discussions on the basis of the Commission's new report on the rule of law. Intensive negotiations on relations with the United Kingdom are due to take place by the end of 2020, to be led on behalf of the European Union by EU chief negotiator Michel Barnier. Germany will work to ensure the continued cohesion of the EU-27. The aim is an attractive agreement for both sides on the basis of a jointly agreed political statement.

III. Preparation of the Czech Presidency of the Council of the European Union

As mentioned above, the Czech presidency will follow the French one within the trio and will be handed over to the Swedes in January 2023.

The Czech Republic led the EU for the first time in the first half of 2009. This first Czech presidency in 2009 was significantly complicated by the fall of the government and its replacement by caretaker government in the middle of the period. The next presidency awaits us in the second half of 2022. The Czech government began preparations for its second presidency on 10 July 2018. The Czech Republic wants to become an innovation leader in Europe, which creates good conditions for it to hold its presidency more successfully for the second time. Soon after, the Innovation Strategy of the Czech Republic 2019-2030 was presented to the public with the new brand, which reads as follows: Czech Republic - The Country for the Future.

The working body of the government for determining and coordinating the positions of the Czech Republic in the EU is the Committee for the European Union, which meets at the level of its members or at the working level.

The EU Committee at the level of members participates in the formulation of strategic interests in relation to the Czech Republic's membership in the EU, in defining the Czech Republic's position on key issues discussed in EU institutions and discusses other issues of fundamental importance related to the Czech Republic's EU membership. The EU Committee approves the mandate of the European Council.

At the working level, the EU Committee discusses and approves instructions for meetings of the Permanent Representatives Committee (COREPER), mandates for ministerial meetings of EU Councils of Ministers and other materials related to the current EU agenda. The Chairman of the Committee for the European Union is the Prime Minister of the Czech Republic. The

activities of the Committee shall be governed by its statutes and rules of procedure. The Prime Minister may entrust the management of the Committee on the European Union at the working level to the Secretary of State for European Affairs. The Secretariat of the Committee for the European Union is organizationally integrated into the Section for European Affairs of the Office of the Government of the Czech Republic[12].

What must the Czech Republic focus on when preparing priorities?

It is already clear today that the weakened economies of the Member States need to resume their growth. It is a long-term task, and the preconditions for its fulfillment are already being created today. It is necessary to make investments that will generate the necessary growth. Research and development must become a priority for all governments. And, of course, sustainability must go hand in hand with growth. Therefore, it is essential to ensure a flexible labor market that meets the demand for an educated and skilled workforce.

The prosperity of the European economy must continue to be based on its openness. If any new regulation is needed, it must be smart regulation. The digital transformation of producers, but also of public administration, can contribute to this.

During its six-month presidency, the Czech Republic should work closely with France in particular, but also, of course, with Sweden, so as not to disrupt the continuity of the common path to overcoming the current economic crisis. Perhaps the most difficult task for the Czech Republic will be to deepen cooperation within the monetary union, which should include other states that have so far retained their national currencies.

Within the European Union, it will be a matter of ensuring that the prepared Recovery Plan finds the right form of implementation in all countries. The European Union's Next Generation Recovery Facility must be invested effectively in the recovery to strengthen a greener, more digital and more resilient Union for future generations. This € 750 billion will be distributed mainly in the form of grants to Member States to finance major reforms and investments that are tailored to national needs and in line with wider European objectives.

IV. Conclusion

Europe can play a distinctive part in the world, which respects the values on which our own society is based and promotes them in the rest of the world. The need for a challenging economic recovery from the coronavirus crisis, together with Europe's long-term technological lag behind the United States and especially China, are major challenges that can be addressed by the countries holding the Presidency of the Council of the European Union in the coming years. The Czech Republic will be in this position in two years' time, and in coordination with France and Sweden, with which it is forming a presidential trio, it will try its best to succeed.

It will be crucial how the European Union manages to launch investments that will slow down this lag. It is new technologies such as modern 5G mobile networks, artificial intelligence, quantum computers, cloud services and semiconductor manufacturing that are becoming a new source of power in the world. The European Union will need to add to the pace of technology if it is to be a globally important player. If Europe fails to do this, it will feel politically and economically disadvantaged in the long term and may be out of the game in the future.

The conditions for this were created at the historic European Council summit in July 2020. It can be considered revolutionary to change the way the EU co-finances, consisting of a pragmatic link between the approval of the traditional Multiannual Financial Framework and the decision to create a new funding system called *Next Generation EU*. The novelty of *Next*

[12] https://www.vlada.cz/cz/ppov/veu/vybor-pro-evropskou-unii-22560/

Generation EU lies in the way of raising funds through bond issues on financial markets, which will be a test of investor confidence in this solution, in the way of their repayment through the creation of new EU own resources and in the use of repayable financial instruments as a form of allocation of limited financial resources. Financial markets will play the role of an indicator of confidence in this solution. If they do not believe in the return on their funds and a reasonable return, they will not invest their funds in it.

It cannot be ruled out that, after overcoming the coronavirus crisis, there may be a period of rapid growth analogous to that which occurred a hundred years ago after a far worse pandemic after the First World War. The accelerated process of digitalisation of the economy, together with pro-growth incentives for governments, can lead to a rapid boom. The crisis will also intensify other progressive trends, such as home office and online teaching. The result can be greater efficiency and a better quality of life.

However, it will be a matter of a politically stable environment in the Czech Republic that will not allow us to repeat the mistakes that compromised our presidency eleven years ago. The resulting positive assessment of our role in 2022 will benefit from intensive communication with the European Union institutions and other Member States, in particular participation in the joint triad with France and Sweden, greater rationality and less joking (restraint in promoting the Czech sense of humorous provocations will also be useful). The parliamentary elections in the Czech Republic in the autumn of 2021 and their outcome may disrupt the culminating preparations for the Czech presidency of the Council of the EU. If the same situation arose as after the last Czech parliamentary elections (2017) and a full-fledged government was appointed just before the beginning of its own presidency, it would undoubtedly jeopardize its smooth start. The question of how to create adequate political stability in the time press would then be on the agenda. The solution could be the signing of an opposition agreement, with which the Czech political scene already has some experience[13].

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ADVENTURE TOURISM AS A NEW TOOL OF DEVELOPMENT COOPERATION - A CASE IN POINT CONCERNING AN ETHNIC GROUP OF PYGMIES

Monika Nova[1]

Abstract

The text tries (1) to define problems that globalization has inflicted on the tourist industry and (2) to highlight opportunities offered by the adventure tourism. Supported by our focus groups, the qualitative research method we applied helped us map problems afflicting the process of inducting the ethnic group of Pygmies into the business of adventure tourism. The information was obtained from the Pygmies themselves and the representatives of both churches and the non-profit sector whose job brought them into cooperation with the ethnic group. The SWOT analysis results indicated that the adventure tourism organized on the island of Bunyonyi by the local Pygmy community can be regarded as an example of good practice. The results demonstrate that a detailed SWOT analysis is able to minimize the threats and uncertainties. In fact, even the preliminary research conducted in September 2019 showed a rise in the income of individual Pygmies and their families. Special emphasis in the analysis results was given to the necessity of maintaining and supporting the indigenous Pygmy culture. Designed to increase the standard of living enjoyed by this rural Pygmy community, our project suggests a method of achieving the goal - adventure tourism organized by the community itself.

Keywords

Adventure Tourism, Community, Develeopment, Ethnic Group

I. Introduction

The ethnic group of Pygmies living on the island of Bunyonyi has been chosen in view of multireligiosity and ethnic composition of the island´s population. The population comprises Christians, Muslims and the Pygmies themselves, who still follow their native religion and practice their culturally specific way of life. Moreover, belonging among the poorest inhabitants of the island, the Pygmies have just limited opportunities to boost their income in any significant measure. That is where we see an opportunity for using tools of development cooperation now newly available in the globalized world. The tools can also be beneficially applied to ethnic groups previously underrepresented in tourist trade and neglected by travel agencies. The agencies, if anything, offered their clients just optional trips to the ethnic groups, but the income received by the group was just meager and sometimes depended solely on whether or not the tourists bought a souvenir from the local people.

Organizing the project, the author relied on her hands-on experience and her engagement in a social & healthcare NGO operating in the region. Currently, we discuss some innovative tools of development cooperation, with the adventure tourism among them. We believe that without providing relevant know-how and adequate financial assistance to the poorest groups and/or tribes, this form of gainful business can hardly be launched.

Our adventure tourism project can be supported individually by private donors and benefactors, but also by companies, through project calls, etc.

The researchers (e.g., Ahn, Lee & Shafer 2002; Twinning-Ward & Butler 2002; McCool, Moisey & Lime 2001, Frauman & Banks, 2011) have evidenced that communities' supports

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are vital in ensuring long-term success in tourism development and the fact that it is impossible to sustain tourism to a destination that is not supported by the local people. Hence, it is important to understand their perceptions of tourism and how have tourism affect their livelihood from the perspectives of social, economics, environmental and cultural.

The name Pygmy has been derived from Greek "pygmaio" and Latin "pygmaei". Now the word is used as a generic term referring to the ethnic groups of hunters and gatherers living in the forests of Cameroon, Gabon, Rwanda, Burundi, Uganda, Equatorial Guinea, the Central African Republic and the Republic of Congo. Unfortunately, driven by destitution and lured to cities by the vision of livable wages, Pygmies start to abandon their traditional way of life and adjust themselves to living in towns. There, more often than not, they become cheap labor for large (frequently Chinese) companies or end up as beggars on the streets. Their situation is alarming since the people are unable to accommodate the rapid change caused by their leaving the rural ethnic community, to embrace the urban way of life and to find successfully a place in their new society. Some of those who might wish to return back home could not do so, because they had sold their house and land to pay for travelling to town and starting their new existence there.

II. Adventure tourism

Adventure tourism will be appreciated by all those who prefer personal and intimate touch with a specific site of interest. This type of tourism is chiefly a lived and subjective experience greatly dependent on a suitable marketing strategy - the tourists, now perceived as customers, are supposed to become a kind of family members of a place they visit. "Adventure tourism is a multisensory, positive and comprehensive emotional experience whose receivers may develop a sense of intellectual transformation". True enough, no product offered to potential tourists can produce this effect and give satisfaction to all of them (Schneider, Fialová, Výskot, 2009). Still, the market tool of adventure tourism has become a firmly established and readily available part of the tourist trade. When properly prepared, an offer of adventure tourism will appeal to the mentality of the most demanding clients who seek primarily some deeper meaning of the experience. To give an example, such approaches are easily recognizable in the eco-tourism (Adventure tourism, 2006). If the adventure tourism is to fulfill its potential, it should ideally embrace five principle levels: the one positioned lowest is the physical level (interest); then comes motivation (sensory perception) followed by reason (teaching), emotions (unique experiences) and mentality (transformation).

The physical level (interest) is typical of curiosity sparked in a potential customer. This elementary level is where the relevant expectations are generated and turned into wishes and alacrity to undergo a specific experience. Initially, the customers / tourists will notice an advertisement or a promotional campaign. Later on, they will start to be motivated by their senses: exposed to the tourism product offered to them, they will explore it, get to know it and have their subconscious affected by it. Such activities may be driven by tasting local food, petting a local animal, etc.

On the level of reason, opinions are formed and sensory stimulation is supported by rational enquiry into the new environment. Customers will decide whether they are happy about the tourism product or not. A good product will provide them with information they did not know previously and will give them a chance of learning something new. The new knowledge can be acquired deliberately or unwittingly, an example of the former case being a commentary delivered by a guide showing visitors around a castle.

The emotional level rests in gratification which the experience can provide, but emotions are hard to guess and control beforehand. Some people may be happy about weaving a wicker basket or forging a nail.

The mental level is the top one. In case an emotional response to a unique experience is strong enough (and regardless whether it is positive or negative), it might cause a personal transformation and, by extension, change the customer´s entire way of life. The people may start to see the world differently, may take up a new hobby, reshape their thinking or even give a new meaning to their lives (Schneider, Fialová, Výskot, 2009).

Developing world and its involvement in international tourism

As regards developed countries, the ever rising standard of living and more leisure time on people´s hands have turned tourism into a widespread phenomenon of economic and social relevance. The occurrence, however, has affected also the developing countries - positioned as the "receiving" countries, their engagement in international tourism intensifies (Hrala, 2005). The process of involving developing countries in the tourism and improving their economies began to gain momentum in the 1980s. Unfortunately, the fall of colonial rule and winning independence did not automatically stimulated the economic growth of the countries. Their economic ties with the former colonial powers still influence both export and import of their goods and services, the tourism services not excepting. Moreover, not all former colonies have been developing in the same direction and at the same pace. In fact, the developing countries have split into a variety of different types and groups, and their engagement in the international tourism has been influenced by a host of economic and political factors.

The thorny issues of tourism in developing countries

Booming tourism is considered an effective tool of a country´s economic growth and ongoing development. The involvement of developing countries in the process is closely related to the overall level of their development, and the development is greatly influenced by difficult issues that the countries have to tackle, such as (Palatková, 2011):

- Social and demographic problems

These are typical of almost all countries ranked as developing countries, mostly characterized by a relatively young population and strong population growth. Such a situation entails poverty, scarcity of food, insufficient sources of water fit for human consumption, substandard education and the exodus of the better educated to developed countries.

- Economic problems

If there is a single most vexing problem of the developing world, it is an inadequately formulated economic policy. The economies of developing countries still rely on agriculture or heavy industry, while their tourism policy is either non-existent or just superficial. In addition, the countries are haunted by high unemployment rates which translate themselves into social problems. Considered a major issue can also be the fact that the countries´ economic activities are in the hands of foreign investors and the countries themselves are mostly heavily indebted. Their manufacturing capacities and raw-material bases are insufficient and the countries are just marginally involved in the international economic relations.

- Environmental problems

The issues of environment protection have recently been extensively discussed. It is not therefore surprising that tourists generally prefer destinations offering clean environment. Regrettably, that is exactly what the developing countries are mostly unable to offer. This sad fact can be attributed to the above-mentioned extensive agriculture, to environment-hostile production and mining. Another major issue is access to potable water. Naturally, the developing countries wish to catch up with the developed ones as fast as possible, but often at the cost of devastating their own living environment. They apply pesticides long banned in the

developed world and disregard exhaust fumes in terms of their quantity and composition. Their inhabitants utilize water sources to wash themselves, to wash their clothes, to wash cattle...

- Political and safety problems

Safety is a factor significantly affecting the tourism business. Wars and ethnic conflicts may become considerations deterring potential visitors. The danger of abductions and/or terrorist attacks is likely to dissuade also travel agencies from organizing trips to countries so afflicted, while tourists inclined to make their own arrangements are not so many. Inadequacies of public utilities (health care, educational system and, yes, safety) may shape the tourism policy as well. Counted among other obstacles that hinder the involvement of developing countries in the international travel can be poor air traffic; subpar infrastructure (transportation, lodging, ...); unreliable power supply; mismanaged waste disposal; or, for example, misrepresentations about tourism potential. All together, these factors will compromise a developing country´s chances of profiting from international tourism.

III. Empirical section

The research effort was primarily to conduct the SWOT analysis. What chances of establishing an adventure tourism business has a Pygmy community yet inexperienced in this kind of gainful occupation?

The qualitative part of the research required that we created two focus groups. The first one included representatives of foreign non-profit organizations together with persons from the local churches, all engaged in working with the Pygmies. The second one comprised 12 people from the ethnic Pygmy community itself. Undertaking the research, we employed the technique of open non-structured interviews. The results were finalized in discussion with both our focus groups and then subject to the SWOT analysis. The principle research was preceded by a preliminary research covering two groups of tourists (8 and 6 strong) who had already visited the Pygmy community as participants in an adventure tourism trip.

SWOT analysis

The following analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) has been carried out to become the basis of a proposed project focused on adventure tourism in the Laike Buniony area.

Strengths: traditional culture perpetuated and community customs preserved; community willing to participate in the adventure tourism project; natural assets available (pure unpolluted air; beautiful landscape - lakes, mountains, rare wildlife); needed infrastructure close at hand.

Revenue generated by tourism will benefit the insular Pygmy communities and help them develop the island´s rural areas; improve hygiene conditions; acquire better education; alleviate poverty and raise their standard of living generally.

Weaknesses: difficulties in communicating with the community; insufficiency of information about tourism; poor education, especially education concerning tourism; community premises still inadequate to receive visitors (lodging, sanitary facilities); lack of experience in catering for tourists; Pygmy community not generally known.

The rural areas, however, pose tough strictures and challenges for the anticipated project. The Pygmies especially: know nothing about adventure tourism; do not know how to make their community attractive for tourists and how to behave towards them; are unaware of what is needed to take care of tourists and offer them entertainment; lack the needed financial footing; use no advertising and promotion and are scared of new and unknown things.

Opportunities: interest in traditional cultures taken by tourists; maintenance of traditions and cultures; diversification of options offered to tourists; development of infrastructure; benefits reaped by ethnic communities and rural areas.

Threats: carefree attitude of the ethnic group to time; financial crisis discouraging potential tourists; unrests in the country; safety and health hazards (terrorism, Covid-19, etc); natural disasters (extreme droughts or rainy seasons); volatility of the tourist industry; propensity of travel agencies to misuse the opportunity to get their share of the community profits.

Primary objective of the project: Improving the quality of life enjoyed by Pygmy community on the island of Laike Buniony.

Secondary objectives of the project: Increasing community income; making the community known among potential clients; and enhancing awareness and knowledgeability of the community members about foreign cultures and ways of life in the home countries of coming tourists, their customs and languages.

Description of the community

The Lake Bunyonyi area offers relatively favorable conditions for agriculture, particularly the production of potatoes. The Pygmy community keeps goats, raises cows and catches fish. The animals are bred to obtain meat, milk and to manufacture milk products. The color of wool obtained from local sheep ranges from black to white, through many hues of brown. Members of the community pursue also other activities: typically they weave wicker baskets and make a variety of handmade products to be offered on the market, e.g. jewelry, pots and pans. They live in houses that they build themselves of sun-baked clay bricks. The clay is obtained locally (just like other building materials) and the simple houses are relatively easy to erect, without relying on any other sources of materials and/or energies. A typical house has a roof supported by wooden beams and covered by straw, but roofs of a metal sheet or similar material has recently gained certain popularity. All in all, the clay is readily available, the houses are cheap, easily built, and they offer excellent heat and sound insulation. Considered as a source of material, the clay is sustainable and the houses make no claims on non-renewable resources of the country.

To grow plants, the locals use no chemicals and/or fertilizers, only natural manure. At present, the Pygmy community has no lodgings where to accommodate potential visitors. Our project does not suggest that the visitors should live with local families - we believe it more convenient for the tourist to live separately, seeing that such arrangement will preserve the privacy of both the visitors and the local community.

IV. Conclusion

The project is supposed to take advantage of adventure tourism in an attempt to increase the standard of living enjoyed by the Pygmy community. More specifically, the project aims to build houses constructed like the local houses where tourists could be conveniently accommodated. The tourists / visitors will be offered a series of events through which they will be included in the daily routines of the community. Before the project is initiated, the Pygmy community members directly engaged in it will be trained so that they are prepared to meet a "western" culture and they know what can be expected of the tourist and how to behave towards them. The training will cover also a course of basic Spanish. A great advantage lies in the fact that the Ugandan official language is English (taught also at "touring" schools) and the Pygmies can speak it.

With the current trends considered, the adventure tourism emerges as a financially sound strategy since it supports sustainable development; it is not a burden to the environment; and it does not require any additional funding as the cost of operations and maintenance will be met

by what is paid by the tourists. The project marketing strategy emphasizes deliberate public relations policy designed to catch the attention of potential clients, to build up good reputation and to obtain the needed feedback. This stage will take up some time a its importance should not be underestimated. The adventure tourism on the Bunyonyi island could become even more attractive if every client is given a chance of bringing home a product handmade by the locals (or possibly by himself / herself, supervised by the locals). In the future, the community can face growing competition from similarly targeted projects. Such competition can be fought off, for example, by innovating, expanding services and using the feedback information to offer the clients whatever they might find interesting and attractive. Beneficial could prove to be the ever more effective tool of Internet advertising that would give the prospective tourists a more precise idea (using video clips, for instance) of what they could expect visiting the community. To employ this tool, the community will need a specialist well versed in ITs.

Information on this innovative way of spending holiday will be available on a dedicated website. Visiting the website, the potential clients will be offered a detailed description of the community and of staying with the community. They will be notified of all circumstances; informed about the price; shown photos of the community; told whom to contact; and offered to inspect references and read discussion. The stays will also be advertised on the websites of foreign non-profit organizations and the International Ecotourism Society. An information about two-day stays with a Pygmy community will also be published on the Czech Internet and in Czech printed media with a tourism bias.

It is vital that the tourists, before coming to the community, are advised of what can be expected from the local inhabitants, what is considered good behavior and what should be better avoided. Following the advice, the risk of misunderstandings between the visitors and the locals should be effectively eliminated. Relevant information can also be found at the related website. Upon arrival, each tourist shall be asked to confirm in a signed document that he/she has been instructed about conditions and is ready to meet them. To avoid any unwelcome surprises, the community members, for their part, shall be acquainted with the manners of people from economically developed countries, with their sensitive spots and their patterns of behavior.

Benefits of the project:

The project will benefit primarily the members of a Pygmy community living in a specific village on the Bunyonyi island. The community will thus obtain a source of income which will help them develop and maintain their traditions and customs. Money earned from the tourist business will go mainly to those community members who will be directly involved in catering for the clientele, who will render the relevant services and be engaged in implementing the program. At times when the community has no visiting tourists, the service providers will keep the needed facilities in working order. In this manner the project will generate new job opportunities, Indirectly, it will benefit also local environment, its native flora and fauna; it will revive traditional arts and crafts and these again will strengthen the community identity and provide new alternatives for sustainable development. Generally speaking, by offering something out of the common (which is still the case of adventure tourism), the entire region can be made more appealing for tourists and can attract a greater crowd of visitors.

The planned project may be useful for not only this Pygmy community (one of many still maintaining its traditional ways of life even in these modern times) but also for other comparable communities around the world. Inspired by the project, they might be convinced to start their own adventure tourism projects based on their own culture and customs. The new income will then assist them in perpetuating and developing their traditions. The project is also supposed to raise the standard of living of this rural community. It provides a blueprint for achieving the goal through adventure tourism organized by the community.

Implementing the project, the local community is expected to build accommodations for the prospective tourists - their design will be just basic, upgraded with a few modern amenities. There will be beds there, bedside tables, chairs, a chemical toilet and a simple washroom. Money donated by corporations and individuals from the Czech Republic, Poland and Slovakia has already been invested to buy a site where a small house for the anticipated tourists will be erected. The duty of construction will be assumed by the local people, with a Czech NGO supervising the effort and its funding. People assigned to take care of the visitors have already been chosen.

The project will offer one-day and two-day programs encompassing traditional agricultural and other daily activities associated with breeding livestock; processing milk; preparing local dishes; organizing leisure-time pursuits for kids; teaching at local school; attending a course of local cuisine for ladies, and more.

The task of coordinating all the activities and running the programs planned for visitors will be entrusted to a Pygmy Chief Coordinator, who will be responsible for the tourists (both individually and as a group) and who will supervise the other, lower-level coordinators. This person must speak English, since he/she will have to handle any misunderstandings and/or conflicts possibly emerging so that both the parties - the tourists and the community members - feel safe and comfortable. No lesser importance will be attached to the privacy of both the parties.

And most importantly, the indigenous culture and traditions must be kept alive while the civic pride of the Pygmies is kept intact.

Acknowledgements

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DEVELOPMENT AND CURRENT STATE OF DIVORCE AND INFIDELITY IN SLOVAKIA

Michal Oláh[1]

Abstract

Divorce rates in Slovakia have been declining continously. According to the data of the Statistical Office of the Slovak Republic, last year the divorce rate was 30.7 percent, which means that out of 100 marriages, more than 30 divorces ended. This is the lowest number since 1994. The divorce rate in Slovakia peaked in 2006, when almost every second marriage ended in such a separation. Since then, the situation has been improving year after year. The research agency Go4insight conducted exclusive surveys on the perception of the causes of divorce and subsequent unbelief in Slovakia, commissioned by the author of the text through the .týždeň magazine. The surveys were conducted on a sample of 1000 respondents in the population of the Slovak Republic aged 15 to 79 years. The deadline for researching divorce rates was from 22 November to 2 December. 2019 and infidelities from September 27 to October 7, 2019.

Keywords

Marriage, Infidelity, Divorce, Causes, Slovak Republic

I. Úvod

Z praxe sociálnych pracovníkov a nespočetného množstva kazuistík i osobnej skúsenosti vyplýva, že ku nevere stačí opojenie alkoholom a „prajná“ atmosféra, ktorá dokáže vybičovať túžby. Nasleduje strata zábran, pudové správanie po ktorom môže nastať stav podobný po vytriezvení. Nastáva morálna dilema, vnútorný morálny tlak, ale i túžba po ďalšej nevere, ktorá môže viesť až k rozvratu manželstva. Z výsledkov prieskumu vyplýva, že Slováci považujú za najčastejšie príčiny rozvodov neveru (69 %), alkoholizmus a problémy s drogami (60 %) či finančné ťažkosti (56 %). Druhú trojicu príčin kopírovali vzťahové problémy ako domáce násilie, neochota komunikovať a nedostatok času a pozornosti zo strany partnera.

Obrázok 1

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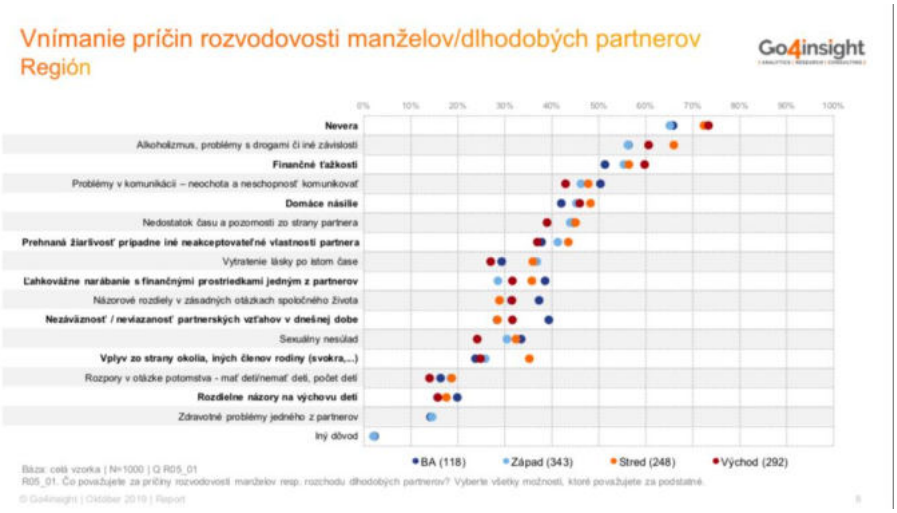
II. Príčiny a rozloženie rozvodovosti

Pri pohľade na vekové rozloženie respondentov, ktorí považujú neveru za najzávažnejší problém, vychádza, že paradoxne to ako ústredný problém najviac vnímajú mladí ľudia do dvadsaťštyri rokov. Medzi mužmi a ženami sú pri vnímaní rozvodovosti pomerne výrazné rozdiely. Zatiaľ čo muži považujú za najpodstatnejší dôvod rozvodu neveru, ženy uvádzajú za dôvod alkoholizmus či problémy s drogami. Najvýraznejší rozdiel v chápaní odlišných motívov je pomerne očakávane domáce násilie, ktoré ženy uvádzali ako príčinu rozchodu výrazne častejšie ako muži. Takmer zhodne vidia obe pohlavia problém krachu partnerstva v nedostatku času a pozornosti zo strany partnera a zdravotné problémy jedného z nich. Pre sociálneho pracovníka stojí za povšimnutie zvlášť o nevýrazných rozdieloch v príčinách rozvodovosti vo vzťahu k sociálnej triede partnerov. Výraznejší rozdiel medzi príslušníkmi high society a ostatnou populáciou bol len v nízkom vnímaní príčin rozvodovosti z dôvodu závislosti a naopak signifikantne častejší podiel na rozchode má podľa nich nezáväznosť partnerských vzťahov. Dlhodobým trendom potvrdeným výskumnou agentúrou je najnižšia rozvodovosť u vysokoškolsky vzdelaných ľudí. Najmenej sa rozpadávajú vzťahy na západe Slovenska. Výrazne vyššie vnímanie negatívneho vplyvu širšej rodiny, najmä svokry, na trvácnosť manželstva/partnerstva bolo v stredoslovenskom kraji.

Obrázok 2



Psychologička Gabriela Ručková (2015) upozorňuje na potrebu hľadania príčin rozvodovosti v detstve. Rôzne rodinné traumy, necitlivá výchova, nevšímavosť, manipulácia s dieťaťom, to všetko sa prejaví v až dospelosti. Podľa Jozefa Tinku (2020) sú časté príčiny rozpadu vzťahov hlavne v citovej nestálosti, nedostatočnej empatii, neschopnosti konštruktívne riešiť vzťahové rozdielnosti či bežné konflikty. Zvlášť pre pomáhajúcich profesionálov v poradenskej a terapeutickej práci je potrebné si uvedomiť, že vzťahové krízy v rodinách sú problémom duševného a sociálneho zdravia spoločnosti, a takto k nim aj pristupovať. Spoločnosť by mala systémovo chrániť dobré rodinné vzťahy detí pred rozvodom aj po rozvode. Rodičia musia pochopiť, že ich vzťah nemusí vydržať, ale vzťah rodiča a dieťaťa je navždy. Ivan Štúr (2014) sformuloval základný princíp výchovy jednoducho a jasne: „Netreba ani veľmi vychovávať, stačí pekne žiť.“

III. Príčiny nevery

Najčastejšou príčinou rozvratu manželstva je nevera, ktorej obraz tragických následkov siaha až do starovekých biblických čias. Starozákonný židovský kráľ Dávid (2 Sam 11 – 12) nechal

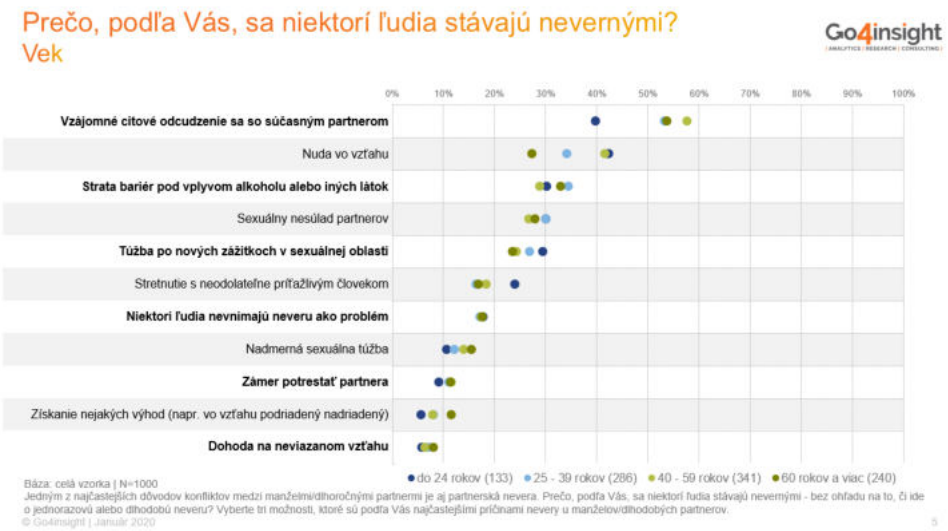
kvôli sexuálnemu vzťahu s vydatou Bat-šebe zabiť jej manžela, vojaka Uriáša. Biblické desatoro hovorí o sexuálnej zdržanlivosti dokonca až v dvoch prikázaniach – šiestom „Nezosmilníš." a deviatom „Nepožiadaš manželku blížneho svojho." Ich porušenie už tisíce rokov od čias Mojžiša vyvoláva konflikty a rozvracia partnerské vzťahy. Potvrdzuje to aj nami citovaný prieskum, ktorý považuje neveru za zdroj najzávažnejších konfliktov medzi manželmi, resp. dlhoročnými partnermi. Profesionálny sociálny pracovník musí byť rezistentný voči nepodloženým naratívom o nevere ako „korení vzťahu" a iných vulgarizujúcich tvrdení. Ručková (2015) hovorí naopak o devastácia vzťahu bez cesty k návratu. Sklamaná dôvera, hlboký pocit odcudzenia podvedeného, neúnosné výčitky svedomia neverného partnera a citová odlúčenosť sú mimoriadnou zaťažkávacou skúškou vzťahu. Mária Potočárová (2008) upozorňuje okrem nevery aj na ďalšie hrozby zrútenia manželstva. Sú nimi hlavne nerealistické očakávania projektované na partnera, slabé sebapoznanie a neistota v povahe.

Obrázok 3

Náš prieskum odpovedá na otázku vnímania dôvodov nevery jednoznačne. Viac ako polovica opýtaných (53 %) považuje vzájomné citové odcudzenie sa so súčasným partnerom za najčastejšiu príčinu nevery. Max Kašparů (2020) vníma najväčšie problémy súčasných manželov rovnako. Varuje pred vákuom, ktoré vzniká citovou podvýživou. Jeho názor podporuje nemecký filozof Martin Heidegger, ktorý už v druhej polovici minulého storočia upozorňoval na prehlbujúcu sa priepasť medziľudských vzťahov slovami známou vetou „moderná doba prekonala všetky vzdialenosti, ale nevytvorila žiadnu blízkosť". Citové odcudzenie považovali za problém častejšie ženy ako muži. Ďalšiu príčinu nevery vnímali obe pohlavia takmer narovnako. Až pre 36 % respondentov to bola nuda vo vzťahu po ktorej prvú trojicu najčastejších motívov nevery uzatvárala strata bariér pod vplyvom alkoholu alebo iných látok (32 %). Štvrté, piate a šieste miesto patrilo sexuálnym problémom. Nesúlad v sexuálnom živote (28 %), túžba po nových sexuálnych zážitkoch (25 %) a erotické očarenie po stretnutí s neodolateľne príťažlivým človekom (18 %). Približne pätina respondentov nepovažuje neveru za problém a v 7 % uzatvára vnímanie najčastejších príčin nevery tzv. dohoda o neviazanom vzťahu. Na tejto príčine sa muži a ženy vzácne takmer zhodli, rovnako ako vo vnímaní príčin nevery pri získaní výhod napr. vo vzťahu nadriadený – podriadený. Vzájomné citové odcudzenie sa so súčasným partnerom očakávane kopírovalo vek opýtaných. Pokiaľ u mladých ľudí do dvadsaťštyri rokov bol tento problém najmenší, osoby nad šesťdesiat rokov ho považovali za najzávažnejší. Súvisí to pravdepodobne s nárokmi, aké na seba starší partneri kladú a núka sa aj možnosť únavy vzťahu. Problém emocionálneho odcudzenia vnímajú ako príčinu podvádzania sa najviac vysokoškolsky vzdelaní ľudia a najmenej stredoškoláci bez maturity. Vysokoškoláci sa súčasne viac ako ostatní obávali nudy vo vzťahu. Zaujímavé odpovede nám ponúklo aj regionálne vnímanie príčin nevery. Neväčší rozdiel bol v otázke

sexuálneho nesúladu partnerov, ktorý považovali za najmenší problém Bratislavčania a za najväčší Stredoslováci. Obyvatelia východného Slovenska boli približne uprostred.

Obrázok 4



IV. Záver

Podľa známeho ontológa a filozofa Michaela Laitmana je hlbokou príčinou súčasnej rozvodovosti neschopnosť moderného človeka strpieť pri sebe ďalšieho človeka, pretože svoj veľký egoizmus. Jeho následkom môže byť podľa Ručkovej (2015) a Tinku (2020) nevera a neustále hľadanie „dokonalého“ partnera. Nevera môže byť vecou osobného zlyhania, cestou z nezdravého vzťahu alebo aj osobnostnou poruchou. Problém je v tom, že nevera sa dnes akceptuje ako prejav pomyselnej slobody. Nie je výnimkou, keď sa o nej v spoločnosti hovorí s nádychom akejsi noblesy, niečoho, čo sa skryto akceptuje ako sociálna normalita. V skutočnosti, človek, ktorý systematicky podvádza svojho partnera, má podľa nami oslovených odborníkov osobný problém vyžadujúci si neraz dokonca profesionálnu pomoc. Korene môžu byť v nedostatku lásky v detstve, nezdravej túžbe po uznaní či moci, chýbajúcom sebavedomí a v mnohých iných príčinách. Nevera často sublimuje do vnútorného zúfalstva. Hoci sa taký človek javí ako vyrovnaná, silná a sebavedomá osobnosť. Pre nás sociálnych pracovníkov je dôležité pamätať na to, že nevera je falošnou karikatúrou lásky.

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PERSPECTIVES OF VOCATIONAL EDUCATION IN THE CZECH REPUBLIC

Dana Ondrušková[1], Richard Pospíšil[1]

Abstract

The economy of the Czech Republic as traditionally industrial country strongly depends on the growth of industrial production. Consequently there should be a vital interest in well organised and structured vocational education that would prepare and provide suitable labour force equipped with necessary competencies and skills. The paper presents recent structure development of graduates of secondary schools and point out current educational mismatch with expected future demand for the skilled and truly tech literate workforce on labour market. Based on the expectations of future industrial development the paper focuses on the objectives of vocational education with regard to the visions described in the key strategy document issued by the Czech government.

Keywords

Education and Economic Development, Labour Force and Employment, Economic Growth of Open Economies, Education and Training

I. Introduction

Ministry of Education, Youth and Sports (MŠMT) presented year 2015 to be „The year of educational technology“. The aim was to make the Educational technology (EdTech) section more attractive. This effort seems to be logic provided that Czech Republic belongs to the top industrial oriented countries in EU. The industrial tradition dates back to the Austro-Hungarian period. The balanced industrial growth is essential for the Czech economy as it contributes with 35 % to its GDP and employees over 40 % of active population MPO (2019). The structure of manufacturing is often blamed for being a big assembly line for car manufacturing. In order to keep the country's competitiveness towards the shift for a modern economy with varied export markets and a big share of high-tech exports there is high time for policy actions aiming to foster productivity of labour force with technical backgrounds, skills and innovation (Tóthová and Sedláková, 2008). In technically backward countries scarcity of workers with relevant education and demonstrated skills constrain growth of the productive formal economy (Švecová, 2000). Skilled and educated workforce increases the ability of the country to innovate and adopt new technologies making the competitive advantages (Aristovnik, 2012).

As the Czech economic structure dictates, the labour market requires well-educated, trained and skilled labour force literate in new technologies. The new jobs will require new competences and large investment particularly in digital skills and entrepreneurial skills in the education training policies and strategies (Mazouch and Fischer, 2011). Vocational skills tend to play an important role in production sectors in industry oriented countries. Anyhow a high degree of flexibility and variation, primarily associated with graduates with graduation with high-level skills and education seems to be preferred for innovative and modern future trends. Learning outcomes, resilient competences, significant proportion of innovation and creativity should be in the forefront of support educational system, rather than half-life knowledge and short-life skills gained by vocational education without graduation (Holzer, 2010). For future

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development of the industrial oriented economy there will be more demand for educated labour force with skills and flexibility, able to adapt to new challenges of technological progress.

Therefore it seems to be important to make a quantitative research of the structure of graduates from upper secondary schools and analyse not only if the structure is compatible with the current requirements for labour force but mainly if the structure of the graduates correspond to the vision of future trends in industrial orientation of the country (Roth, 2007). These kind of information are crucial for making the decisions taken by the authorities regarding the structure of skills and abilities of future workforce respectively human capital that should stand for the competitiveness of the country (Kročil, 2017).

More than aiming at providing quantitative description of graduates from technical disciplines the presented survey traces main features of potential impacts of vocational and other skills training on economic performance and bring new angles on policy approaches of upper secondary education at a given point of time.

The aims of presented research are to

(1) find out if the current structure of the secondary education graduates

(2) reveal the vision and future trends in Czech upper-secondary education.

(3) propose the objectives of vocational education in coming years

These are the main point of the presented paper dedicated to the ability of future workforce to promote innovative capacity and potential. This particular field of study seems to be a bit overlooked as it involves cross sectoral approach and requires taking structural measures by the national authorities.

II. Sources and methods

In the following points there is a brief description of main indicators and the methods employed in order to carry out the research. The survey works with statistical data collected and evaluated in compliance with regulations of Eurostat. The data collection analysis took place in 2019 and consisted of desk research and interviews carried out by country experts from MŠMT, Czech Statistical Office (ČSÚ), National Institute for Education (NÚV) and data platform of the Zlín region – Monitor ZK.

In order to measure the impact on GDP the research works with the industrial production index IPI (measuring the output of industrial economic activities and of the industry in total, adjusted for price effects). It shows the growth rates in different industry groups of the economy in a stipulated period of time. In compliance with regulations of Eurostat the industrial production index covers CZ-NACE sections B, C, D. Annual variation in industrial production as a percentage thus reflects the change in the volume of industrial output as compared to the previous year and reflects future GDP and economic performance.

To conduct a comparative study of educational statistics the data sources are based on instruments developed for International Standard Classification of Education (ISCED). ISCED is a framework which allows cross-national comparability of resulting indicators. Based on these methods of classification the proposed survey focuses on category orientation 34 - Upper secondary general education and 35 - Upper secondary vocational education and sub-category 344, 345 - with direct access to tertiary education, 353 - without direct access to tertiary education.

In this study authors use a descriptive approach of EdTech based on the formal definition of technical education defined by Technology agency of the Czech Republic (TACR). Technical and Vocational Education and Training (TVET) is an education and training which provides

knowledge and skills for employment. Technology agency of the Czech Republic (TACR) defines educational technology as the study and practice needed for facilitating learning and improving performance by creating, using and managing technological processes and resources TAČR (2019). The fields of study cover sectors 21, 23, 26, 28, 29, 31-34 as per NACE (industry standard classification system used in the European Union).

The paper starts by quick overview on the macroeconomic situation of the country providing the temporal description of main indicator - the growth development with regard to the industrial production that is considered to be as one of the essential component in terms of the Czech economy. Following chapter describes the current structure of graduates from upper secondary schools in the Czech Republic.

The descriptive part of the study will shed light into the functions and purposes that vocational education policies should fulfil and aim at. The mapping forms the basis for the subsequent purposive qualitative and quantitative analysis of vocational education. The analysis focuses on the main quantitative trends in upper secondary EdTech in the Czech Republic over last 5 years.

III. Economic growth and IPI of the country

The first point of the descriptive part is dedicated to macroeconomic situation of the country. The Czech Republic belongs to that group of EU members that have a stable economic environment. In the OECD annual report stays that the Czech economy is thriving OECD (2019a). Since 2014 there has been a balanced growth, see Figure 1. Internal demand is led by strong household consumption, supported by income growth, and private investment. The Czech Republic's growth model of low wage and high reliance on FDI has been successful in increasing GDP. In 2018 output growth has slightly slowed down to 3 %, in comparison with 4.6 % in 2017 beside another on account of labour supply constraints, and will remain around 2.6 % MPO (2019). Increasing wages and employment keep household consumption and internal demand high. As already stated the low unemployment rate in the Czech Republic owes its success to factory jobs.

The GDP growth in the Czech Republic is considerably influenced by industrial production. The IPI is an important tool for forecasting future GDP and economic performance here. As already stated the IPI seems to be leading indicator of economic performance due to its general importance for Czech GDP growth and its sensitivity to consumer demand. Developments of the GDP growth and the IPI index shows Table 1.

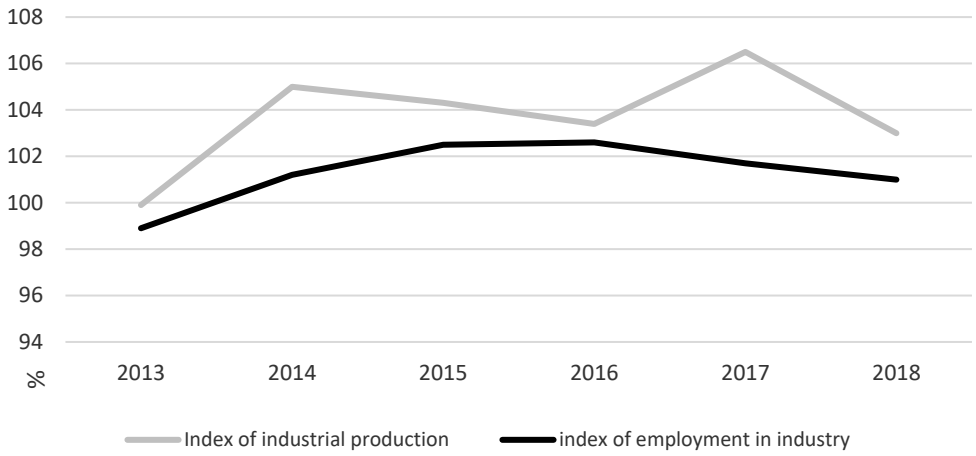
Table 1 GDP growth and IPI index

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
IPI	98,2	86,4	108,6	105,9	99,2	99,9	105	104,3	103,4	106.5	103
GDP growth	2,7	-4,8	2,3	1,8	-0,8	-0,5	2,7	5,3	2,5	4,4	3

Source: ČSÚ, own calculations

Strong dependence between IPI and GDP growth is evident. In 2009, year of significant economic decline, the IPI sharply dropped of 13.6 %, warning the Czech economy that was being hit by structural problems. The production took another tumble and the recession repeated in 2011-2012, the IPI fell by 6.7 % in 12 months underlining how a sector that had long been the motor of the Eurozone economy stalled dramatically. Since 2013 the Czech Republic has recorded annual growth till 2016. Strong and positive relation of IPI index and employment in industry is illustrated on the graph Figure 1.

Figure 1 GDP growth and IPI index



Source: ČSÚ, own calculations

IV. Organisation of secondary vocational technology education

Having shown the importance of industry for the Czech economy the descriptive part continues with the brief overview on the organisation of secondary vocational technology education in the Czech Republic. It is provided by secondary technical schools (SOŠ) that correspond to ISCED 354 and secondary vocational schools (SOU) corresponding to ISCED 353. They offer young people experience, skills and competencies needed for performing an occupation or group of occupations or work activities on the labour market. At the same time, they develop general knowledge, skills and key competencies necessary for their private, civic and work life, as well as for lifelong learning. SOŠ present one type of secondary schools which provide initial vocational education and prepare their students for the labour market. Education at secondary technical schools is offered in four-year programmes which are completed by the graduation exam. SOU provide vocational education and prepare for „blue-collar" positions. The education mostly takes place in three-year or two-year educational programmes completed by a final exam or an apprenticeship certificate NÚV (2018).

V. Quantitative analysis of vocational education

In order to carry out the quantitative analysis of the structure of upper secondary graduates the data collected by NÚV serve for presented research. Figure 3 shows the timeline of number of graduates from upper secondary schools in the Czech Republic. As already mentioned the vocational education in the Czech Republic is either concluded by graduation examination: ISCED 354 – 44% of all upper secondary graduates enabling further studies at tertiary education level or graduating without graduation : ISCED 353 – 30%. The latter is intended mainly for direct entry to the labour market. The Table 2 presents the data also for non-vocational upper secondary schools – general upper secondary schools – Gymnazium.

Table 2 Graduates at upper secondary level in the Czech Republic

	2007/08	2010/11	2013/14	2016/2017	2007/08	2010/11	2013/14	2016/2017
Gymnázia (ISCED 344)	34 619	29 069	25 274	22 858	21,62%	20,98%	21,91%	22,53%
Vocational with maturita (ISCED 354)	101 048	85 504	68 832	58 136	63,11%	61,70%	59,67%	57,30%
Vocational without maturita (ISCED 353)	24 445	24 010	21 244	20 466	15,27%	17,33%	18,42%	20,17%
Total	160 112	138 583	115 350	101 460				

Source NÚV, own calculations

The demographic data shows that the number of young people decreases which results also in a declining share of students in vocational education. There has been a strong decline in interest for vocational secondary education with graduation for ISCED 354 – and a slow rise in the interest in general secondary education - Gymnazium. Anyhow for present study the information on increasing ratio of graduates at vocational secondary schools without graduation seems to be significant.

The analysis continues with description of possible impacts on labour market. Following chapter will reveal the consequences.

VI. Impact on the labour market

The fact that graduates of vocational education tend to be less employable and more sensitive to fluctuations between the jobs is supported by a representative study carried out in the Zlín region. Table 3 shows the latest unemployment rates of both graduates with and without graduation.

Table 3: Unemployment rate of both graduate groups in the Zlín region

unemployment rate / year	2016	2017	2018	2019
graduates with graduation	7,31	4,54	2,8	2,87
graduates without graduation	9,84	5,66	3,75	3,75

Source: Monitor ZK, own calculations

For both groups the unemployment rate follow a downward trend. The graduates with lower educational degree tend to report higher unemployment rates. There are several reasons that can give the explanation. The graduate programmes without graduation - ISCED 353 are often seen as a second choice for those who are not able to obtain the level of education with graduation. That´s why the graduates of vocational schools without graduation often lack motivation for the vocational field NÚV (2018). The results of the OECD PIAAC survey confirm that the graduates of non- graduation programmes perform worse in numeracy and literacy than the OECD average, while the Czech graduates from upper secondary education with graduation and from tertiary education score equal to or above the average OECD (2019b). Graduates from vocational education programmes are more unemployed than graduates from general education ISCED 344 - Gymnazium programmes but this is also reinforced by the fact that almost all of them continue in tertiary education and do not enter the labour market at this stage NÚV (2018). Furthermore skilled employees in workplaces help to raise the productivity of low-skilled colleagues Cedefop (2018). Many of the economic effects of different kinds of skills are hard to identify because they are indirect. Skills are not deployed in isolation but have to be combined with other production inputs, such as machinery and equipment before they can make a contribution to economic performance.

So far national unemployment rate has been low for two main reasons (1) assembly plant jobs have been relatively easy to create because they are cheap and government incentives have

made the Czech Republic attractive to global manufacturing companies. (2) Czech business cycle is closely connected to the economic health of the EU OECD (2019b). When Europe is doing well, the Czech Republic does even better. The most obvious risk of workforce on assembly-line jobs with low value added dependence seems to be a matter of concern. Which means that the Czech Republic faces the risk of job losses from automation – job losses of the less qualified workforce – graduates without graduation. This fact is a matter of global concern since the quantitative research displays the increasing number of less qualified graduates.

The results of present paper confirm the survey of the Digital Economy and Society Index (DESI) stating that only 24 % of Czechs have basic digital skills, while the EU average is 31 % European Commission (2019b). This fact accelerates the competencies of disparity between the supply and demand of candidates and force employees to learn new skills, both within the workplace and in educational establishments.

VII. Conclusion

The present survey displayed the current structure of the secondary education graduates and the position of both groups on the labour market. These outcomes must be compared with the anticipated requirements of the workforce. The present research shows the trend of increasing ratio in favour for graduates without graduation. This fact states in the contradiction with the demand of well-educated workforce that is expected to predominate in future. The industrial report predicts a global workforce crisis powered by extreme automation. The 'Fourth Industrial Revolution' will see an increase in workforce automation not to include highly repetitive low-skill jobs, but highly routine medium-skill jobs.

Apparently, this discrepancy seems to present important challenges for the national educational system provided that better skilling is necessary to increase labour productivity and innovation to maintain the competitiveness and to favour upgrading in value added. This was the second point of the present study: to reveal the vision and future trends in Czech upper-secondary education. There is still a plenty of room for better skilling, preparation for involvement in technical innovation activities in the Czech educational system. These factors will be mostly needed in order to upgrade the potential of sharing the benefits of future economic growth based on industry and technology.

In order to improve the quality in modern educational line various initiatives and projects have been developed over recent years but the Czech vocational education system has not undergone any conceptual conversion or transformation process. A comprehensive skills strategy could help to adapt the educational trends to future changes. These have not yet been transformed into a coherent framework with comprehensive methods for producing and interpreting intelligence skills. MŠMT published underlying document Main directions of Educational policy 2030+ that is intended to be a platform for professional debate and create the main visions, priorities and goals of educational policy beyond the year 2030. It is highly considerable to accommodate still growing demand for workers mostly in technical professions with university and upper secondary school education and motivate adequately graduates to participate actively in future development. There should be stronger emphasis on upper secondary education for graduates with graduation and modern upper secondary educational institutions must equip people not only with vocational skills, but also with a broad range of knowledge, skills and attitudes recognized as indispensable for meaningful participation in work and life.

The findings of the presented study come at an important time. The present research indicates that in light of the 2030+ vocational studies development needs the fundamental rethink and transformation to respond to the current and future skills requirements. There is an important message to be aware of for future role of educational institutions in vocational education: they mustn´t exist separately, they must be closely connected with innovative practice strategies and

be constantly involved in research and innovation activities already on the upper secondary level. This must become the future role of vocational education institutions on upper secondary level: to become the power sources on which new innovative challenges rely. The comprehensive national skills strategy could help to adapt the organisation and structure to future changes.

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CIRCULAR TAX AND ITS APPLICATION ON VEHICLE STOCK OF SLOVAKIA

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Abstract

The research objective of this article is a proposal of circular tax by the Ministry of Finance of the Slovak Republic from 2012, which however, was never implemented into Slovak legislation. The article focuses on application of the circular tax on the vehicle stock of Slovakia and on its comparison with current setting of the motor vehicle tax. The aim of the article is to point out the need to broaden the scope of the tax, so it could create an appropriate foundation for environmental taxation. Thanks to data analysis and subsequent description of its results, the article also points out some limitations of the circular tax with regards to composition of the vehicle stock of Slovakia. The data are based on the national registry of motor vehicles, which was supplied by the Presidium of the Police Force of Slovakia after a request based on public access to information. The results of the analysis show great distinctions between the ownership of motor vehicles by business and non-business subjects. The analysis also demonstrated that the current setting of taxation of motor vehicles is not an appropriate foundation for creation of a circular tax.

Keywords

Circular Tax, Motor Vehicle Tax, Vehicle, Property Principle Taxation, Environmental Principle Taxation

I. Úvod

Dane a poplatky už dávno nie sú len nástrojom plnenia verejných rozpočtov. Okrem ich významnej fiškálnej funkcie plnia aj funkciu efektívneho ovplyvňovania správania sa subjektov. Vermeend, Ploeg a Timmer (2008) uvádzajú, že dane a poplatky pôsobia ako efektívny nástroj k ovplyvneniu chuti pracovať, spotrebovávať, investovať a majú teda zásadný dopad na ekonomiku nie len v zmysle verejného financovania, ale aj jej celkového výstupu. Vlády sú často motivované k využívaniu zdanenia napríklad za účelom dosiahnutia udržateľného ekonomického rastu, k vyššej zamestnanosti, ale taktiež k zabezpečeniu lepšieho životného prostredia. Životné prostredie a najmä klimatické zmeny sú jednými z veľkých celosvetovo diskutovaných tém. Zdanenie činiteľov, ktoré majú negatívny dopad na životné prostredie nie je vo vyspelých krajinách zriedkavé. Takzvané environmentálne dane sa dávno stali súčasťou nielen národných, ale aj nadnárodných politík.

Medzi dane súvisiace so životným prostredím sa radia aj dane z dopravy, konkrétne daň z motorových vozidiel, ktorá je predmetom diskusie tohto príspevku. Štemberk (2008) identifikuje dva základné argumenty, ktoré obhajujú zdanenie motorových vozidiel. Prvý argument je zdanenie vozidla ako luxusného a nadbytočného statku. Druhý argument zdanenia vychádza z vnímania motorového vozidla ako činiteľa ovplyvňujúceho svoje okolie, v zmysle spôsobovania negatívnych externých nákladov, predovšetkým znečistenia ovzdušia. K zdaneniu motorových vozidiel je teda možné použiť buď majetkový, alebo environmentálny prístup. Najčastejšie však ide o kombináciu týchto prístupov a rovnako je tomu tak aj v aktuálnych podmienkach zdanenia motorových vozidiel na Slovensku. Zdaňovaniu

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motorových vozidiel podľa environmentálneho prístupu sa venuje Andrlík (2014) a popisuje problematiku emisií ako nástroja k redukcii negatívnych externalít plynúcich z dopravy.

Na daň z motorových vozidiel sa historicky najčastejšie nahliadalo ako na čisto majetkovú daň (Jančura, 2017), (Štemberg, 2008), avšak pri konštrukcii tejto dane je čoraz častejším zámerom práve zohľadňovanie prvkov environmentálnej záťaže. Daň z motorových vozidiel je považovaná za jeden z vhodných nástrojov environmentálnej politiky v oblasti znižovania negatívnych efektov spôsobených dopravou. Podľa Andrlíka (2012), vhodne zvolená kombinácia dane z motorových vozidiel a registračnej dane môže predstavovať efektívny prostriedok na zníženie emisií skleníkových plynov, najmä CO_2. Praktická aplikácia takzvaných zelených daní v krajinách OECD preukazuje, že dobre nastavené zdanenie môže viesť k efektívnemu a účinnému riešeniu environmentálnych problémov, akými sú klimatické zmeny (OECD, 2006). Dôležitá je však vhodne zvolená forma zdanenia, ktorá sleduje konkrétne stanovený cieľ. Konkrétnej aplikácii v rámci poplatkovej povinnosti – mýtneho systému s použitím environmentálnych prvkov sa podrobne venuje Andrlík, Zborovská (2019).

Príspevok je zameraný na aplikáciu cirkulačnej dane v oblasti zdaňovania motorových vozidiel v podmienkach Slovenskej republiky. Návrh cirkulačnej dane vychádza z teoretického konceptu zdanenia motorových vozidiel na Slovensku prezentovaným Ministerstvom financií Slovenskej republiky v roku 2012. Ide o čisto teoretický koncept, ktorý nebol do legislatívy nikdy implementovaný. Cirkulačná daň bola nastavená, ako daň čisto majetková. Dôležitou charakteristikou je však to, že zaťažovala takmer všetky subjekty vlastniace motorové vozidlo, čo je jeden z hlavných princípov environmentálneho zdanenia, a síce primeraná daňová záťaž pre všetky subjekty spôsobujúce environmentálnu škodu. Na základe návrhu cirkulačnej dane je diskutovaný aktuálny princíp zdanenia motorových vozidiel a jeho vhodnosť implementácie na takmer celý vozový park Slovenska. Cieľom príspevku je poukázať na dôležitosť rozšírenia daňovej základne aj na vozidlá, ktoré v súčasnosti netvoria predmet dane, v prípade, že by daň z motorových vozidiel mala byť skutočne environmentálnou daňou. Cieľom je taktiež poukázať na niektoré obmedzenia cirkulačnej dane v vzhľadom na skladbu vozového parku Slovenska.

Súčasťou príspevku je rozsiahla analýza dát vozového parku Slovenska. Vyššie stanovené ciele príspevku sú dosiahnuté pomocou deskripcie výsledkov vyplývajúcich z tejto dátovej analýzy. Dáta pre potreby príspevku boli získané od Prezídia Policajného zboru Slovenskej republiky na základe žiadosti o poskytnutí informácií v súlade so zákonom č. 211/2000 Z.z. o slobodnom prístupe k informáciám. Získané dáta od Prezídia Policajného zboru pochádzajú z národnej evidencie vozidiel Slovenskej republiky. Poskytnuté štatistické údaje sú v celkovom rozsahu 2 166 873 záznamov (vozidiel). Ide o všetky vozidlá registrované na Slovensku od 01.01.2007 do 29.03.2018. Dáta boli poskytnuté na CD nosiči a následne boli importované do databázového systému Microsoft SQL Server Express, kde boli spracovávané pomocou skriptovacieho jazyka SQL (Structured Query Language). Databáza obsahuje celkovo 2 166 873 záznamov vozidiel, pričom ku každému vozidlu je priradených 40 doplňujúcich údajov. Databáza obsahuje vozidlá všetkých kategórií, ktoré boli registrované na Slovensku v období od roku 2007 až po prvý kvartál roku 2018. Pre účely príspevku bolo vzhľadom na skúmanú problematiku potrebné selektovať vozidlá spadajúce do kategórie L, M a N1. Po vyčlenení týchto vozidiel, sa databáza zúžila na 1 870 259 záznamov (vozidiel). Exporty z databázy vytvorenej v MSSQL slúžili ako podklad pre tvorbu tabuliek a grafov v programe MS Excel.

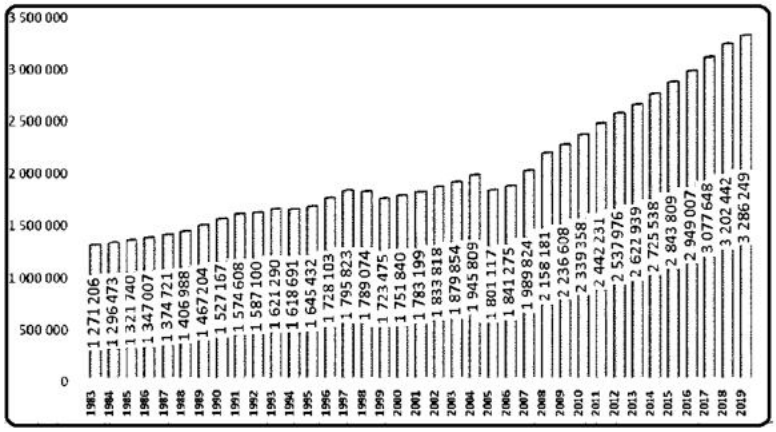
II. Prístup k zdaneniu motorových vozidiel v súčasnosti

Táto časť príspevku sa zameriava na diskusiu k téme aktuálneho princípu zdanenia motorových vozidiel na Slovensku. Cieľom je prezentovať, do akej miery je daň z motorových vozidiel v podmienkach Slovenskej republiky skutočne environmentálnou daňou a či je vôbec možné k tejto dani pristupovať ako k environmentálnej. Vermeend, Ploeg a Timmer (2008) definujú

environmentálnu daň, ako daň, ktorá zvyšuje cenu statkov spôsobujúcich environmentálnu škodu, a tak odrádza spotrebiteľov od využívania a spotreby týchto statkov. Obmedzovanie využívania motorových vozidiel pomocou dane je však veľmi diskutabilné. Na tomto mieste je dôležitá polemika o tom, do akej miery dokáže daň z motorových vozidiel ovplyvniť rozhodovanie sa subjektov o kúpe konkrétneho vozidla, a či vôbec. Andrlík a Péteriová (2019) uvádzajú, že na rozhodovanie o kúpe nového (prípadne ojazdeného) vozidla vplýva množstvo rôznych daňových aj nedaňových faktorov. Z empirickej štúdie, ktorú predkladá Barbour (2009) vyplýva, že ak sa subjekt rozhodne zakúpiť motorové vozidlo, samotná existencia dane a ani rozdiel v sadzbách dane pri kúpe nového, či ojazdeného vozidla, nemajú vplyv napríklad na vek zakúpeného vozidla. Rozdiely v sadbách dane totiž nie sú natoľko výrazné, aby dokázali ovplyvniť rozhodovanie sa subjektov.

Odhliadnuc od dane a jej výšky sa počet evidovaných vozidiel na Slovensku neustále zvyšuje. Je to spôsobené vysokou životnou úrovňou a dlhodobým ekonomickým rastom. Dôkazom je Obrázok 1, ktorý znázorňuje počet evidovaných vozidiel v Slovenskej republike.

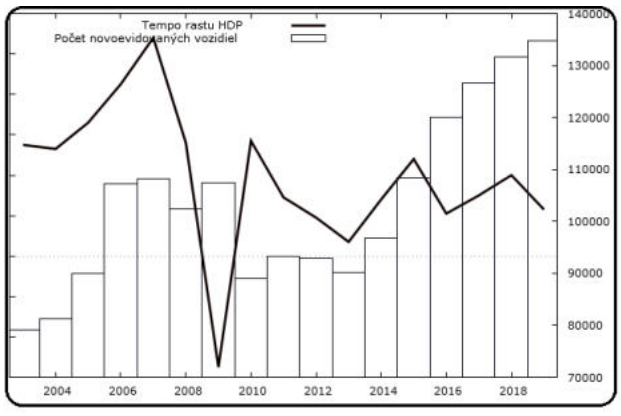
Obrázok 1 Počet evidovaných vozidiel na Slovensku



Zdroj: Ministerstvo vnútra Slovenskej republiky (2020)

Zdanenie v oblasti automobilovej dopravy má skôr stimulačnú funkciu, než potenciál akokoľvek ovplyvniť dlhodobý trend nárastu počtu vozidiel. Ten je ovplyvňovaný skôr hospodárskym cyklom a ochotou jednotlivcov investovať do kúpy vozidiel. Naviazanosť ochoty investovať do kúpy vozidiel na hospodársky cyklus zobrazuje Obrázok 2, ktorý sleduje počet novoevidovaných vozidiel na Slovensku a tempo rastu HDP v rokoch 2003 až 2019.

Obrázok 2 Vzťah medzi tempom rastu HDP a počtom novoevidovaných vozidiel na Slovensku



Zdroj: Vlastné spracovanie na základe štatistických údajov Svetovej banky a Ministerstva vnútra Slovenskej republiky.

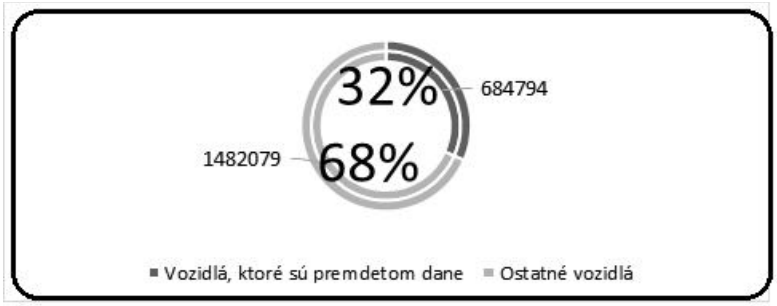
Na Obrázku 2 je vidieť jasný pokles novoevidovaných vozidiel na Slovensku v období hospodárskej krízy od roku 2009 až po opätovný hospodárky rast, ktorý sa prejavil aj v náraste počtu novoevidovaných vozidiel v roku 2014. Je teda zjavné, že samotné zdanenie motorových vozidiel, nemá rozhodujúci dopad na ochotu subjektov investovať do nákupu vozidiel, ale v tejto oblasti pôsobí aj mnoho iných faktorov.

Na tomto mieste je potrebné poznamenať, že v podmienkach Slovenskej republiky je navyše funkcia samotnej dane z motorových vozidiel značne obmedzená, keďže daň sa limituje len na subjekty využívajúce vozidlá k podnikateľskej činnosti. Zákon č. 361/2014 o dani z motorových vozidiel, (ďalej len ZDMV) definuje v § 2 ods. 1 predmet dane z motorových vozidiel ako vozidlá evidované na Slovensku a používané na podnikanie alebo inú samostatnú zárobkovú činnosť. Súčasné znenie zákona ďalej definuje používanie vozidla na podnikanie ako:

a) skutočné používanie vozidla na podnikanie,
b) účtovanie o vozidle,
c) evidovane vozidla v daňovej evidencii,
d) uplatňovanie výdavkov v spojitosti s používaním vozidla,
e) alebo používanie vozidla, v ktorého doklade je ako držiteľ vozidla zapísaná osoba, ktorá zomrela, zanikla alebo bola zrušená.

Daň z motorových vozidiel sa teda týka len menšej časti subjektov vlastniacich vozidlo. Tento fakt vyplýva z vlastného spracovania databázy národnej evidencie vozidiel za vybrané časové obdobie. Pomer vozidiel, ktoré tvoria predmet dane v Slovenskej republike a vozidiel, ktoré nie sú predmetom dane zobrazuje Obrázok 3.

Obrázok 3 Rozdelenie vozového parku na vozidlá tvoriace predmet dane a ostatné vozidlá



Zdroj: Andrlík, Péteriová (2019)

Pôsobenie dane z motorových vozidiel je preto značne obmedzené. Z tohto pohľadu je náročné obhájiť environmentálnu funkciu dane z motorových vozidiel, keďže predmetom dane nie sú ani zďaleka všetky vozidlá. Je zjavné, že to, či vozidlo produkuje určité množstvo emisií alebo nie, nezávidí od účelu použitia vozidla, a teda z pohľadu ekologickej dane nie je zmysluplné zdaňovať len vozidlá, ktoré sa používajú na podnikanie. Aj z tohto dôvodu je možné konštatovať, že primárnym cieľom dane z motorových vozidiel na Slovensku nie je zohľadnenie environmentálnej škody.

Ďalší argument, prečo daň z motorových vozidiel na Slovensku nie je čisto environmentálnou daňou vypláva priamo z charakteristík environmentálnych daní. Základné znaky environmentálnej dane určuje OECD (2011) takto:

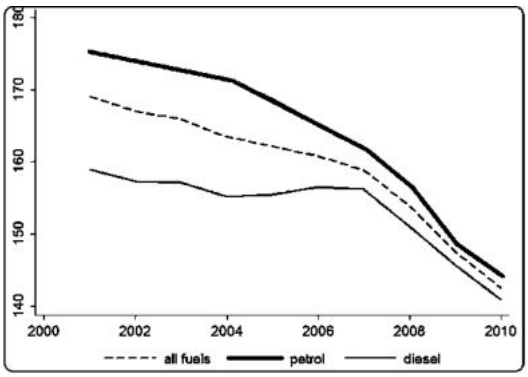
- Základ dane by sa mal odvíjať od znečisťujúcej látky, alebo od znečisťujúceho správania sa.
- Rozsah zdanenia by mal v optimálnom prípade odrážať veľkosť a rozsah škody spôsobenej znečisťujúcou látkou, alebo znečisťujúcim správaním.
- Výška sadzby dane by mala byť zodpovedajúca veľkosti znečistenia.

- Daň, na to aby smerovala k zlepšeniu životného prostredia, musí byť zaručená a sadzba dane by mala byť predvídateľná.

Podľa uvedených charakteristík environmentálnych daní je možné konštatovať, že daň z motorových vozidiel na Slovensku celkom nespĺňa znaky environmentálnej dane. Motorové vozidlo, ako predmet dane má preukázateľný negatívny vplyv na životné prostredie. Súčasné nastavenie dane však nezohľadňuje skutočnú veľkosť negatívneho dopadu používania motorového vozidla. Základom dane podľa §5 ods. 2 až 4 ZDMV je u vozidiel kategórie L (motocykle) a M1 (osobné automobily), zdvihový objem valcov motora v cm^3. U úžitkových vozidiel (N), autobusov (M2 a M3) a prípojných vozidiel (O) je základom dane najväčšia prípustná celková hmotnosť a počet náprav. Je teda zrejmé, že základ dane z motorových vozidiel sa primárne neodvíja od znečisťujúcej látky, ale od jasne stanoveného a nespochybniteľného atribútu vozidla.

Andrlík, Péteriová (2019) identifikujú v rámci dane z motorových vozidiel na Slovensku viacero prvkov zdanenia motorových vozidiel, ktoré sa dajú považovať za ekologické. Daň z motorových vozidiel na Slovensku zohľadňuje environmentálne faktory v podobe veku vozidla a druhu paliva, pričom daňová záťaž je nižšia pre držiteľov novších vozidiel a naopak vyššia pre držiteľov starších vozidiel. V súčasnej legislatíve sa na Slovensku teda zohľadňuje najmä zástupný znak environmentálnej škody v podobe veku vozidla, ten však nie je priamo naviazaný na emisie znečisťujúcich látok do ovzdušia. Viacero štúdií (Gerlagh, et. al, 2018), (Šarkan, et. al, 2017), (Šarkan, Vrábel, Skrúcaný, 2016) sa však snaží preukázať, že novšie automobily produkujú nižšie množstvo emisií, a preto daňové zvýhodnenie vozidiel na základe veku má zmysel. Obrázok 4 zobrazuje pokles produkcie emisií CO_2 u novo zakúpených vozidiel s naftovým a benzínovým pohonom.

Obrázok 4 Produkcia emisií nových vozidiel v g CO_2/Km



Zdroj: Gerlagh, Van Den Bijgaart, Nijland, Michielsen, (2018).

Z tohoto pohľadu sa dá prvok zdanenia vozidiel na základe veku vozidla považovať za environmentálny. Rozsah spôsobenej environmentálnej škody však nezávisí len od veku, kategórie alebo emisnej normy vozidiel. Dôležitú úlohy pri posudzovaní skutočnej veľkosti environmentálnej záťaže konkrétneho vozidla zohráva najmä frekvencia používania vozidla, čo samotná daň z motorových vozidiel nezohľadňuje. Ako uvádza aj Inštitút finančnej politiky Slovenska (IFP, 2012), podmienkou pre klasifikáciu dane ako skutočne environmentálnej nie je statické odvíjanie sa sadzby dane od základu v podobe environmentálneho indikátora, ale dôležité je zohľadnenie reálnej intenzity používania motorového vozidla. Toto kritérium environmentálnej dane je však náročné splniť. Daň by sa musela v takomto prípade odvíjať od počtu najazdených kilometrov a spotreby paliva. Aj vzhľadom na náročnosť kontroly a administrácie takejto formy zdanenia sa táto forma dane zatiaľ nevyskytuje v žiadnej z európskych krajín (ACEA, 2020).

Súčasná daň z motorových vozidiel na Slovensku aj napriek začleneniu niekoľkých environmentálnych prvkov preto plní stále najmä fiškálnu funkciu. Määttä (2006) uvádza pojem fiškálno-environmentálna daň, ktorej hlavná funkcia je zaistenie príjmov do verejného rozpočtu, avšak môže sa vyznačovať aj významne pozitívnym dopadom na životné prostredie. Määttä (2006) rozlyžuje fiškálny charakter daní od výhradne regulačného charakteru environmentálnych daní. Environmentálna daň má podľa neho výhradný zámer ovplyvniť správanie sa znečisťovateľa, zatiaľ čo príjmy z tejto dane nie sú podstatné.

III. Cirkulačná daň na Slovensku

Ako už bolo uvedené vyššie, daň z motorových vozidiel na Slovensku spĺňa skôr fiškálnu funkciu, než funkciu environmentálnu. Ide primárne o majetkovú daň, ktorá je pritom v súčasnosti doplnená o viacero environmentálnych prvkov. Ako už bolo vyššie uvedené, daň a jej pôsobenie je značne obmedzené z dôvodu zúženia predmetu dane len na podnikateľské subjekty. Toto je jeden z prvkov, ktorý bráni vo vnímaní tejto dane ako skutočne environmentálnej. Prvým krokom k vytvoreniu environmentálnej dane z motorových vozidiel je preto nájsť vhodný princíp zdanenia všetkých subjektov vlastniacich motorové vozidlo. Ako príklad poslúži teoretický koncept cirkulačnej dane na Slovensku, navrhovaný Ministerstvom financií Slovenskej republiky v roku 2012. Tento koncept bude následne porovnávaný s aktuálnym nastavením dane s motorových vozidiel a jeho aplikáciou v podobne cirkulačnej dane na takmer celý vozový park Slovenska.

Pokusy o plošné zdanenie všetkých vozidiel boli na Slovensku rozoberané len v teoretickej rovine. Teoretický koncept Ministerstva financií Slovenskej republiky a Inštitútu finančnej politiky (2012) o zavedení cirkulačnej dane nebol do legislatívy nikdy implementovaný. Koncept zdanenia spočíval v zavedení plošnej dane z motorových vozidiel, ktorej poplatníci by boli všetci držitelia motorových vozidiel, bez naviazania predmetu dane na podnikateľskú činnosť. Podľa Ministerstva financií Slovenskej republiky súčasné nastavenie dane z motorových vozidiel diskriminuje podnikateľské subjekty na úkor ostatných držiteľov motorových vozidiel. S týmto názorom sa stotožňujú aj Konečný, Gnap, Šimková (2016), ktorí tvrdia, že neexistuje žiadne ekonomické odôvodnenie toho, aby daň z motorových vozidiel platili len podnikateľské subjekty. Rovnako tvrdia, že ide o diskriminačný postup voči týmto osobám.

Predmetom dane podľa konceptu cirkulačnej dane mali byť vozidlá kategórie M1, N1 a motocykle kategórie L vo vlastníctve a držbe fyzických osôb aj právnických osôb, bez podmienky využívania vozidla k podnikateľským činnostiam. Podľa IFP (2012) by takéto nastavenie dane z motorových vozidiel viedlo k väčšej vertikálnej spravodlivosti daňového systému na Slovensku. Ako nespornú výhodu uviedli, že takéto rozšírenie daňovej základne na všetky subjekty vlastniace motorové vozidlo by umožnilo stanovenie mimoriadne nízkej sadzby dane pre väčšinu týchto subjektov.

Základom dane mal by maximálny výkon motora v kW. Naviazanie základu dane na výkon motora predstavovalo jasný majetkový prístup k zdaneniu. Výkon motora do značnej miery reflektuje hodnotu vozidla, a tak dokáže podať relatívne dobrú informáciu o bohatstve zdaňovaného subjektu (IFP, 2012).

Sadzby dane sa podľa návrhu mali pohybovať od 10 do 539 eur. Mali sa odvíjať od základu dane, teda výkonu motora v kW a nepriamo mali odrážať približnú cenu vozidla. Takto mal byť zachovaný majetkový prístup zdanenia, vďaka čomu mala byt dosiahnutá vysoká progresivita zdanenia, a teda aj vyššia vertikálna spravodlivosť.

Daň sa mala platiť každoročne. Výhodou by podľa IFP (2012) bola vysoká efektívnosť pri výbere dane a pokles daňových únikov, keďže takéto nastavenie dane už neumožňovalo presun

predmetu dane mimo režim zdanenia. Spôsob výpočtu dane bol maximálne zjednodušený a neobsahoval žiadne environmentálne prvky v podobe zvýhodnení vozidiel na základe veku, či paliva.

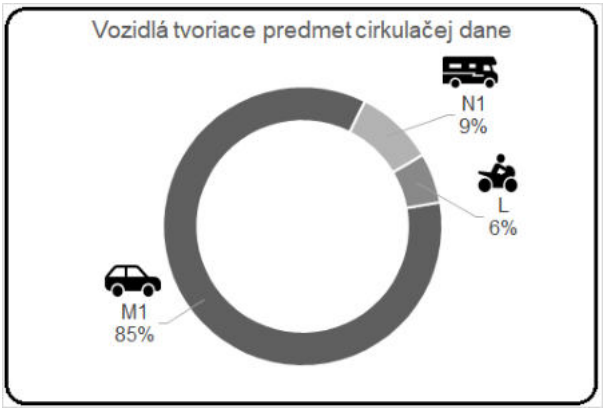
Cirkulačná daň sa mala týkať len osobných vozidiel, ľahkých úžitkových vozidiel a motocyklov. Zdanenie nákladných vozidiel nemalo byť cirkulačnou daňou nijak dotknuté. Zdanenie úžitkových vozidiel malo byť ponechané v pôvodnej rovine naviazania predmetu dane na podnikanie. Z analýzy národne evidencie vozidiel vyplýva, že veľkú väčšinu ťažších úžitkových vozidiel vlastnia podnikateľské subjekty, a teda sú predmetom dane v rámci aktuálneho zdanenia motorových vozidiel. Podnikateľské subjekty vlastnia až 92 % všetkých ťažších úžitkových vozidiel kategórie N2 a N3. U autobusov kategórie M2 a M3 je to až 96 %. Je zrejmé, že vozidlá týchto kategórií tvoria predmet dane takmer vo všetkých prípadoch, a preto zavádzanie cirkulačnej dane tu nemá až taký veľký význam.

Inak je to však pri osobných automobiloch (M1), motocykloch (L) a ľahkých úžitkových vozidlách (N1), na ktoré mala byť aplikovaná cirkulačná daň. Z analýzy dát národnej evidencie vozidiel vyplýva, že 73% vozidiel kategórie M1 vlastnia nepodnikateľské subjekty, a teda tieto vozidlá v súčasnosti netvoria predmet dane. U motocyklov kategórie L je to až 85% a u ľahkých úžitkových vozidiel je to 38 %. Väčšina vozidiel týchto kategórií je teda v držbe nepodnikateľských subjektov, čo znamená, že tieto vozidlá podľa aktuálneho znenia zákona netvoria predmet dane.

IV. Aplikácia cirkulačnej dane na vozový park Slovenska

Nasledujúca časť príspevku sa odkloní od teoretickej roviny cirkulačnej dane na jej aplikáciu na významnú časť vozového parku Slovenska. Dáta o rozsahu 2 166 873 vozidiel, vychádzajúce z národnej evidencie vozidiel boli pre potreby aplikácie cirkulačnej dane na databázu očistené o všetky ostatné kategórie vozidiel, ktorých sa cirkulačná daň netýkala. Po očistení ostalo v databáze 1 870 259 záznamov vozidiel. Všetko išlo o vozidlá kategórie L, M1 a N1, vlastnené ako podnikateľskými subjektami, tak občanmi – nepodnikateľmi. Cirkulačná daň by bola teda aplikovaná približne na 86 % všetkých vozidiel na Slovensku. Obrázok 5 zobrazuje percentuálny podiel jednotlivých kategórií vozidiel, ktoré spadajú do predmetu cirkulačnej dane, podľa skladby vozového parku Slovenska.

Obrázok 5 Vozidlá tvoriace predmet cirkulačnej dane rozdelené podľa kategórií



Zdroj: Vlastné spracovanie

Ako už bolo uvedené vyššie, základom pre výpočet cirkulačnej dane mal byť výkon motora v kW. Vozidlá tvoriace predmet cirkulačnej dane vychádzajúce z národnej evidencie vozidiel boli preto rozdelené podľa výkonu motora do jednotlivých tried a následne im bola priradená sadzba dane podľa návrhu IFP (2012) . Tabuľka 1 zobrazuje výkony motora a početnosť

vozidiel spadajúcich do rozpätia k daným výkonom. Po vynásobení so sadzbou dane, získame približný výnos tejto dane.

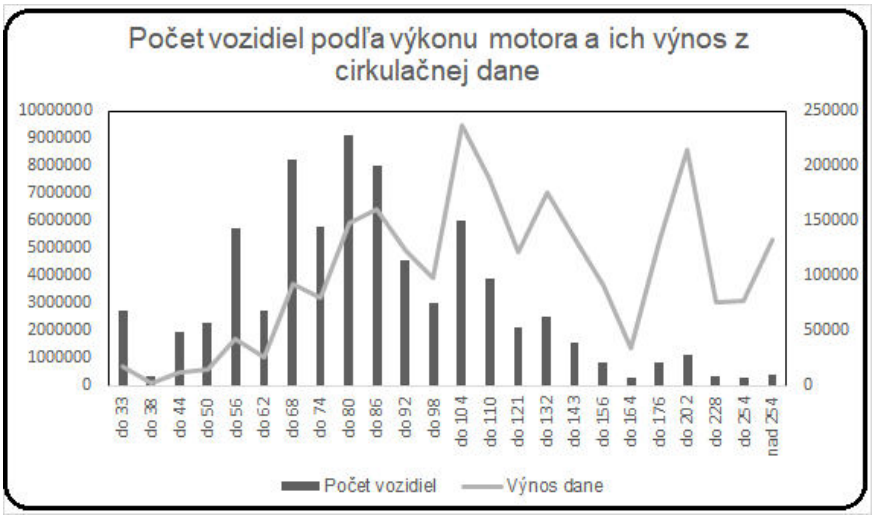
Tabuľka 1 Nastavenie sadzieb dane a početnosť vozidiel spadajúcich do tried podľa výkonu motora

Výkon motora v kW	Sadzba dane	Kategória vozidla	Približná cena vozidla v €	Približný typ vozidla	Počet vozidiel	Výnos dane v €
do 33	**10**	mini a malé automobily	7500-10500	Toyota Aygo	67756	677560
do 38	**10**			Citroen C1	8649	86490
do 44	**10**			Škoda Fabia	48281	482810
do 50	**10**			Hyunday i20	56572	565720
do 56	**12**			Renault Clio	143458	1721496
do 62	**15**	nižšia a stredná trieda	10500-20500	Škoda Octavia	68212	1023180
do 68	**18**			VW Golf	206132	3710376
do 74	**22**			Hyundai i30	144424	3177328
do 80	**26**			Toyota Auris	227840	5923840
do 86	**32**	stredná trieda	20500-45000	VW Passat	200315	6410080
do 92	**43**			Audi A4	114319	4915717
do 98	**52**			Opel Insignia	75142	3907384
do 104	**63**			BMW 3	150406	9475578
do 110	**77**			Lexus IS	98058	7550466
do 121	**93**	vyššia stredná trieda	45000-70000	Audi A6	52425	4875525
do 132	**113**			BMW 5	62063	7013119
do 143	**138**			Mercedes E	38768	5349984
do 156	**167**			Lexus GS	21668	3618556
do 164	**203**			Volvo S80	6789	1378167
do 176	**247**	luxusné automobily a SUV	70000 a viac	Mercedes S	21539	5320133
do 202	**300**			BMW 7	28564	8569200
do 228	**365**			Lexus LS	8271	3018915
do 254	**443**			Audi A8	6968	3086824
nad 254	**539**			Range Rover	9853	5310767

Zdroj: Inštitút finančnej politiky (2012) a vlastné spracovanie databázy národnej evidencie vozidiel

Rozdelenie vozidiel podľa výkonov motora a ich podiel na daňovom výnose sprehľadňuje Obrázok 6.

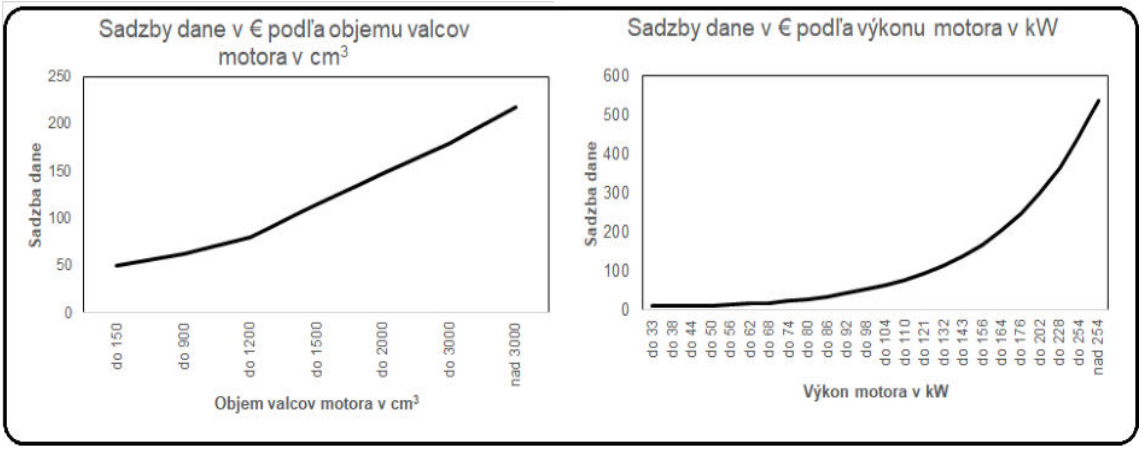
Obrázok 6 Rozdelenie vozidiel podľa výkonu motora a ich výnos na cirkulačnej dani



Zdroj: Vlastné spracovanie

Na Obrázku 6 je vidieť, že väčšina vozidiel spadá do výkonu motora o veľkosti 86 kW. Väčšine týchto vozidiel je teda priradená ročná sadzba dane do 32 €. Najviac vozidiel sa nachádza v kategórii od 74 do 80 kW. Týmto vozidlám je priradená ročná sadzba dane o veľkosti 26 €. Minimálna sadba dane podľa aktuálneho zákona sa pohybuje na úrovni 50 €. Z Obrázka 6 ďalej vyplýva, že najvyšší výnos z tejto dane zabezpečujú práve vozidlá s výkonom vyšším ako 86 kW. Vozidlá s výkonom vyšším ako 86 kW tvoria až 76 % celkového výnosu z cirkulačnej dane, ich početnosť je pritom oveľa menšia. Daň je teda nastavená vysoko progresívne. Progresivitu zdanenia zobrazuje Obrázok 7, ktorý porovnáva nastavenie sadzieb cirkulačnej dane a sadzieb dane, ktoré uplatňuje súčasná legislatíva a ktoré sa odvíjajú od zdvihového objemu valcov motora.

Obrázok 7 Porovnanie progresivity nastavenia sadzieb dane podľa aktuálneho znenia zákona a podľa návrhu cirkulačnej dane

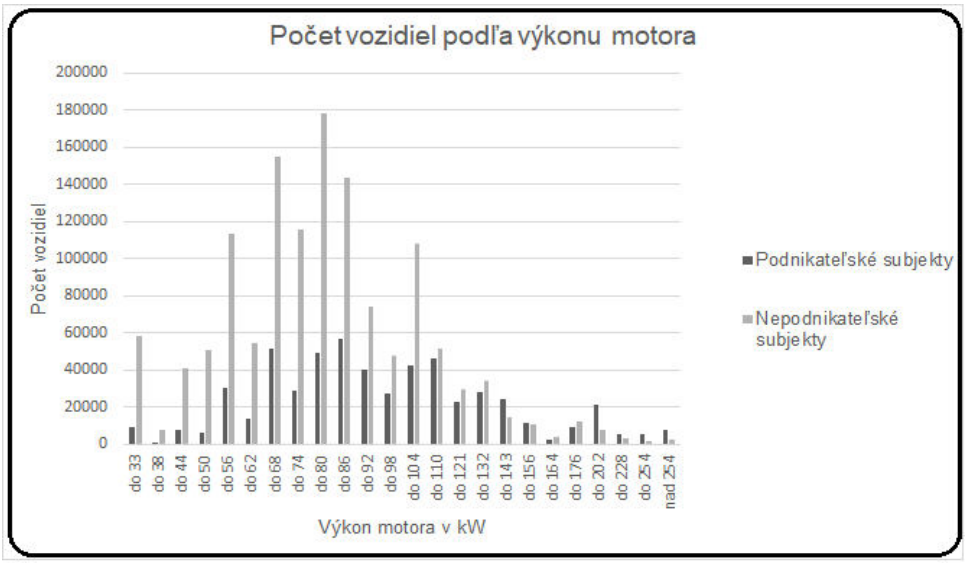


Zdroj: Vlastné spracovanie

Z porovnania sadzieb dane vyplýva, že sadzby cirkulačnej dane sú omnoho viac progresívne rozložené. Sadzba cirkulačnej dane rastie exponenciálne s rastúcim výkonom motora vozidla, zatiaľ čo sadzba dane v súlade so znením aktuálneho zákona ZDMV rastie skôr lineárne s objemom valcov motora. Aktuálne sa sadzby dane pohybujú od 50 do 218 € pre vozidlá kategórií L a vozidlá kategórie M1. Vozidlá kategórie N1 nie sú v tomto prípade zohľadnené, keďže ich základ dane nie je objem valcov motora, ale najväčšia technicky prípustná hmotnosť a počet náprav (§ 5 ods. 3 ZDMV). V prípade cirkulačnej dane by sa sadzby dane pohybovali

od 10 do 539 €. Ide o oveľa väčšie rozpätie ako v prípade aktuálneho znenia zákona, avšak z Obrázka 6 je zrejmé, že väčšina vozidiel podľa nastavenia cirkulačnej dane spadá do nižšej sadzby dane, než by spadala v prípade plošného využitia aktuálneho nastavenia dane. To však platí len pre podnikateľské subjekty, ktoré v súčasnosti majú povinnosť platby dane z motorových vozidiel. Nepodnikateľským subjektom by vznikol dodatočný náklad v podobe daňovej povinnosti, ktorý je však v súlade s cieľmi environmentálneho zdanenia.

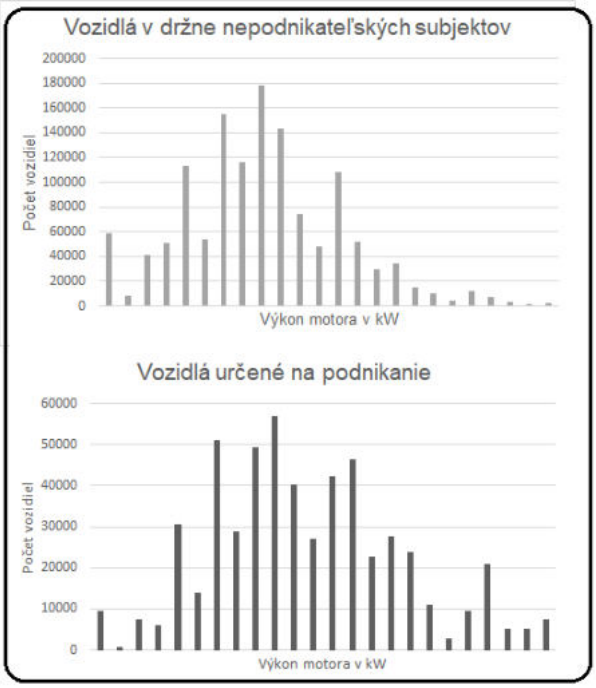
Obrázok 8 Rozdelenie vozidiel podľa výkonu motora a držiteľa vozidla



Zdroj: Vlastné spracovanie

Na Obrázku 8 je vidieť rozdelenie vozidiel tvoriacich predmet cirkulačnej dane podľa toho, či ide v súčasnej dobe o vozidlá tvoriace predmet dane, teda ide o vozidlá určené na podnikanie, alebo ide o vozidlá nepodnikateľských subjektov. Na Obrázku 8 je vidieť, že vozidlá podnikateľských subjektov sú rovnomernejšie rozdelené, zatiaľ čo u vozidiel nepodnikateľských subjektov sa prejavuje väčšia ľavostranná asymetria. Tento fakt je možné lepšie pozorovať na Obrázku 9.

Obrázok 9 Rozdelenie vozidiel podľa výkonu motora a držiteľa vozidla



Zdroj: Vlastné spracovanie

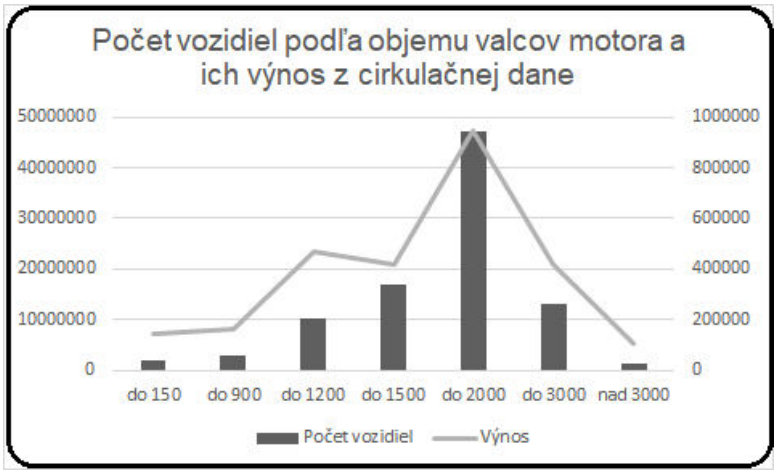
Ak výkon motora skutočne dostatočne presne odráža cenu vozidla, na základe týchto pozorovaní je možné konštatovať, že podnikateľské subjekty vlastnia relatívne lepšie a drahšie vozidlá. Aj napriek tomu, že vozidiel v držbe nepodnikateľských subjektov je v celkovom počte omnoho viac, práve vozidlá luxusnej triedy a vozidlá SUV sú častejšie vlastnené práve podnikateľskými subjektmi. Tieto typy vozidiel by na celkovom výnose z cirkulačnej dane mali podiel vo výške okolo 26 %.

Skutočný výnos dane z motorových vozidiel za rok 2018 bol na Slovensku vo výške zhruba 154 426 200 €. Výnos dane z motorových vozidiel len za vozidlá kategórií L, M1 a N1 bol vo výške 67 100 300. Údaje pochádzajú z daňových priznaní za rok 2018, ktoré poskytlo Ministerstvo financií Slovenskej republiky na základe žiadosti o slobodnom prístupe k informáciám. Z rozdelenia vozidiel podľa výkonu motora a po priradení sadby dane v súlade s konceptom cirkulačnej dane bol výnos z cirkulačnej dane vyčíslený na približných 97 miliónov. Je však potrebné pripomenúť, že ťažšie úžitkové vozidlá, prípojné vozidlá a autobusy nie sú predmetom cirkulačnej dane a pokračovali by v režime zdanenia podľa zákona o dani z motorových vozidiel, čo by predstavovalo ďalší príjem štátneho rozpočtu. Cirkulačná daň, aj napriek tomu, že umožnila pokles sadzieb dane u významnej väčšiny zdaňovaných vozidiel, nebola nastavená ako rozpočtovo neutrálna, ale mala zabezpečiť dodatočný príjem do štátneho rozpočtu. Pri snahe vytvoriť rozpočtovo neutrálnu daň, by sa sadzby cirkulačnej dane pohybovali ešte nižšie.

IV. Porovnanie s aktuálnym nastavením dane z motorových vozidiel

Pre porovnanie uvádzame čisto hypotetický príklad obdobného zdanenia vozidiel ako v prípade cirkulačnej dane, avšak tentokrát s využitím aktuálneho základu dane, ktorým je zdvihový objem valcov motora a aktuálneho nastavenia sadzieb dane. Predmetom dane sú teda opäť všetky vozidlá kategórií L, M1 a N1 bez ohľadu na predmet využitia. Základom dane je zdvihový objem valcov motora a sadzba dane je nastavená rovnako, ako uvádza aktuálne znenie zákona ZDMV.

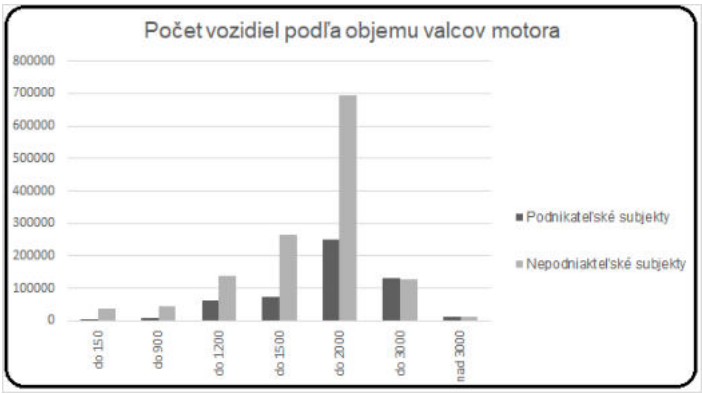
Obrázok 10 Rozdelenie vozidiel podľa objemu valcov motora a ich výnos na cirkulačnej dani



Zdroj: Vlastné spracovanie

Na Obrázku 10 je vidieť, že najviac vozidiel sa nachádza v pásme od 1 500 do 2 000 cm^3 objemu motora. Týmto vozidlám je v súčasnosti priradená sadzba dane vo výške 148 €. V prípade, že by teda aktuálne nastavenie dane z motorových vozidiel bolo aplikované na všetky vozidlá kategórií L, M1 a N1 daň by nebola progresívne nastavená a neprimerane by zaťažovala držiteľov – nepodnikateľov. Na väčšine výnosu z tejto dane by sa podieľali vozidlá s nižším objemom motora. Na tomto mieste je treba pripomenúť, že v súčasnom znení zákona, sa základ dane u vozidiel kategórie N1 neodvíja od objemu valcov motora, ale od počtu náprav a celkovej hmotnosti. Ak by sme však vyňali vozidlá kategórie N1 z predmetu cirkulačnej dane, rozloženie by ostalo veľmi podobné, z čoho vyplýva, že zahrnutie vozidiel kategórie N1 do predmetu cirkulačnej dane nemá na distribúciu dane výrazný vplyv. Ďalej je potrebné pripomenúť, že vzhľadom na komplikovanosť a komplexnosť výpočtu dane z motorových vozidiel podľa aktuálneho zákona ZDMV nebol pri výpočte braný ohľad na vek vozidiel a typ pohonu. Fakticky teda nie sú podstatné presné hodnoty výnosu dane, ale približná distribúcia vozového parku Slovenska. Na Obrázku 11 je možné pozorovať, že v prípade rozloženia vozového parku podľa objemu valcov motora, sa medzi podnikateľskými a nepodnikateľskými subjektmi nevyskytujú výrazné rozdiely v distribúcií vozidiel. Objem valcov motora totiž nie je schopný dostatočne dobre odraziť typ a cenu vozidla, ako to bolo v prípade výkonu motora. Daňové zaťaženie nepodnikateľských subjektov by v prípade takéhoto nastavenia cirkulačnej dane bolo oveľa vyššie. Opäť je však možné pozorovať relatívne vyšší počet vozidiel v vyšším objemom valcov motora vlastnených podnikateľskými subjektmi.

Obrázok 11 Rozdelenie vozidiel podľa objemu valcov motora a držiteľa vozidla



Zdroj: Vlastné spracovanie

V súčasnom znení zákona sa pri výpočte dane z motorových vozidiel berie ohľad na vek vozidla, a teda na mesiace, ktoré ubehli od prvej registrácie vozidla. Sadzba dane sa podľa § 7 ods. 1 až 3 ZDMV upravuje nasledovne.

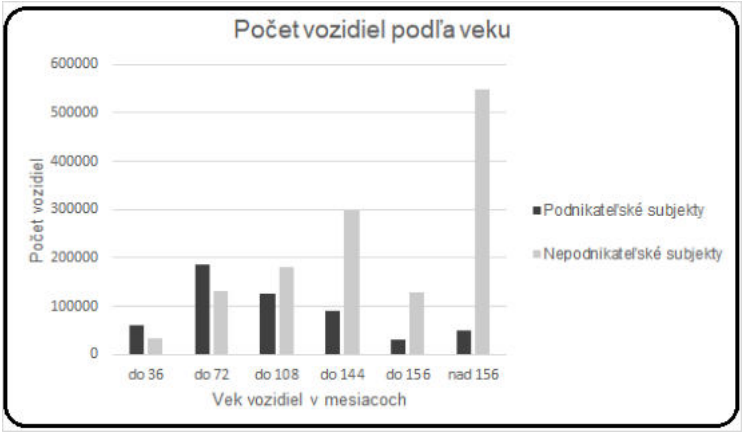
Tabuľka 2 Úprava sadzieb dane podľa veku vozidla

Počet mesiacov od prevej evidencie vozidla	Úprava základnej ročnej sadzby dane
Prvých 36 mesiacov	Zníženie o 25 %
Od 37 do 72 mesiacov	Zníženie o 20 %
Od 73 do 108 mesiacov	Zníženie o 15 %
Od 109 do 144 mesiacov	Základná sadzba dane
Od 145 do 156 mesiacov	Zvýšenie o 10 %
Vozidlá staršie ako 156 mesiacov	Zvýšenie o 20 %

Zdroj: ZDMV

Ako už bolo spomínané vyššie, vek vozidla je jedným z environmentálnych prvkov, ktoré sa uplatňujú pri výpočte dane z motorových vozidiel na Slovensku. Ak by sme vozový park Slovenska rozdelili do jednotlivých pásiem, podľa ktorých sa upravuje sadzba dane podľa veku vozidla na základe ZDMV, distribúcia vozového parku by vyzerala nasledovne (zobrazuje Obrázok 12). Z dôvodu zabránenia skresľovania výsledkov boli z databázy vyňaté historické vozidlá.

Obrázok 12 Rozdelenie vozidiel podľa veku vozidla a držiteľa vozidla



Zdroj: Vlastné spracovanie

Z distribúcie vozového parku Slovenska podľa veku vozidiel je jasne vidieť, že staršie vozidlá sú vlastnené prevažne nepodnikateľskými subjektmi. Na Obrázku 12 je vidieť výrazná ľavostranná asymetria u vozidiel nepodnikateľských subjektov a naopak pravostranná asymetria sa prejavuje u subjektov využívajúcich vozidlo k podnikateľskej činnosti. Podnikateľské subjekty sa z rôznych daňových aj nedaňových dôvodov cítia viac motivované k častejšej výmene vozidla. Navyše im z držby vozidla plynú viaceré daňové výhody, ktoré si však držitelia nepodnikatelia nemôžu uplatniť. Toto rozdelenie súvisí aj s celkovou distribúciou bohatstva občanov Slovenska, ktorú odráža držba vozidiel na základe výkonu motora, ktorú je možné sledovať aj na Obrázkoch 8 a 9. Vek vozidla podobne dokáže v značnej miere odrážať aktuálnu hodnotu vozidla. Zohľadnenie veku vozidla pri výpočte cirkulačnej dane by teda predstavovalo zaujímavý environmentálny prvok, ktorý by však penalizoval hlavne držiteľov vozidiel – nepodnikateľov. Diskutabilné je však to, do akej miery by sa takéto subjekty v dôsledku zvýšenia daňovej povinnosti cítili motivované ku kúpe nového vozidla a či by takáto

daň nepôsobila príliš regresívne, keďže sa dá predpokladať, že staršie vozidlá sú väčšinou v držbe obyvateľov s nižšími príjmami.

IV. Záver

Na daň z motorových vozidiel je možné nazerať ako na daň majetkovú, alebo daň environmentálnu. Aktuálnym trendom v oblasti zdaňovania vozidiel je čoraz väčšie zavádzanie environmentálnych prvkov do výpočtu tejto dane. Ako bolo vyššie preukázané, existuje viacero dôvodov, prečo sa na daň z motorových vozidiel na Slovensku nedá nahľadať ako na čisto environmentálnu. Jeden z hlavných dôvodov je to, že daň penalizuje len vybraný počet subjektov vlastniacich motorové vozidlo. Daň z motorových vozidiel sa v podmienkach Slovenskej republiky limituje len na využitie vozidla za účelom podnikania. Táto daň preto predstavuje predovšetkým nepriamu formu zdanenia príjmu podnikateľských subjektov. Ako bolo v príspevku preukázané, zdaňované vozidlá v súčasnosti tvoria približne jednu tretinu všetkých vozidiel registrovaných na Slovensku. Základom pre vytvorenie environmentálnej dane z motorových vozidiel je preto vytvoriť vhodnú formu zdanenia všetkých subjektov, ktoré vlastnia motorové vozidlo, a teda spôsobujú istú environmentálnu škodu. Ako príklad takéhoto zdanenia bol použitý návrh Ministerstva financií Slovenskej republiky z roku 2012 o zavedení cirkulačnej dane.

Na základe návrhu cirkulačnej dane a spracovania údajov vychádzajúcich z databázy národnej evidencie vozidiel poskytnutých Prezídiom Policajného zboru Slovenska bolo možné vypozorovať viacero charakteristík stavby vozového parku Slovenska. Návrh cirkulačnej dane, ktorý bol čisto majetkovo zameraný a vyznačoval sa vysokou progresivitou zdanenia, poskytol relatívne dobrý obraz o distribúcií bohatstva majiteľov vozidiel. Zo spracovaných údajov vyplynulo, že podnikateľské subjekty vlastnia relatívne lepšie a výkonnejšie vozidlá. Veľké rozdiely v držbe motorových vozidiel sa prejavili najmä v rozdelení vozového parku na základe veku vozidiel. Nepodnikateľské subjekty vlastnia oveľa väčšie množstvo starších vozidiel. Ide najmä o vozidlá staršie ako 13 rokov. Nepodnikateľské subjekty totiž necítia vysokú motiváciu k výmene vozidla za novšie a ekologickejšie. Z pohľadu environmentálnej dane by práve preto mali byť tieto vozidlá viac daňovo zaťažené, aby daň lepšie odrážala veľkosť environmentálnej škody. Podľa výsledkov analýzy však tento prístup nie je v súlade s progresívnym zdanením a mohol by ohroziť práve majetkovo slabšiu skupinu obyvateľov vlastniacu staršie motorové vozidlo. Z rozdelenia vozového parku Slovenska vyplýva, že zaradenie environmentálneho prvku v podobe znevýhodnenia sadzby dane na základe veku vozidla do cirkulačnej dane by mohlo pôsobiť regresívne. Takýto prvok zdanenia by zvýhodňoval najmä držiteľov vozidiel – podnikateľov, ktorí vlastnia novšie a lepšie vozidlá.

Nespornou výhodou cirkulačnej dane je to, že pri zachovaní výnosovej neutrality tejto dane by sa sadzby dane mohli pohybovať na veľmi nízkych úrovniach a pre väčšinu podnikateľských subjektov, by sa ročná daňová povinnosť výrazne znížila. Takto nízke nastavenie sadzieb dane by na druhej strane nemuselo predstavovať ani prílišnú dodatočnú záťaž pre držiteľov – nepodnikateľov. Diskutabilný by naďalej ostal skutočný dopad zavedenia environmentálnej cirkulačnej dane na vozový park Slovenska, a či by cirkulačná daň mala skutočne motivačný efekt k držbe ekologickejších vozidiel, v prípade, že by sa základ dane odvíjal od znečisťujúcej látky napríklad v podobe emisií CO_2. Ako bolo spomenuté v literárnej časti príspevku, emisie znečisťujúcich látok sú v priemere nižšie u novších vozidiel. Tu opäť vystáva otázka, aký dopad by takéto zdanenie malo na redistribúciu bohatstva obyvateľov na Slovensku, keďže staršie a teda aj ekologicky menej prijateľné vozidlá vlastnia práve obyvatelia s nižšími príjmami.

Ďalej bolo preukázané, že súčasná forma zdanenia motorových vozidiel a jej nastavenie nie je vhodným základom pre vytvorenie cirkulačnej dane. Súčasne využívaný základ dane v podobe objemu valcov motora totiž nereflektuje ani environmentálny princíp a ani vhodný majetkový

princíp zdanenia. Pri zavadzaní cirkulačnej dane sa Slovensku by bola preto potrebná komplexná reforma tejto dane. Z ohľadom na neprekonateľné rozdiely v skladbe vozového parku podnikateľských a nepodnikateľských subjektov a vzhľadom na to, že držiteľom vozidiel – podnikateľom plynú z držby motorového vozidla aj iné daňové výhody, ktoré si občania nepodnikatelia nemôžu uplatňovať, by bolo vhodné vytvoriť duálny systém cirkulačnej dane, prispôsobený možnostiam a špecifikám podnikateľských a nepodnikateľských subjektov.

Poďakovanie

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METHOD OF COMMUNITY PLANNING OF THE SOCIAL SERVICES AS AN EFFECTIVE MEANS OF SOCIAL POLICY ON THE LEVEL OF LOCAL ADMINISTRATIVE UNITS

Miroslav Pilát[1]

Abstract

The article aims at presenting the community planning of social services in the Czech Republic as a dynamically evolving means to secure availability of the social services and planning of their development on the level of basic local administrative units as a means of the social policy. It required by law to create a medium-term plan of social services (community plan) on the regional level. Even though local administrations do not have the obligation to create this plan, both theory and experience in the field of social services planning show that the most effective means to enquire needs of users and desirability of social services is the method of community planning. This method is applied by many municipalities and their voluntary unions and through it they implement the social services planning as an effective means of social policy on their territory.

Keywords

Community Planning of Social Services, Medium-term Plan of Social Services Development, Contractor of Social Services, Provider of Social Services, User of Social Services, Triad, Local Administrative Units

I. Úvod

Příspěvek si klade za cíl představit komunitní plánování sociálních služeb v České republice jako dynamicky se rozvíjející nástroj zajišťování dostupnosti sociálních služeb a plánování jejich rozvoje na určitém území tak, aby odpovídaly místním specifikům i potřebám občanů. Jedná se o moderní, v zahraničí často používanou manažerskou metodu, která je rovněž využívána v sociální ekonomice v České republice. Na úrovni krajů je dnes zpracování střednědobého plánu sociálních služeb (komunitního plánu) povinné. Přestože na úrovni obcí je tato činnost zákonem o sociálních službách stanovena fakultativně, teorie i praxe v oblasti plánování sociálních služeb ukazuje, že nejefektivnějším nástrojem k zjišťování potřeb uživatelů a potřebnosti sociálních služeb je právě metoda komunitního plánování, ke které se řada obcí či jejich dobrovolných svazků hlásí a pomocí které na svém území realizují plánování sociálních služeb, což dokazuje, že metoda komunitního plánování se stala efektivní nástrojem sociální politiky území základních územních samosprávných celků. Autor si z výše uvedeného důvodu dovoluje touto cestou nabídnout čtenářům stručný exkurz do vývoje legislativy v oblasti poskytování sociálních služeb v ČR a zajišťování jejich dostupnosti metodou komunitního plánování. Při psaní stati byla použita obsahová analýza dokumentů a kompilačně komparativní metoda s autorskou expresí.

II. Komunitní plánování sociálních služeb

Základní charakteristika a definice komunitního plánování sociálních služeb

Dříve než se začneme podrobněji zabývat charakteristikami a definicemi komunitního plánování sociálních služeb (KPSS), považujeme za nutné se alespoň marginálně dotknout problematiky definice pojmu komunita.

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V České republice pojem komunita legislativně definován není a v intencích komunitního plánování v našich podmínkách je pojímán spíše z geografického hlediska. V kontextu komunitního plánování lze totiž jen velmi obtížně připustit to, že lidé žijící v uměle a účelově vytvořených mikroregionech či na území správního obvodu obce s rozšířenou působností či dokonce regionů, zakládají vzájemné sociální a emoční vazby. Naopak se domníváme, že proces komunitního plánování je možno ve svých důsledcích chápat jako proces budování komunity.[2]

Brueggemann (2002) na otázku, co je to komunita odpovídá, že *„komunity jsou přirozená lidská společenství založená na vztazích a sdílených zážitcích, ve kterých si navzájem dáváme smysl našich životů, naplňujeme naše potřeby a dosahujeme společenských cílů. Náš sklon k vytváření komunit zajišťuje, že se staneme lidmi, jakými se máme stát, objevíme smysl života, vytvoříme etické hodnoty a rozvineme kulturu, což by osamělí izolovaní jedinci nemohli. Když mluvíme o komunitě, mluvíme zároveň o dvou věcech. Komunita je určena v místě a čase a zároveň čas i místo přesahuje. Komunita je zakotvena v určitém místě, struktuře a přítomnosti, ale sama přesahuje své umístění; nemůže být svázána strukturou nebo pouhou historií“* (Brueggemann, 2002, s. 115).

V současné době se můžeme v oblasti teorie i praxe komunitního plánování setkat s řadou různých definic tohoto pojmu. Mezi nejčastěji užívané patří následující, která definuje komunitní plánování sociálních služeb jako *„…metodu, která umožňuje zpracovávat rozvojové materiály pro různé oblasti veřejného života na úrovni obce i kraje. Postupy a techniky komunitního plánování lze použít pro všechny oblasti veřejného života, protože slouží k tomu, aby se dotčené cílové skupiny a široká veřejnost mohly vyjádřit a zapojit do přípravy podkladů pro strategická rozhodnutí obce“* (Oriniaková a Rosecký, 2003, s. 1).

Podle Vaskové a Žežuly (2002) se kromě jiného jedná rovněž o metodu, která výrazně posiluje principy zastupitelské demokracie.3

Matoušek (2003, s. 94) popisuje komunitní plánování jako *„přímé vyjednávání mezi zřizovateli, poskytovateli a uživateli sociálních služeb, jehož cílem je zlepšit místní sociální politiku nebo charakter sociálních, případně dalších souvisejících služeb…“*, jehož výsledkem je komunitní plán.

Přes dílčí odlišnosti a různé pohledy na problematiku definování pojmu komunitní plánování sociálních služeb docházíme na základě jejich komparace a analýzy k názoru, že komunitní plánování sociálních služeb lze zjednodušeně charakterizovat jako metodu a ve své podstatě otevřený a cyklický proces zjišťování potřeb a zdrojů v oblasti poskytování sociálních služeb a hledání řešení, která nejlépe odpovídají místním podmínkám a potřebám lidí. Do procesu jsou zapojeni zástupci místních samospráv, poskytovatelé a uživatelé sociálních služeb a v neposlední řadě veřejnost.

Posláním komunitního plánování je zajišťování dostupnosti sociálních služeb, prakticky se jedná o zjištění stavu poskytování sociálních služeb v dané lokalitě a zároveň potřeb, které nejsou naplněny. Srovnáním těchto dvou základních parametrů a v souladu s množstvím

2Pojem komunita je na Slovensku, na rozdíl od České republiky, definován v zákoně č. 448/2008 Z.z o sociálních službách a o změně a doplnění zákona č. 445/1991 Zb. o živnostenském podnikání (živnostenský zákon), ve znění pozdějších předpisů. Komunita je podle tohoto zákona skupina osob, která žije v určitém seskupení určeným zejména ulicí, městskou částí, obcí, městem a kterou spojují společné zájmy, hodnoty a cíle.

3Dle našeho názoru a zkušeností se zaváděním metody komunitního plánování sociálních služeb v Olomouci, a i v některých jiných městech v České republice se může z pohledu politické reprezentace toto tvrzení zdát poněkud kontroverzní, protože bývá často ze strany politiků mylně interpretováno jako zpochybňování legitimity zastupitelského mandátu získaného na základě voleb do obecních zastupitelstev. Značný podíl na zmíněné desinterpretaci má skutečnost, že metoda komunitního plánování v postkomunistických zemích je metodou v podstatě revoluční a politické reprezentace na všech úrovních nejsou zvyklé a možná ani necítí potřebu veřejnost do rozhodovacích procesů v oblasti správy věcí veřejných zapojovat.

finančních prostředků, které obec na sociální služby vynakládá, vzniká v procesu vzájemných konzultací komunitní plán (MPSV, 2004).

Účastníci komunitního plánování sociálních služeb

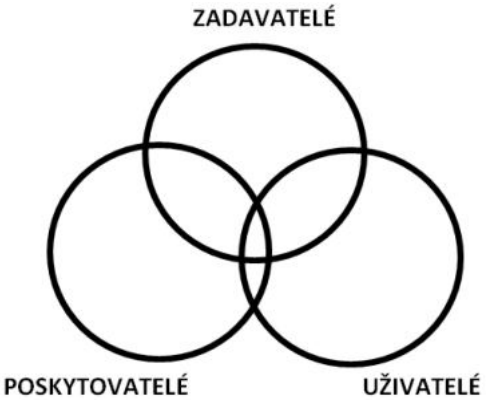
Již ze samotného obsahu pojmu komunitní lze předpokládat, že celé komunitní plánování ve všech jeho fázích probíhá za účasti komunity, tedy zejména zástupců uživatelů, poskytovatelů, zadavatelů sociálních služeb a veřejnosti. Základním principem komunitního plánování sociálních služeb je princip triády**,** který deklaruje podmínku, že v rámci metody a procesu komunitního plánování sociálních služeb spolu plánují a spolupracují minimálně tři strany:

- uživatelé sociálních služeb,
- zadavatelé sociálních služeb,
- poskytovatelé sociálních služeb.

Krbcová Mašínová a Polesný (2008) zdůrazňují, že z pohledu managementu se komunitní plánování uskutečňuje ve třech vzájemně propojených rovinách, ve kterých účastníci komunitního plánování pracují:

- politická rovina – zde pracují zadavatelé plánů,
- odborná rovina – zde pracují poskytovatelé služeb a jiní odborníci,
- uživatelská rovina – zde pracují uživatelé služeb a veřejnost.

Představíme-li si situaci jako tři propojené kruhy, tak v prvním kruhu jsou místní samosprávy a obce, mikroregiony či svazky obcí, které jsou nositeli veřejných prostředků, prostřednictvím kterých financují sociální služby v rozsahu řádově stamilionů korun ročně. Ve druhém kruhu jsou znázorněny subjekty, které vykonávají sociální službu cílové skupiny znevýhodněné na trhu práce. Jedná se především o neziskové organizace, organizace zřizované institucemi či soukromými subjekty, které souhrnně vystupují pod názvem poskytovatelé. Mezi nestandardní poskytovatele zahrnout i zaměstnavatele, kteří vytvářejí nové pracovní příležitosti pro sociálně znevýhodněné osoby na trhu práce. Ve třetím kruhu se objevují uživatelé jako konečný příjemci pomoci, tedy skupiny znevýhodněné na trhu práce (Krbcová Mašínová a Polesný, 2008).



Zdroj: Krbcová Mašínová a Polesný, 2008, M1 s. 10

Není výjimkou, že v pracovních skupinách, které jsou základním kamenem organizační struktury komunitního plánování, najdeme jedince, kteří jsou zároveň poskytovateli a uživateli sociální služby. Považujeme za užitečné, aby oni sami definovali svoji roli v procesu

komunitního plánování sociálních služeb. Tato identifikace je nutná pro ostatní účastníky komunitního plánování z důvodu vyjasnění rolí a postojů v procesu plánování[4].

Uživatelé sociálních služeb

Za nejdůležitější účastníky procesu komunitního plánování sociálních služeb jsou bezesporu považováni uživatelé sociálních služeb. Pod pojmem uživatel sociálních služeb rozumíme osoby v nepříznivé nebo tíživé sociální situaci, které sociální služby využívají a pro které jsou tyto služby určeny. Jejich zastoupení a pohled je v komunitním plánování nepostradatelný, protože jedině oni mohou vyjádřit svůj názor, zviditelnit své zájmy a přímo se vyjádřit k tomu, co vnímají za nejlepší a nejpotřebnější. Právě tímto způsobem se mohou aktivně podílet na utváření podoby sociálních služeb v dané komunitě (MPSV, 2004).

Poskytovatelé sociálních služeb

Poskytovatelé sociálních služeb jsou v podstatě subjekty, které služby nabízejí a poskytují, a to bez ohledu na jejich právní formu existence. Poskytovatel sociálních služeb může být jak fyzická osoba, tak nestátní nezisková organizace, organizace zřízená obcí organizace zřízená krajem, či organizace zřízená státem. Tím, že se poskytovatelé sociálních služeb aktivně zapojí do procesu komunitního plánování, mají možnost přímé účasti na tvorbě místní sociální politiky a na zmapování aktuálních potřeb uživatelů sociálních služeb v komunitě.

Zadavatelé sociálních služeb

Zadavatelem sociálních služeb je ten subjekt, který je odpovědný za zajištění sociálních služeb, které odpovídají místním potřebám, v našem případě zadavatelem rozumíme zejména obce a kraje. Zastupitelé jako volení reprezentanti veřejnosti by měli vytvářet podpůrné politické klima pro realizaci komunitního plánu. Je velmi důležité, aby obec usnesením zastupitelstva deklarovala své odhodlání rozvíjet sociální služby, které se tak stane jak projevem politické vůle v obci, tak potvrzením legitimity komunitního plánování a zárukou pro zapojení dalších účastníků (Vasková a Žežula, 2002).

III. Fáze komunitního plánování sociálních služeb

Komunitní plánování sociálních služeb se realizuje v jednotlivých fázích, které na sebe navazují. V odborných publikacích, metodikách komunitního plánování a praxi se můžeme setkat s různým členěním procesu plánování a jeho modifikacemi.

Brueggemann (2013) rozlišuje například celkem jedenáct na sebe navazujících fází, od vytváření vazeb, struktur a sítí, až po monitoring a hodnocení plánu.

V některých odborných publikacích a metodických doporučeních, ale nejčastěji v praxi, se můžeme setkat s následující modifikací členění fází KPSS, tak jak ho ve své práci uvádí Oriniaková a kol. (2005), kterému se budeme podrobněji věnovat:[5]

Přípravná fáze je úvodní částí celého procesu KPSS. Na počátku jde o získávání zdrojů potřebných pro zajištění procesu komunitního plánování, a to zejména o získání a vzdělávání

4V rámci tvorby Metodik pro plánování sociálních služeb bylo dohodnuto, že vystoupení takových členů pracovní skupiny budou vnímána spíše jako vystoupení poskytovatelů služeb, ale v praxi je tento fenomén jen velmi těžko rozpoznatelný (Skřičková, 2007). Autor se v praxi setkal i s případem, kdy člen pracovní skupiny vystupoval ve třech rolích. Jako osoba se zdravotním postižením byl uživatelem služby, současně byl i ředitelem sociální služby, která mu byla poskytována. V posledních komunálních volbách byl navíc tento člen zvolen do zastupitelstva města, takže zároveň reprezentovat i zadavatele, což ho stavělo do nezáviděníhodné situace, která mu přinášela, dle jeho sdělení, řadu vnitřních konfliktů.

[5] Členění komunitního plánování sociálních služeb tak, jak ho ve své práci uvádí Oriniaková a kol. (2005), bylo, stejně jako obsah jednotlivých fází, předmětem rozsáhlé odborné diskuse v rámci veřejné zakázky MPSV ČR „Zajištění místní a typové dostupnosti sociálních služeb“na rozvoj komunitního plánování sociálních služeb v ČR. Je pochopitelné, že vzhledem ke skutečnosti, že řada metodiků – vzdělavatelů komunitního plánování sociálních služeb u nás, kteří byli v rámci tohoto projektu vyškoleni, se tímto členěním a obsahem jednotlivých fází procesu komunitního plánování nechali inspirovat při tvorbě lokálních metodik a postupů, a že se s tímto fázováním setkáváme nejčastěji.

lidí, neboť ti jsou hybnou silou celého komunitního plánování. V přípravné fázi je důležité především zpracovat základní zadání a harmonogram KPSS, zajistit finanční zdroje pro realizaci KPSS, zapojit do procesu KPSS účastníky (viz výše), dohodnout se na základních principech a pravidlech a vytvořit udržitelnou organizační strukturu pro KPSS. Neopomenutelným krokem v přípravné fázi je získání podpory pro zahájení a realizaci komunitní plánování ze strany politické reprezentace.

Analyticko-popisná fáze v rámci procesu komunitního plánování sociálních služeb je spojena s postupy vedoucími k získání popisu aktuální situace v regionu v sociální oblasti, s důrazem na mapování sociálních služeb. Analýzy vznikají v procesu komunitního plánování postupně. Zatímco demografické údaje se shromažďují a zpracovávají na začátku procesu, tak údaje pro analýzy prioritních oblastí se doplňují ve fázi plánování, a to po formulaci priorit. Mezi základní vstupy analytické fáze patří popis aktuální situace v obci (regionu), sociálně demografická analýza, analýza potřeb uživatelů a poskytovatelů, analýza finančních toků v sociálních službách na daném území, SWOT analýzy a mapy služeb za jednotlivé pracovní skupiny a analýza již existujících dat a dokumentů.

Prvním úkolem ve **fázi plánování** je zpracování vize, jak mají sociální služby v dané komunitě vypadat. Je tedy třeba se dohodnout na společné představě, jak bude vypadat systém sociálních služeb a jak budou naplňovány všechny cíle a opatření komunitního plánu. Je tedy důležité, aby si účastníci procesu komunitního plánování vzájemně vyjasnili, jaká je společná představa o systému poskytování sociálních služeb v komunitě a čeho chtějí komunitní plánovači v daném období společně dosáhnout. Hlavním cílem fáze plánování je vyjednávání a společná dohoda o návrzích priorit do komunitního plánu sociálních služeb. Převážná část práce spočívá na pracovních skupinách komunitního plánování či vytvořených týmech k dané problematice, jejichž členové diskutují o prioritách ve změnách v sociálních službách pro konkrétní cílovou skupinu. Finální verze komunitního plánu, do které byly zapracovány připomínky získané v procesu veřejného projednávání návrhu komunitního plánu, musí být předložena k projednání a schválení politické reprezentaci obce.

Realizační (implementační) fáze je naplněním a uskutečněním dohodnutých a schválených plánů. Zároveň s řízením realizace komunitního plánu probíhá i kontrola a monitorování průběhu naplňování jednotlivých cílů a opatření komunitního plánování sociálních služeb. Výsledky monitoringu jsou velmi důležitým pokladem pro úvodní – hodnotící fázi nového cyklu KPSS pro další plánovací období. Při implementační fázi musíme klást důraz na naplňování a hodnocení jednotlivých cílů a opatření, vytváření systému podpory pro implementaci a využívání a upevňování organizační struktury, která byla v rámci komunitního plánování vytvořena.

Správně zvolený systém monitoringu může přispět k včasnému rozpoznání případných ohrožení procesu realizace jednotlivých cílů a opatření a může být rovněž cenný pro případné korekce celého procesu a jeho zkvalitňování. Komunitní plánování tvoří spirálu, v níž se fáze, témata a mnohé problémy cyklicky opakují a je nutné se jimi znovu zabývat na nové úrovni vývoje, výsledky monitoringu se tak stávají podkladem pro úvodní (hodnotící) fázi nového cyklu komunitního plánování sociálních služeb.

IV. Společenská a legislativní východiska komunitního plánování sociálních služeb v České republice

V souvislosti s politicko-ekonomickými změnami v ČR po roce 1989 zaznamenala poskytovaná pomoc a podpora lidem se specifickou mírou podpory a lidem sociálně a zdravotně znevýhodněným řadu významných změn. Dlouho očekávaný rozvoj nastal zejména v oblasti poskytování sociálních služeb osobám se zdravotním postižením. Tento zmíněný rozvoj sociálních služeb byl zejména na začátku devadesátých let minulého století charakterizován

určitou živelností v pozitivním slova smyslu, která se snažila spontánně reagovat na aktuální potřeby praxe. Vzniklá situace na trhu služeb[6] tak výrazně předběhla vývoj legislativy, která donedávna, a to zejména v oblasti financování sociálních služeb, preferovala rigidní strukturu stávající zděděné sítě rezidenčních služeb. Na důsledky ekonomické transformace a disproporce v oblasti sociálních služeb se snažily spontánně reagovat především nově vznikající nestátní subjekty, které ale brzdilo zaostávání legislativy za skutečnými potřebami v oblasti poskytování sociálních služeb.

Přelomovou etapou oblasti vývoje legislativy upravující poskytování sociálních služeb v ČR bylo podle našeho názoru období 2000-2006, kdy se spojilo několik faktorů, jejichž synergickým efektem bylo přijetí zákona č. 108/2006 Sb., o sociálních službách.[7] S blížícím se vstupem do Evropské unie (EU) bylo třeba splnit stanovená kritéria a zajistit kompatibilitu českých norem s legislativou EU, takže rostl význam mezinárodních dokumentů a programů sociální politiky vycházejících ze širšího pojetí zajištění sociální ochrany obyvatel EU a usilujících o vytvoření jednotné sociální politiky podpořené souborem legislativních norem na vyšší než národní úrovni. Sociální politika a sociální zabezpečení a její legislativní ukotvení je výhradně v kompetenci členských zemí EU. V těchto souvislostech považujeme za vhodné připomenout zakotvení sociální politiky EU v hlavě XVI, čl. 136-145 Amsterodamské smlouvy z roku 1997, která začala platit od 1. ledna 1999. V současné době je sociální politika EU i nadále řízena tzv. Lisabonskou strategií schválenou v roce 2000. V témže roce byl na zasedání Evropské rady v Nice schválen Evropský sociální program, ve kterém byly v oblasti boje proti chudobě a sociálnímu vyloučení odsouhlaseny čtyři základní cíle: usnadnit lidem z ohrožených skupin účast na trhu práce a přístup ke zdrojům, právům, službám a zboží, předcházet riziku sociálního vyloučení, pomáhat nejzranitelnějším a mobilizovat všechny důležité účastníky.[8]

Dalším důležitým mezinárodním dokumentem je Úmluva o právech osob se zdravotním postižením a její Opční protokol, která byla přijata Valným shromážděním OSN 13. prosince 2006.

Sociální služby jsou při tom chápány jako nezbytný nástroj, prostřednictvím kterého je možno těchto cílů na lokální úrovni dosáhnout a tím je uvádět v život. Evropská unie rovněž hovoří o službách ve veřejném zájmu, mezi něž se také počítají sociální služby, na jejichž regulaci jsou

[6] Svobodná volba sociální služby a s ní spojená diverzita sociálních služeb tvoří základní atributy vzniku trhu sociálních služeb, kterému však v našich podmínkách bránil, a dokonce dodnes brání nerovný přístup k veřejným finančním zdrojům ze strany poskytovatelů sociálních služeb. Pojen „trh služeb“tak může působit z tohoto pohledu poněkud eufemisticky. Tento termín však používá řada autorů (Michalík, 2007; Molek, 2011; Čámský, Sembdner a Krutilová, 2011), stejně jako současná praxe.

[7] V letech 1998–2002 se současně s přípravami nové legislativní úpravy dále několikrát měnil zákon č. 100/1988 Sb., o sociálním zabezpečení, nejdůležitější změnou v oblasti poskytování sociálních služeb byla novelizace § 73a, který poprvé v historii zrovnoprávnil všechny poskytovatele sociálních služeb a nepřímo umožnil klientům jejich volbu. Další důležitou legislativní normou, která byla v roce 2003 projednávána, byl věcný záměr zákona o sociálních službách, který byl dne 28. května 2004 vládou schválen a ministrovi práce a sociálních věcí bylo usnesením vlády uloženo vypracovat paragrafové znění zákona o sociálních službách. Zákon o sociálních službách byl vyhlášen dne 31. 3. 2006 ve Sbírce zákonů v částce 37 pod číslem 108/2006 s tím, že jeho účinnost byla stanovena k 1. 1. 2007 (Michalík, 2007).

[8] V Zelené knize o službách v obecném zájmu, která byla předložena Komisi evropských společenství v roce 2003, je formulováno, že služby v obecném zájmu jsou součástí celospolečensky uznávaných hodnot, které jsou všem evropským státům společné a jsou základním prvkem evropského modelu společnosti. Jejich úloha má zásadní význam z hlediska zvyšování kvality života všech občanů a úsilí o překonání sociálního vyloučení a společenské izolace. Uvedené služby jsou zároveň pilířem evropského občanství, neboť formují některá práva evropských občanů a posilují příležitost dialogu s orgány veřejné moci v kontextu řádné správy věcí veřejných. O rok později vychází Bílá kniha, která téma služeb v obecném zájmu dále rozvádí. Regulací čili plánováním těchto služeb, je dána lidem záruka přístupu ke službě pro potřebné za dostupnou cenu a ujištění, že kvalita služby zůstane zachována.

kladeny tři klíčové požadavky.[9] Prvním je kvalita sociálních služeb, která je charakterizována jako souhrn vlastností a charakteristik služby, které souvisejí s jejich schopnostmi uspokojit známé či předpokládané potřeby uživatelů služeb. Druhým požadavkem je dostupnost sociálních služeb, a to jak fyzická, tak ekonomická, sociální, informační a psychologická. Třetím požadavkem je ochrana uživatelů služeb, která je zabezpečována transparentností a bezpečností při poskytování sociálních služeb a aktivní účastí uživatelů při plánování i poskytování sociálních služeb (Skřičková, 2007).

Česko-britský projekt na podporu reformy sociálních služeb

Přestože poskytování sociálních služeb je Evropskou unií vnímáno především jako předmět národních politik členských států, stála Česká republika na začátku nového tisíciletí před úkolem vydefinovat pojmy kvalita a dostupnost v sociálních službách s ohledem na ochranu práv uživatelů sociálních služeb a připravit pro jejich aplikaci do praxe legislativní a formální prostředí. Z tohoto důvodu se MPSV ČR koncem devadesátých let minulého století rozhodlo uskutečnit rozsáhlou reformu sociálních služeb, kterou podporovala navázaná spolupráce s britským Ministerstvem pro mezinárodní rozvoj, která poskytovala možnost využít zahraničních zkušeností a dosáhnout souladu s požadavky na regulaci sociálních služeb a praxí v zemích EU. Tato spolupráce byla realizována formou česko-britského projektu s názvem Podpora MPSV při reformě sociálních služeb, který probíhal v naší republice v letech 2000-2003 (Česko-britský projekt, 2001).

Jedním z hlavních cílů reformy bylo vypracování nové legislativní úpravy v oblasti poskytování sociálních služeb a souvisejících činností, jejíž účinnost byla předpokládána k 1. 1. 2003. Základním záměrem reformy bylo postavit občana jako uživatele na první místo, podpořit rozvoj sociálních služeb založených na aktivitě a dobré praxi, zjednodušit a zprůhlednit proces poskytování sociálních služeb, zapojit do tohoto procesu širokou veřejnost a zvýšit odpovědnost za poskytování sociálních služeb na místní a regionální úrovni (Janák a Pilát, 2012).

Hlavním cílem projektu bylo vytvořit podmínky pro vyváženou a vnímavou sociální politiku a praxi sociálních služeb, zajistit, aby sociální služby posilovaly jednotlivce či skupiny ohrožené sociální exkluzí směrem k jejich nezávislosti a soběstačnosti. Důležitým výstupem projektu bylo vytvoření udržitelného, otevřeného a efektivně řízeného systému sociálních služeb, který je koncipován, strukturován, financován, řízen a kontrolován tak, aby prioritně uspokojoval potřeby uživatelů sociálních služeb, nikoliv zájmy jejich poskytovatelů a zadavatelů.

Strategie projektu byla strukturována do tří vzájemně propojených modulů – pilotních projektů, jejichž výstupy byly testovány ve vybraných regionech.

První modul se zabýval analýzou potřeb a plánováním služeb na místní úrovni a zavedením postupů pro komunitní plánování a probíhal na území bývalého okresu Písek. Cílem tohoto modulu byl rozvoj inovativních sociálních služeb ve zmíněné lokalitě a zavedení postupů komunitního plánování sociálních služeb.

[9] V Zelené knize o službách v obecném zájmu, která byla předložena Komisi evropských společenství v roce 2003, je formulováno, že služby v obecném zájmu jsou součástí celospolečensky uznávaných hodnot, které jsou všem evropským státům společné a jsou základním prvkem evropského modelu společnosti. Jejich úloha má zásadní význam z hlediska zvyšování kvality života všech občanů a úsilí o překonání sociálního vyloučení a společenské izolace. Uvedené služby jsou zároveň pilířem evropského občanství, neboť formují některá práva evropských občanů a posilují příležitost dialogu s orgány veřejné moci v kontextu řádné správy věcí veřejných. O rok později vychází Bílá kniha, která téma služeb v obecném zájmu dále rozvádí. Regulací čili plánováním těchto služeb, je dána lidem záruka přístupu ke službě pro potřebné za dostupnou cenu a ujištění, že kvalita služby zůstane zachována.

Druhý modul, který pokrýval oblast standardů kvality a systému jejich účinné kontroly a zavádění systémů udělování licencí, probíhal na území bývalého okresu Olomouc u vybraných poskytovatelů, uživatelů a zadavatelů sociálních služeb.

Třetí modul se zabýval analýzou činností MPSV ČR, vytvářením strategií a s nimi souvisejících podpůrných metodických postupů. Tento modul směřoval k vytvoření modelu tvorby politiky a rozvoji informační strategie pro interní a externí jednání Ministerstva práce a sociálních věcí ČR, k ověření procedur, které podporují dosažení politických cílů, které budou konzistentní se zásadami reformy veřejné správy, a to na všech úrovních veřejné správy. Česko-britský projekt Podpora MPSV při reformě sociálních služeb byl v červenci roku 2003 úspěšně ukončen. Ministerstvo práce a sociálních věcí ČR vydalo Zprávu o udržitelnosti výstupů projektu, ve které garantuje snahu postupně zavádět standardy kvality sociálních služeb a komunitní plánování sociálních služeb do dalších regionů České republiky10. Díky výstupům z prvního modulu byly MPSV vytvořeny účinné podpůrné systémy pro formulaci strategických záměrů v oblasti plánování sociálních služeb a stanoveny legislativní podklady. Ve spolupráci s odborníky z Velké Británie byly i přes dílčí odlišnosti a různé pohledy na problematiku vymezení pojmu komunitní plánování sociálních služeb definovány principy komunitního plánování sociálních služeb, které lze charakterizovat jako metodu a ve své podstatě otevřený a cyklický proces zjišťování potřeb a zdrojů v oblasti poskytování sociálních služeb a hledání řešení, která nejlépe odpovídají místním podmínkám a potřebám lidí. Do tohoto procesu jsou zapojeni zástupci místních samospráv, poskytovatelé a uživatelé sociálních služeb i veřejnost. Jeho cílem je zajistit dostupnost sociálních služeb na základě zjištění stavu jejich poskytování a nenaplněných potřeb v určité lokalitě, jejich porovnání a vytvoření komunitního plánu v souladu s množstvím finančních prostředků, které obec na sociální služby vynakládá, a to v procesu vzájemných konzultací (Janák a Pilát, 2012).

Jedním z předpokládaných výstupů této reformy bylo rovněž vypracování a přijetí nové legislativní úpravy, týkající se poskytování sociálních služeb a souvisejících činností v České republice, jejíž účinnost byla schválena Parlamentem České republiky k 1. 1. 2007 (zákon o sociálních službách č. 108/2006 Sb.). Ke klíčovým cílům reformy sociálních služeb patří ochrana zranitelných skupin obyvatelstva, a to jak zajištěním kvality sociálních služeb za účelem ochrany uživatelů jako jednotlivců, kteří využívají sociální služby, tak komunitním plánováním, jehož smyslem je chránit zájmy uživatelů jako skupiny tím, že bude zapojena do rozvoje sociálních služeb ve svém regionu.

V. Komunitní plánování sociálních služeb z pohledu právního řádu České republiky

Komunitní plánování sociálních služeb je pojem užívaný v ČR běžně pro „plánování rozvoje sociálních služeb“, které bylo až do 1. 1. 2015 zakotveno v zákoně o sociálních službách v § 3, písm. h) plán rozvoje sociálních služeb jako *„ …výsledek procesu aktivního zjišťování potřeb osob ve stanoveném území a hledání způsobů jejich uspokojování s využitím dostupných zdrojů, jehož obsahem je popis způsobu zpracování plánu, popis a analýza existujících zdrojů a potřeb osob, kterým jsou sociální služby určeny, včetně ekonomického vyhodnocení, strategie zajišťování a rozvoje sociálních služeb, povinnosti zúčastněných subjektů, způsob sledování a vyhodnocování plnění plánu a způsob, jakým lze provést změny v poskytování sociálních služeb.“*

Zákon o sociálních službách v § 95 ukládá krajům zjišťovat potřeby poskytování sociálních služeb osobám nebo skupinám osob na svém území, zajišťovat dostupnost informací o možnostech a způsobech poskytování sociálních služeb na svém území a zejména zpracovávat

10Tato snaha byla promítnuta do usnesení vlády ČR č. 824 ze dne 1. září 2004 ke Strategii podpory dostupnosti a kvality veřejných služeb, které ukládá jednotlivým ministerstvům využívat metodu komunitního plánování při řešení otázky dostupnosti a kvality služeb.

střednědobý plán rozvoje sociálních služeb ve spolupráci s obcemi na území kraje, se zástupci poskytovatelů sociálních služeb a se zástupci osob, kterým jsou poskytovány sociální služby. Kraj dále informuje obce na území kraje o výsledcích zjištěných v procesu plánování; při zpracování plánu kraj přihlíží k informacím obce o kapacitě sociálních služeb, které jsou potřebné pro zajištění potřeb osob na území obce a spoluvytváří podmínky pro zajištění potřeb těchto osob.

Z předchozího textu zřetelně vyplývá, že kraje mají povinnost na základě zjištěných potřeb zpracovávat ve spolupráci s dotčenými subjekty střednědobý plán sociálních služeb, ale v zákoně nebyla jasně definována metoda a proces, kterým by mělo být výsledku dosaženo. Věcný záměr návrhu zákona o sociálních službách pracoval zřetelně s pojmy komunitní plán sociálních služeb a regionální plán rozvoje sociálních služeb. V průběhu procesu přípravy paragrafového znění návrhu zákona o sociálních službách byly tyto pojmy nahrazeny již zmíněným pojmem střednědobý plán rozvoje sociálních služeb, což ve svém důsledku umožnilo zformalizovat postupy tvorby střednědobých plánů sociálních služeb a neakceptovat níže uvedené základní principy komunitního plánování. V řadě krajů, a to zejména v prvních letech, tak zapříčiněním toho pod značným časovým tlakem vznikly velmi formální organizační struktury, které měly, stejně jako výsledky jejich práce, velmi málo společného s komunitním plánováním sociálních služeb, protože cílem snažení byla často nutnost naplnění dikce zákona, a ne skutečný zájem o řešení problematiky poskytování sociálních služeb.

V návrhu zákona projednávaném v roce 2005 bylo střednědobé plánování sociálních služeb obligatorně uloženo jak obcím, tak krajům v jejich samostatné působnosti. Obligatorně ustanovená povinnost obcím zpracovávat střednědobé plány byla a dodnes je předmětem řady odborných a politických diskusí. Na tomto místě považujeme za nutné podotknout, že povinnost zpracovávat komunitní plány měly všechny obce bez rozdílu velikosti, což bylo zejména u malých obcí prakticky těžko realizovatelné. Od myšlenky, že tuto povinnost budou mít v přenesené působnosti obce s rozšířenou působností, na svém správním území, předkladatel zákona upustil, a to zejména díky argumentaci Svazu měst a obcí ČR, který ve vnějším připomínkovém řízení poukazoval na skutečnost, že komunitní plánování je činnost svojí povahou spadající do samostatné působnosti obcí či svazku obcí.[11] Navrhovaná změna by navíc musela mít podle názoru některých odborníků oporu v zákoně o obcích, což se jevilo v inkriminovanou dobu jako politicky neprůchodné. Nebylo tedy až tak velkým překvapením, že při již zmíněném projednávání návrhu zákona o sociálních službách došlo v Senátu parlamentu ČR ke schválení pozměňovacího návrhu, který vymezil zpracování střednědobého plánu sociálních služeb jako činnost fakultativní.[12]

Zákonodárce však ponechal v zákoně o sociálních službách v § 94 povinnost zjišťovat potřeby poskytování sociálních služeb osobám nebo skupinám osob na svém území a zajišťovat dostupnost informací o možnostech a způsobech poskytování sociálních služeb na svém území. Toto ustanovení lze tedy podpůrně vnímat jako legislativní stimul k plánování sociálních služeb na území obcí, a ve svém důsledku může být pro iniciátory komunitního plánování v obci pádným argumentem při vyjednávání s politickou reprezentací o nutnosti a potřebnosti komunitního plánování sociálních služeb a lze jej tak implicitně interpretovat jako legislativní

[11] Zákon o sociálních službách však v § 92 písm. d) ukládá obecním úřadům obcí s rozšířenou působností na území svého správního obvodu koordinovat poskytování sociálních služeb a realizovat činnosti sociální práce vedoucí k řešení nepříznivé sociální situace a k sociálnímu začleňování osob; přitom spolupracuje s krajskou pobočkou Úřadu práce a krajským úřadem.

[12] Tento pozměňovací návrh prošel díky iniciativě senátora Jaroslava Kubery podporované tzv. starostenskou lobby. Není bez zajímavosti, že slovenský zákon 448/2008 Sb. sociálních službách a o změně a o doplnění zákona č. 445/1991Sb. o živnostenském podnikání ve znění pozdějších předpisů, ve kterém lze nalézt řadu shodných prvků s českou právní úpravou z oblasti poskytování sociálních služeb, nejenže definoval pojmy komunita a komunitní plánování, ale ukládá povinnost plánovat sociální služby jak obcím, tak vyšším uzemním samosprávným celkům a taxativně vymezuje, co musí v základních bodech komunitní plán sociálních služeb obsahovat.

oporu pro komunitní plánování v obci. Další důvod, proč komunitně plánovat sociální služby v obci, spatřujeme v tom, že komunitní plány v konkrétních obcích mohou posloužit krajům jako relevantní a objektivní podklady pro zpracování jejich střednědobých plánů rozvoje sociálních služeb a k následnému přerozdělování dotací v souladu s jejich reálnými potřebami.

Další novela zákona o sociálních službách z roku 2014[13] přinesla v oblasti střednědobého plánování poměrně významné změny, a to zejména v § 3 písm. h) kdy za střednědobý plán rozvoje sociálních služeb se *„…považuje strategický dokument obce nebo kraje schválený na dobu 3 let, který je výsledkem aktivního zjišťování potřeb osob na území obce nebo kraje a hledání způsobů jejich uspokojování s využitím dostupných zdrojů…“*. Jeho obsahem je souhrn a výsledky podkladových analýz a dat, popis způsobu zpracování plánu včetně vymezení spolupráce s obcemi, s poskytovateli sociálních služeb a osobami, kterým jsou sociální služby poskytovány, popis a analýza dostupných zdrojů a potřeb osob, kterým jsou sociální služby určeny, včetně ekonomického vyhodnocení, strategie zajišťování a rozvoje sociálních služeb obsahující popis budoucího žádoucího stavu a opatření, jejichž prostřednictvím by mělo být tohoto stavu dosaženo. Dále jsou v něm obsaženy povinnosti zúčastněných subjektů, postup sledování a vyhodnocování plnění plánu včetně způsobu, jakým lze provést změny v poskytování sociálních služeb a způsob zajištění sítě sociálních služeb na území kraje. Střednědobý plán rozvoje sociálních služeb může být doplněn akčními plány zpracovanými na období jednoho roku, které vycházejí ze střednědobého plánu rozvoje sociálních služeb. Z výše uvedeného je zřejmé, že předkladatel a zákonodárce do procesu střednědobého plánování sociálních služeb implementovali významné prvky a základní principy komunitního plánování sociálních služeb a uložili autorům plánů kromě jiného povinnost explicitně definovat v plánu postavení a práva jednotlivých aktérů plánování, opatření vedoucí k dosažení plánovaného stavu, způsoby provádění změn v plánu a postupy monitoringu a evaluace plánování sociálních služeb.

Další významnou změnu v oblasti plánování sociálních služeb přinesla vyhláška č. 387/2017 Sb., kterou se mění vyhláška č. 505/2006 Sb., kterou se provádějí některá ustanovení zákona o sociálních službách, ve znění pozdějších předpisů, která vkládá do textu vyhlášky sedmou část, která nově upravuje podmínky pro zpracování a strukturu střednědobého plánu rozvoje sociálních služeb kraje. Co se týče zahájení zpracování střednědobého plánu spolu s popisem způsobu možnosti zapojení do jeho zpracování, mají kraje za povinnost informovat občany kraje na své úřední desce způsobem umožňujícím dálkový přístup. V analytické části plánu musí být kromě jiného uvedeno zhodnocení potřeb a nepříznivých sociálních situací občanů kraje ve vztahu k sociálním službám a zajištění těchto potřeb na území kraje, kvalifikovaný odhad počtu osob, kterým jsou sociální služby poskytovány, a odmítnutých zájemců o jednotlivé druhy sociálních služeb, a to vždy minimálně na území správního obvodu obce s rozšířenou působností a shrnutí výsledků analýz potřeb v oblasti zajištění sociálních služeb ze střednědobých plánů rozvoje sociálních služeb obcí, případně správních obvodů obcí s rozšířenou působností, svazků obcí, mikroregionů nebo místních akčních skupin v daném kraji. Kraje mají rovněž za povinnost zpracovávat akční plán, který reaguje na východiska popsaná v analytické části střednědobého plánu a obsahuje vždy nejméně náležitosti stanovené v § 39a odst. 3 písm. b) předmětné vyhlášky.

VI. K vybraným aspektům komunitního plánování sociálních služeb v České republice

První zkušenosti z procesu tvorby střednědobých plánů sociálních služeb v krajích

Na základě usnesení poradního orgánu ministra práce a sociálních věcí Komise pro rozvoj sociálních služeb ze dne 18. 8. 2006 zpracovala Unie zaměstnavatelských svazů ČR pro

[13] Zákon č. 254/2014 Sb., ze dne 22. října 2014, kterým se mění zákon č. 108/2006 Sb., o sociálních službách, ve znění pozdějších předpisů, zákon č. 111/2006 Sb., o pomoci v hmotné nouzi, ve znění pozdějších předpisů, a zákon č. 73/2011 Sb., o Úřadu práce České republiky a o změně souvisejících zákonů, ve znění pozdějších předpisů.

Ministerstvo práce a sociálních věcí ČR studii „Analýza procesu střednědobých plánů rozvoje sociálních služeb v krajích v roce 2006“. Tato analýza obsahuje deskripci dosud používaných postupů při tvorbě střednědobých plánů rozvoje sociálních služeb, zhodnocení dostatečnosti připravovaných plánů, silných a slabých stránek procesu tvorby plánů, rizika spojená s procesem tvorby plánů, příklady dobré praxe a doporučení. Analýza vznikla na základě osobního dotazování prostřednictvím dotazníků obsahujícího 46 položek, respondenty byli pracovníci všech krajských úřadů, kteří se v té době plánováním sociálních služeb zabývali a dále experti v oblasti komunitního plánování sociálních služeb, kteří se této problematice na úrovni krajů věnují (MPSV, 2006).

Mezi silnými stránkami postupů při tvorbě střednědobých plánů rozvoje sociálních služeb dominuje skutečnost, že na území celé ČR byl realizován projekt *„Zajištění místní a typové dostupnosti sociálních služeb“,* jehož výstupy významně ovlivnily vývoj komunitního plánování sociálních služeb v České republice. Tento dvouletý celorepublikový projekt spolufinacovaný z Evropského sociálního fondu v rámci operačního programu Rozvoj lidských zdrojů a vládou České republiky se uskutečnil od 1. 7. 2005 do 31. 8. 2007 na základě veřejné zakázky Ministerstva práce a sociálních věcí ČR. Obecným cílem projektu bylo zajištění jednotného metodického přístupu k plánování sociálních služeb na místní a regionální úrovni a vytvoření jednotného a uceleného systému vzdělávání a metodické podpory pro plánování sociálních služeb.[14] Dalším pozitivem je skutečnost, že většina krajů navíc využívá pro přípravu a realizaci procesu střednědobého plánování externích odborných firem, což vede ve svém důsledku k tomu, že dochází k přímému propojení „výkonné moci“ v systému sociálních služeb s odbornými kapacitami subjektů, které se touto problematikou zabývají (MPSV, 2006).

Nesporným pozitivem tvorby střednědobých plánů na úrovni krajů je jejich návaznost na komunitní plány obcí. Stávajícím rizikem je však značná nesourodost a inkompatibilita izolovaně zpracovávaných komunitních plánů na úrovni obcí. Dalším rizikem je díky absenci zákonné povinnosti obcí vytvářet střednědobé plány sociálních služeb, neschopnost zapojit do komunitního plánování nemotivované obce. Za významnou slabou stránkou postupů při tvorbě střednědobých plánů rozvoje sociálních služeb je vnímaná skutečnost, že filosofie a principy komunitního plánování nemají v ČR tradici a přirozené zázemí. Tento britský model je v postrakousko-uherském i posttotalitním světě velmi obtížně pochopitelný a v praxi aplikovatelný. Z toho vyplývá i počáteční a dodnes místy přetrvávající nedůvěra v budoucí pozitivní výsledky procesu plánování v sociálních službách (MPSV, 2006).

Zajištění metodické podpory komunitního plánování sociálních služeb v ČR

Jedním ze zásadních, a bohužel často opomíjených úkolů iniciátorů komunitního plánování je zabezpečení metodické podpory (supervize) celého procesu komunitního plánování sociálních služeb. Vynechání tohoto kroku může mít, a často také má, nepříjemné a někdy i osudové následky pro celý proces. Z tohoto důvodu rámci výše zmíněného projektu *„Zajištění místní a typové dostupnosti sociálních služeb“* vznikl Vzdělávací program pro krajské metodiky komunitního plánování sociálních služeb. S odstupem času lze konstatovat, že se jedná svým způsobem o jedinečný a neopakovatelný program, neboť jsou v něm obsaženy a zahrnuty výsledky průběžných odborných diskusí a testování prvního návrhu metodik komunitního plánování sociálních služeb, směřujících k vytvoření jejich finální verze. V průběhu tohoto projektu bylo vyškoleno celkem 74 krajských vzdělavatelů-metodiků plánování sociálních služeb, kteří absolvovali 240hodinový vzdělávací program. V každém kraji je tak zastoupeno několik krajských vzdělavatelů-metodiků; což ovšem neznamená, že by mohli působit pouze v příslušném kraji, ale jejich služeb lze využít v rámci celé ČR. Uvedení vzdělavatelé-metodici

[14] Jedním ze specifických cílů projektu bylo vytvoření metodik pro plánování sociálních služeb podporující spolupráci uživatelů, zadavatelů a poskytovatelů sociálních služeb včetně veřejnosti: SKŘIČKOVÁ, Zuzana, ed. 2007. *Metodiky pro plánování sociálních služeb*. Praha: Centrum pro komunitní práci. ISBN 978-80-86902-44-9.

jsou připraveni poskytovat pro potřeby obcí a regionů vzdělávání v oblasti plánování sociálních služeb a zajistit následnou metodickou podporu při plánování sociálních služeb (MPSV, 2006; MPSV, 2007).

Kritéria kvality plánování sociálních služeb

Stejně jako v oblasti poskytování sociálních služeb, tak i v oblasti komunitního plánování sociálních služeb se odborná veřejnost před několika lety začala zabývat otázkou odlišení kvalitních sociálních služeb i komunitních plánů sociálních služeb od těch, které za kvalitní považovat nelze. Jelikož jedním z hlavních cílů komunitního plánování sociálních služeb je vytvoření udržitelných a efektivních systémů sociálních služeb na daném území, které odpovídají zjištěným potřebám uživatelů, je v současné době pociťováno jako žádoucí zajištění kompaktnosti a propojenosti vstupů, výstupů a výsledků plánování sociálních služeb. Zároveň odborná veřejnost čím dál tím zřetelněji vnímala, a to zejména v oblasti tvorby krajských plánů sociálních služeb, nejednotnost výstupů vzniklých plánů, jejich inkompatibilitu a obtížnou skladebnost, rozdílnou úroveň zapojování uživatelů do procesů plánování sociálních služeb či různou kvalitu informování. Tato potřeba praxe vyvolala otázku nutnosti vzniku kritérií kvality sociálních služeb (MPSV, 2008). V rámci výše zmíněné veřejné zakázky MPSV „Zajištění místní a typové dostupnosti sociálních služeb" tak vznikla kritéria kvality sociálních služeb, a to díky činnosti pracovní skupiny za tímto účelem MPSV ČR ustanovené, která byla složena z řady odborníků, kteří se plánováním sociálních služeb dlouhodobě zabývají, a to ať už z pozice neziskových organizací, tak z pozice zaměstnanců úřadů různých stupňů a úrovní.

V průběhu setkávání pracovní skupiny bylo rozpracováno osm klíčových oblastí. Každá oblast sestává, kromě stručného popisu a předmětu hodnocení, z několika kritérií, včetně způsobu jejich hodnocení. U každé oblasti můžeme rovněž nalézt komentáře a praktická doporučení. Toto popsané členění umožňuje snadnou orientaci v problematice a zároveň cíleně doplňuje metodiky pro plánování sociálních služeb, které jsou jedním z hlavních výstupů předmětné výše zmíněné veřejné zakázky. Celá koncepce kritérií kvality plánování sociálních služeb a znění jednotlivých kritérií bylo ověřeno v osmi městech České republiky a na základě výsledků ověřování došlo k jejich korekci. Jsme přesvědčeni, že kritéria kvality plánování sociálních služeb[15] a zpracované metodiky pro plánování sociálních služeb se mohou stát při odborné aplikaci funkčními nástroji pro zvýšení vzájemné využitelnosti a užší provázanosti a kompatibility plánů sociálních služeb na místní a krajské úrovni a účinným nástrojem pro sebe evaluaci, což by se ve svém důsledku mělo kromě jiného pozitivně projevit kvalitnější reflexí potřeb uživatelů sociálních služeb.

Organizační kultura veřejné správy a komunitního plánování sociálních služeb v ČR – kolize či vzájemné soužití?

Napojení organizační struktury a kultury KPSS na organizační strukturu a kulturu veřejné správy (řízení obce) je klíčovou podmínkou efektivity, udržitelnosti a realizovatelnosti procesu komunitního plánování. *„Napojení organizačních struktur se však většinou neobejde bez jistého napětí. Toto napětí lze popsat jako střet různých organizačních kultur"* (Zatloukal, 2008, s. 83). Budeme-li tento model aplikovat na problematiku komunitního plánování, můžeme říci, že na jedné straně vždy stojí organizační kultura veřejné správy, na straně druhé pak organizační kultura KPSS, která je většinou značně odlišná. Na základě zkušenosti z různých obcí, které zpracovávají komunitní plány sociálních služeb, byly popsány dva typy organizačních kultur KPSS, manažerská a občanská. Manažerská kultura klade důraz na odbornost, týmovou práci a dosahování cílů. Občanská kultura KPSS spíše akcentuje potřeby a přání jedinců a klade

[15]Kritéria kvality plánování sociálních služeb jsou dostupné z: https://www.mpsv.cz/documents/20142/225517/kriteria.pdf/1355b471-8504-5bc1-7e9c-e41deeb1171d.

zvýšený důraz na samotný proces organizování a vyjednávání i implementace (Zatloukal, 2006).

Politická reprezentace obce je zvyklá na strategické plánování, které má jasně nastavená pravidla, za která po jeho schválení nese spolu s dotčenými úřadníky politickou i věcnou zodpovědnost. Komunitní plány sociálních služeb však vznikají v diskusi se zainteresovanými subjekty v pracovních skupinách, kde se místo autoritativních rozhodnutí či hlasování hledá konsensus a kde ani implementace cílů a opatření není věcí jediného subjektu. Je případné, že se nabízí otázka, jaká bude zodpovědnost místních politiků v případě schválení komunitního plánu za jeho obsah a implementaci a zejména financování. Tyto obavy většinou pramení z nedostatečné informovanosti lokálních politiků o metodě komunitního plánování a politici na obcích mají tendenci tomuto riziku předcházet i tím, že zvyšují kontrolu nad procesy komunitního plánování sociálních služeb.

Formy soužití veřejné správy a komunitního plánování sociálních služeb

Soužití veřejné správy (obcí) a komunitního plánování sociálních služeb může mít různou podobu, kterou Zatloukal (2006; 2008) popisuje následujícím způsobem:

a) Konfliktní soužití

„Konfliktní soužití obou organizačních kultur je tou nejhorší možnou variantou pro obě strany. Pro realizátory KPSS je v takovém případě problematické, že jim chybí politická podpora, jejich plány se stávají obtížně realizovatelnými, lidé, kteří jsou zapojeni v komunitním plánování, mají velmi slabé vyhlídky na to, že jejich úsilí přinese výsledky (Twelvetrees, 1982), což vede k odlivu odborníků a oslabení motivace se komunitním plánováním vůbec zabývat“ (Zatloukal, 2008, s. 89). Ke konfliktnímu soužití většinou dochází kvůli bariérám v komunikaci. Odstraňování bariér a jejich předcházení však leží především na realizátorech KPSS, zásadní chybou z jejich strany je nereflektování potřeb a přání politiků a představitelů dalších vlivných skupin („stakeholders“)[16] a neschopnost přizpůsobit se jim i ve formě a způsobu komunikace.

b) Paralelní soužití

„O paralelním soužití mluvíme v případech, kdy se komunitní plánování v obci odehrává sice s jakýmsi požehnáním politiků, ale pouze v rovině „my si děláme svoje, vy si děláte zase svoje – hlavně nás tím nezatěžujte“. Výstupy práce skupin v rámci KPSS jsou ale nakonec stejně předloženy politikům ke schválení“ (Zatloukal, 2006, s. 91). Paralelní uspořádání má tu výhodu, že pracovní skupiny v rámci KPSS pracují relativně svobodně bez politických tlaků a mohou skutečně vytvořit dostatečný prostor pro jednání. Na druhé straně je zde značné riziko, že výstupy z práce pracovních skupin nebudou pro politiky přijatelné a politici komunitní plán neschválí a nevezmou za svůj. Riziko, že práce mnoha angažovaných lidí může přijít vniveč, je poměrně velké.

c) Kontrolní soužití

„V případech, kdy dochází k silné tendenci kontrolovat proces KPSS ze strany místních politiků, mluvíme o kontrolním soužití. Nadměrná kontrola sice zajišťuje hladší postup schvalování, ale zároveň dusí spontánnost a kreativitu, výrazně omezuje prostor pro vyjednávání a frustruje účastníky – partnery v horizontální rovině“ (Zatloukal, 2006, s. 91). Problém je v tom, že se místní politici pokoušejí uplatnit vertikální politiku i tam, kde je přípustná pouze politika

[16] Z angličtiny: stake = hmotný zájem, holder = držitel

horizontální.[17] Výstupy procesu KPSS v obci, kde panuje silně kontrolní soužití, se nakonec bohužel příliš neliší od strategických plánů. Navíc se může stát, že naplánované služby nebudou dostatečně reflektovat potřeby uživatelů služeb, protože jakmile je „dušena" spontánnost v KPSS, první hlas, který přestává být slyšet, je hlas uživatelů.

d) Kooperativní soužití

„Ideálním, a bohužel spíše vzácným, je soužití kooperativní. V takovém případě obě strany participují na dosahování cílů, které jsou pro ně přijatelné a atraktivní. Komunitní plány sociálních služeb vznikají bez zbytečných tlaků s tím, že jednání pracovních skupin jsou vedena kvalitními manažery a facilitátory…" (Zatloukat, 2008, s. 91). V tomto optimálním modelu se jednání pracovních skupin se rovněž účastní i politici, kteří respektují pravidla jednání, všichni zúčastnění jsou srozumitelně seznámeni s možnostmi financování a garance sociálních služeb ze strany obce a společně se snaží nalézt co nejefektivnější řešení tak, aby byly uživatelům zajištěny služby, které potřebují, aby tyto služby bylo možné zaplatit a aby tyto služby skutečně někdo v obci nabízel a poskytoval. V tomto případě se často stává, že politici využívají komunitní plány sociálních služeb pro své politické a volební programy, čímž se komunitní plány sociálních služeb stávají velmi důležitým instrumentem sociální politiky na lokální úrovni. Pro kooperativní soužití platí jedna klíčová zásada: obě strany musí mít co nabídnout. Avšak první krok je musí být na realizátorech KPSS, jejichž úkolem je místní politiky přesvědčit, že jim mají co nabídnout a zároveň, že místní politici mohou něco nabídnout pro podporu procesu KPSS.

VII. Závěr

Komunitní plánování sociálních služeb jako jeden ze základních modelů komunitní práce je metoda velmi obsažná a ve svém vývoji dynamická a proměnlivá. Tato metoda je velmi univerzální
a prostřednictvím ní lze řešit místní problémy nejen v oblasti sociálních služeb, zdravotní péče, etnického napětí či vzdělávání, ale i sousedských vztahů, životního prostředí, urbánní politiky apod. Jedná se o metodu velmi variabilní, jelikož každá situace vyžaduje odlišné řešení, které je do velké míry nepřenosné do jiných situací či lokalit. To pochopitelně klade velký důraz na kreativitu komunitních plánovačů i obyvatel komunity. Metoda komunitního plánování je mimo jiné poměrně složitý souhrn manažerských, personálních, sociologických a samosprávných činností a postupů, které je třeba profesionálně koordinovat. Komunitní plánování sociálních služeb je tudíž možno chápat jako dynamicky se rozvíjející nástroj zajišťování dostupnosti sociálních služeb a plánování rozvoje sociálních služeb, který má jasné ukotvení ve stávající legislativě i současné praxi na úrovni obcí, svazku obcí i krajů v ČR. Autor článku se na základě patnáctileté empirie krajského metodika a vzdělavatele KPSS a závěrů vlastní výzkumné i publikační činnosti domnívá, že komunitní plánování sociálních služeb se i přes některá výše uvedená úskalí postupně stává efektivním instrumentem sociální politiky na zmíněných územích v ČR.

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[17] Příkladem kontrolního soužití je autorova zkušenost, kterou získal při metodické podpoře v jednom nejmenovaném statutárním městě. Členka rady města písemně navrhovala zakotvit do organizačního řádu komunitního plánování ustanovení, ve kterém bylo explicitně vymezeno, že orgány města *„...z titulu postavení zadavatele delegují úkoly a zadání, které souvisí s naplňováním cílů a opatření komunitního plánu a rovněž s plněním dílčích částí volebních programů souvisejících s poskytováním sociálních a souvisejících služeb na území statutárního města. "*

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NON - EFFECTIVENESS OF THE FARMACEUTICAL MARKET IN THE SLOVAK REPUBLIC

Daniela Pobudová[1]

Abstract

The article offers a basic view of the use of generic and biosimal drugs in Slovakia, an overview of the impact of 3-threshold entry of new drugs on the pharmaceutical market, as well as the information about the regulation of their prices and consumption in selected countries. The purchase price of medicines in Slovakia is one of the lowest in Europe, however, more than a quarter of the health care budget is spent on their purchase each year. Despite the fact the amount of funds spent in this way is higher than in our neighbors, in indicators such as average life expectancy or the number of avoidable deaths, Slovak citizens are ranked last in comparison with European countries.So how do pharmaceutical companies sell medicines and why are they not willing to discount their prices despite having huge margins? Where does this inefficiency arise? On the supply side, this may be due to insufficient competition and clientelism, and on the demand side, the consumer's inability to make free choices. Will the pharmaceutical generics or biosimilar help to solve this pharmaceutical over-consumption in Slovakia at least in part? At the end of the article, simple recommendations are outlined on how to contribute to the savings of public health insurance, or the potential to improve the availability of treatment by more efficient use of financial resources.

Keywords

Biosimilars, Generics, Health Care, Farmacoeconomics, Regulations, Effectiveness, Drugs

I. Úvod

Lieková politika každej krajiny spadá pod kompetenciu štátu, ktorý sa prostredníctvom nástrojov, ako je napr. referencovanie, zavádzanie generických[2], či biosimilárnych[3] liekov snaží znižovať výdavky na lieky a tým prinášať pozitívny efekt jednak pre štát vo forme úspor, resp. zvýšením efektívnosti farmaceutických výdavkov. Pozitívny efekt sa dotkne aj pacienta, a to vo forme úspor pri cenovo dostupnejších liekoch, alebo v poskytovaní kvalitnejšej a dostupnejšej zdravotnej starostlivosti. Nesprávne nastavenie niektorých z nástrojov liekovej politiky štátu môže pôsobiť negatívne, napr. referencovanie so sebou môže priniesť aj riziká a to napr. vo forme reexportu liekov do iných krajín, čím sa so veľkej miere znižuje dostupnosť niektorých medikamentov na trhu. Kombinácia cenových opatrení, spolu so sprísnenými vstupnými kritériami vo veľkej miere obmedzuje vstup genericky, aj biologicky podobných liekov na slovenský farmaceutický trh a tým sa zamedzuje prístup k vysokokvalitným, bezpečným a účinným liečebným metódam pre pacientov. Na nasledujúcich stranách sa snažím poukázať na to, že generické lieky v Slovenskej republike využívajú iba veľmi malú časť rozpočtu na zdravotnú starostlivosť – 26,1 % z celkových výdavkov na lieky, kým ich podiel na celkovej spotrebe predstavuje viac ako 64,5 % (OECD, 2020). Medzi pacientmi prevláda nízka informovanosť a obava využitia možnosti generickej, či biosimilárnej liečby, ktorá preskripciou originálov zbytočne navyšuje súkromné výdavky pacientov na liečbu. Prostredníctvom vybraných originálnych liekov a ich generických alternatív sa snažím poukázať na veľkosť úspor, ktorú môže priniesť využívanie generík a biosimilárov, ktorá sa v analýze pohybuje v rozmädzí 70–84 %. Ďalším negatívnym faktorom na ktorý poukazujem

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[2] generický liek má rovnaké kvalitatívne aj kvantitatívne zloženie na rovnakom chemickom základe ako originálny liek

[3] biosimilárny liek je biologicky podobný oproti originálnym molekulám tvorených prostredníctvom živých buniek

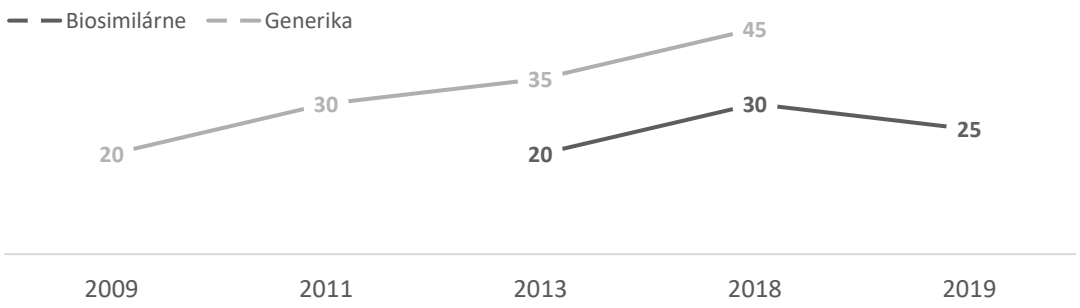
v komparácií s vybranými krajinami sú prísne vstupné kritéria, ktoré zaviedla Slovenská republika, a ktoré zamedzujú vstupu generických a biosimilárnych liekov na trh. Z grafov možno vidieť, ako ich zmeny počas rokov ovplyvňovali vstup nových liekov do krajiny. Je preto nevyhnutné nastaviť podmienky tak, aby neboli prekážkou vstupu nových generík a biosimilárov na trh, ale naopak, aby podporovali dynamický a konkurencieschopný generický trh.

II. Regulovanie cien a bariéry vstupu na farmaceutický trh

Regulácií podliehajú iba lieky ktoré sú hradené z verejného zdravotného poistenia. Potreba regulácie vzniká najmä pri originálnych liekoch, nakoľko tie majú počas patentovej ochrany monopol na trhu, čím dochádza k príliš vysokým cenám. Za vysokými cenami nestojí ani tak samotná výroba liekov, ale výskum a testovanie, ktoré sú nevyhnutné pred ich zavedením na trh. Po skončení patentovej ochrany tak generiká slúžia ako vhodný nástroj na potlačenie ceny originálnych liekov smerom nadol. Regulácia na famaceutickom trhu je potrebná aj pre neelasticitu trhu farmaceutických výrobkov, predovšetkým vo vyspelých krajinách, kedy je človek ochotný zaplatiť aj viac za to, aby sa zbavil bolesti, alebo choroby. Elasticita je viditeľná až pri vysokých cenách liekov. Práve preto je nevyhnutné vytvárať podmienky pre vstup generík a biosimilárov, ktoré sú lacnejšie a zároveň dokážu predĺžiť život viacerých pacientov, alebo zlepšiť kvalitu ich života.

Cena generík a biosimilárov sa tvorí tzv. trojprahovým vstupom. Ide o reguláciu cien generík a biosimilárov pri kategorizácií liekov[4]. Generiká a biosimiláry začali v SR podliehať regulácii až od roku 2009, kedy začali platiť podmienky, podľa ktorých prvý generický liek, môže byť zaradený do kategorizácie len vtedy, ak je jeho cena nižšia najmenej o 20 % v porovnaní s najnižšou cenou už zaradeného lieku v rovnakej referenčnej skupine. V roku 2011 sa podmienky na vstup prvého generika zmenili o cenu nižšiu ako 30 %, v roku 2013 nižšiu ako 35 % a následne od roku 2018 nižšiu ako 45%, kedy sa zároveň zaviedli aj podmienky pre vstup ďalších generických liekov ktorých cena musí byť nižšia najmenej o ďalších 10 % pre druhé generikum a ďalších 5 % pre tretie generikum zaradené do kategorizácie. Výška vstupov medzi krajinami je rozdielna, ale nájdu sa aj krajiny bez uplatňovanie tejto bariéry vstupu.

Graf 1 Zavedenie podmienok pre kategorizáciu prvého generika a prvého biosimiláru v SR (%)

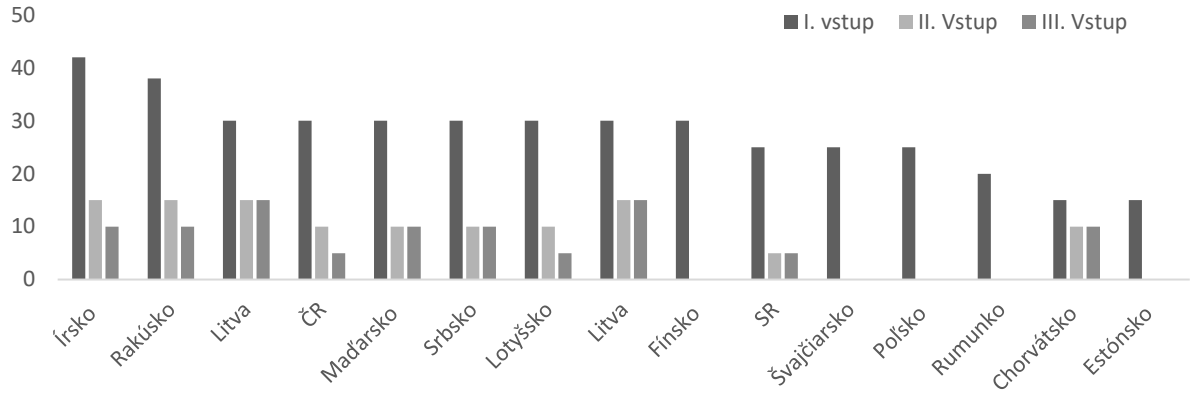


Zdroj: Zákon č. 363/2011, Zákon č. 577/2004, vlastné spracovanie
Poznámka:Od roku 2018 sa zaviedla podmienka aj pre vstup druhého generika, ktorého cena musí byť nižšia o ďalších 10% pre druhé generikum a ďalších 5% pre tretie generikum. Taktiež sa zaviedla podmienka pre zaradenie druhého biosimiláru o ďalších 5% a ďalších 5% aj pre tretí biosimilár zaradený do kategorizácie.

[4] kategorizácia – úradná registrácia určujúca výšku maximálnej ceny lieku a úhrady zo zdravotného poistenia

Z grafu č. 1 možno vidieť nižšiu percentuálnu podmienku pri vstupe biosimilárnych liekov, ktorá súvisí so zohľadnením vyšších nákladov, ktoré je potrebné vynaložiť na výskum a vývoj, ako aj na samotné testovanie. Ceny alternatívnych liekov by nemali byť stanovené ani príliš nízko oproti inovatívnym liekom, aby nevznikol vytláčací efekt. Cenová regulácia sa pri kategorizácií liekov uplatňuje v 23 štátoch EÚ pri generikách a len v 13 štátoch pri biosimiláročh (Kawalec, Stawowczyk E, Tesar T a kol., 2017).

Graf 2 Trojprahový vstup pri regulovaní cien biosimilárnych liekov ako % zníženia z ceny



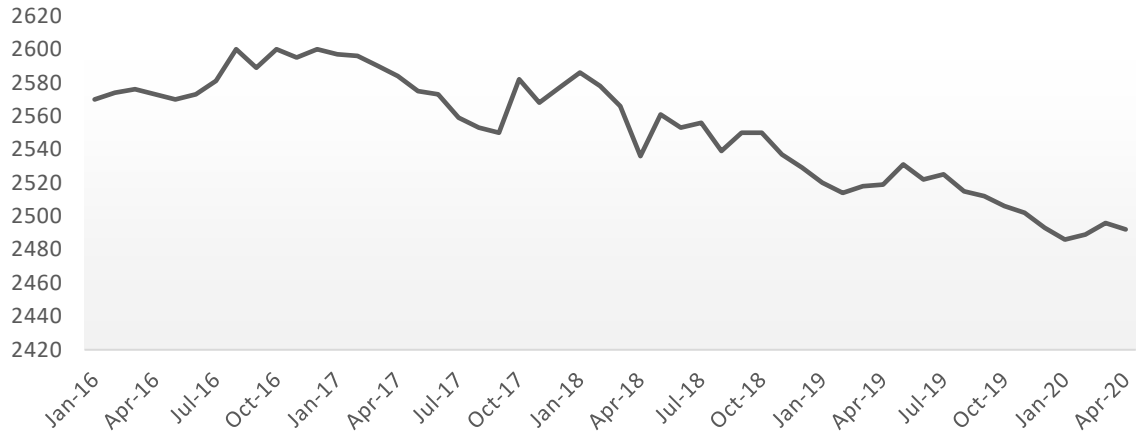
Zdroj: Medicine for europe (2020), vlastné spracovanie

Pri regulovaní cien liekov sa na Slovensku využíva medzinárodné referencovanie, ktoré má zabezpečiť nízku cenu liekov a zároveň motivovať pacientov k nákupu najlacnejšej alternatívy. Od roku 2008 bola v SR prijatá zmena referencovania liekov a nastolené nové pravidlá, kedy sa ponúknutá cena lieku porovnávala ako priemer šiestich najnižších cien spomedzi úradne určených cien lieku v iných členských štátov EÚ (Zákon č. 363/2011). Zmeny nastali najmä kvoli predraženiu najmä inovatívnych liekov a liekov, ktoré mali vyššie ceny. Napriek tomu, že veľa firiem akceptovalo zmeny v legislatíve a svoje ceny upravili, našli sa aj také, ktoré neboli ochotné zmeniť ceny a nové podmienky odignorovali. Následne firmy, ktoré nespĺňali podmienky boli vyradené zo zoznamu kategorizovaných liekov. Zavedenie nového procesu referencovania prinieslo priemerné zníženie cien liekov o 15 %. V roku 2012 sa ceny liekov začali porovnávať ako primer cien dvoch najnižších cien spomedzi úradne určených cien liekov v iných členských krajinách, čo vyústilo do ešte nižších cien liekov, čím sa zvýšila úspora verejných financií. Problémy sa objavili vo forme dostupnosti liekov, kedy lekárne začali mať zhoršený prístup k niektorým liekom od distribútorov, čo bolo spôsobené najmä reexportom do iných krajín. V roku 2013 bolo v SR prijaté opatrenie vo forme zákazu vývozu liekov, čo sa stalo terčom kritiky Európskej únie vzhľadom na otvorenosť trhu EÚ. Od roku 2017 môžu lieky hradené zo zdravotného poistenia vyvážať z krajiny len výrobcovia a držitelia registrácií, ale nie distribučné firmy. Aby sa predišlo ďalším špekuláciám od roku 2013 po súčasnosť sú ceny liekov v SR porovnávané s priemerom troch krajín najlacnejších cien liekov v rámci EÚ. Táto zmena znížila výdavky z verejného rozpočtu, na druhej strane narástli doplatky na niektoré lieky. Aj nárast týchto doplatkov mal pozitívny efekt, nakoľko SR dlhodobo patrí medzi krajiny s najväčšou spotrebou liekov. Znížila sa tak nadmerná spotreba, ako aj nadmerný nákup liekov vznikajúci pri nízkych doplatkoch pacientov.

Súčasný prístup referencovania v SR zabezpečuje pre pacientov jednu z najnižších cien liekov v EÚ, na druhej strane nastáva problém, ak pôvodné lieky (originály) sú referencované na nízkej, alebo veľmi nízkej úrovni, oproti iným krajinám. Zrážky z ceny o ktoré je potrebné znížiť ceny novo zavádzaných generík, prípadne biosimilárov oproti originálnym liekom sa posudzujú práve v kontexte pôvodnej ceny referenčného lieku. Aj v dnešnej dobe sú krajiny,

ktoré neuplatňujú referencovanie (napr. Rakúsko, Švajčiarsko, Fínsko,…) a teda majú vyššie ceny referenčních liekov. Povinnosť znížiť cenu pre prvé tri generiká a biosimiláry pri vstupe na slovenský trh (3-prahový vstup) podľa podmienok, ktoré som uviedla vyššie v kombinácií s prísnymi podmienkami pre medzinárodné referencovanie cien odrádzajú výrobcov generík, ako aj biosimilárov vstupovať na slovenský farmaceutický trh, čo vnímam ako dlhodobo negatívnu a neudržateľnú stratégiu regulátorov a je nevyhnutné pre zdravú konkurenciu nastoliť podmienky buď vo forme zmeny podmienok pri referencovaní, prípadne zníženie % podielu, o ktorý sa musia znížiť ceny novo vstupujúcich generík a biosimilárov. Slovenská republika tvorí malý podiel na európskom farmaceutickom trhu, ktorý sa pre obchodníkov nestáva príliš lukratívnym a veľké zrážky ho môžu zbytočne odradiť. V rámci referencovania sa môže vytvoriť aj reťazová reakcia poklesu cien, keďže pri referencovaní sa porovnávajú krajiny s najnižšími cenami kam spadá aj Slovensko.

Graf 3 Počet generických liekov v SR v zozname kategorizovaných liekov

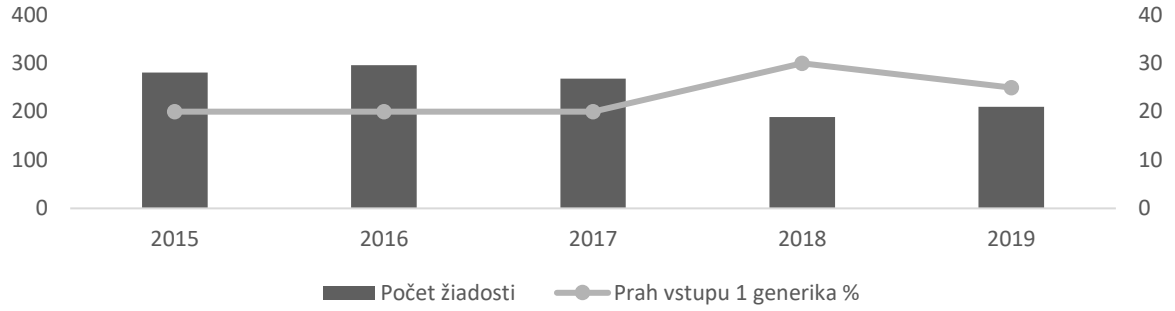


Zdroj: Ministerstvo zdravotníctva Slovenskej republiky (2020), vlastné spracovanie

Z tretieho grafu možno vidieť, že množstvo generických liekov na farmaceutickom trhu klesá. V januári 2016 bolo dostupných 2570 generických liekov, kým v roku 2020 hovoríme o 2492 liekov, čo predstavuje pokles je 78 liekov. Po zavedení 3-prahového vstupu sa potvrdzuje, že prišlo k absolútnemu, aj relatívnemu počtu generických liekov vstupujúcich na trh. Ak však bude tento trend aj naďalej pokračovať, mohlo by to narušiť stabilitu liekovej politiky. Generiká slúžia ako lacnejšia verzia existujúcich liekov, čím dokáže šetriť zdroje ako pacient, tak aj štát. Znižovanie počtu generických liekov na trhu môže byť spôsobené aj nízkou spotrebou týchto liekov. V pomere ku originálnym liekom je ich spotreba veľmi nízka. S tým môže súvisieť nedôvera lekárov a pacientov k týmtov liekom, vzhľadom na to, že je nízka informovanosť o výhodách a rizikách generických liekov. To má vplyv na spotrebu, a preto firmy majú menšiu ochotu registrovať svoje lieky ak predpokladajú, že ich predaj bude veľmi nízky. Ďalším problémom môžu byť nízke ceny generík spôsobené trojprahovým vstupom na trh. To odrádza výrobcov od vstupu na trh a vstupujú len do krajíny, kde môžu ponúknuť lieky za vyššie ceny. Na grafe č. 4 môžme vidieť, v akej veľkej miere ovplyvňuje a odrádza vstup nových „hráčov“ na trh pri zle nadstavených podmienkach pod ktorými možno chápať jednak referencovanie nastavené na príliš nízkých cenách a následnú povinnosť znížiť ceny liekov pri vstupe nového generika, alebo biosimiláru. „ Z údajov Farmaceutickej fakulty UK a provnaní vstupov rôznych typov liekov 12 mesiacov po zavedení 3-prahového vstupu došlo k zníženiu absolútneho aj relatívneho počtu generických liekov vstupujúcich na trh a k zvýšeniu aboslútneho aj relatívneho počtu nových originálnych liekov. Počet žiadosti o biosimilárne

lieky stúpol zo 4 v roku 2017a na 17 v roku 2018 a 11 v prvej polovici roku 2019. (INEKO, 2019).

Graf 4 Vzťah medzi počtom nových žiadostí a 1prahom pri regulovaní cien v SR za roky 2015 - 2019



Zdroj: Ministerstvo zdravotníctva SR (2020), INEKO (2019), vlastné spracovanie
Poznámka: rok 2019 – zverejnené dáta za prvý polrok, zvyšok hodnoty je dopočítaný

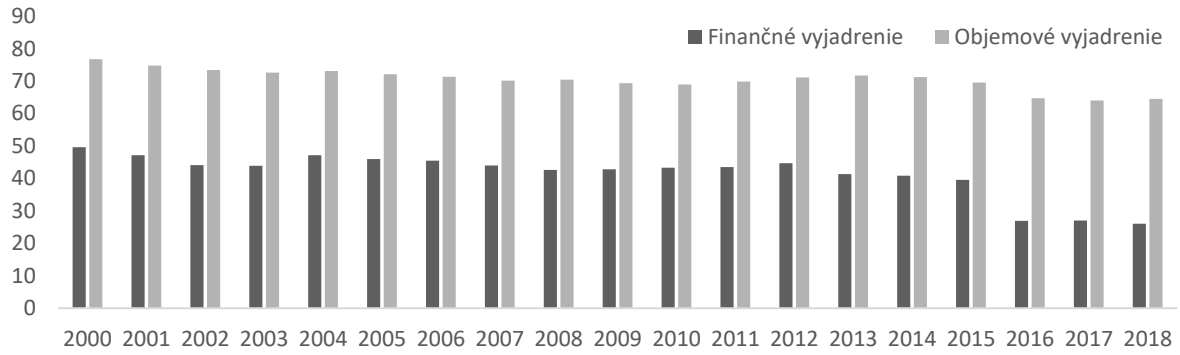
III. Generické lieky

Generický liek – **generikum** nie je oproti originálnemu lieku chránený patentom, avšak má rovnaké kvalitatívne aj kvantitatívne zloženie liečiv založených na rovnakom chemickom základe, ako aj rovnakú liekovú formu, ako originálny liek, rovnakú bezpečnosť a účinnosť, pričom môže obsahovať iné pomocné látky (Európska lieková agentura, 2020a). V čase rastúcich požiadaviek na zdravotnú starostlivosť a množstva obmedzených zdrojov práve generické lieky počas posledných desať rokov zvýšili prístup pacientov k liekom. Milióny európskych pacientov profitovali z lepšieho prístupu a zmenili tak zdravotnú starostlivosť nielen v Európe (Európska lieková agentura, 2020b). Poisťovne uhrádzajú lieky do výšky najlacnejšej alternatívy, zvyšok doplatí pacient.

Slovenská republika s podielom spotreby generických liekov je tesne nad priemerom EÚ, avšak jej podiel je každým rokom klesajúci. Podiel spotreby generických liekov vo finančnom vyjadrení klesla zo 49,6 % v roku 2000 na 26 % z celkovej spotreby liekov v roku 2018. Z dostupných dát priemer za 12 krajín EÚ sa pohybuje niekde na úrovni okolo 23 %.[5] Z pohľadu verejne hradených liekov v hmotnom vyjadrení bola hodnota za Slovensko na úrovni 76,8 % v roku 2000, kým v roku 2018 už len na úrovni 64,5 %. Z hľadiska potenciálu s cieľom dosiahnuť úspory vo finančnom vyjadrení je dôležité skúmať podiel generík práve vo finančnom vyjadrení, ktorého vývoj na Slovensku v posledních rokoch nie je príliš priaznivý.

[5] Porovnávanie medzi krajinami je skreslené a poskytuje len základný obraz, nakoľko sa v krajinách uplatňujú rôzne metodiky

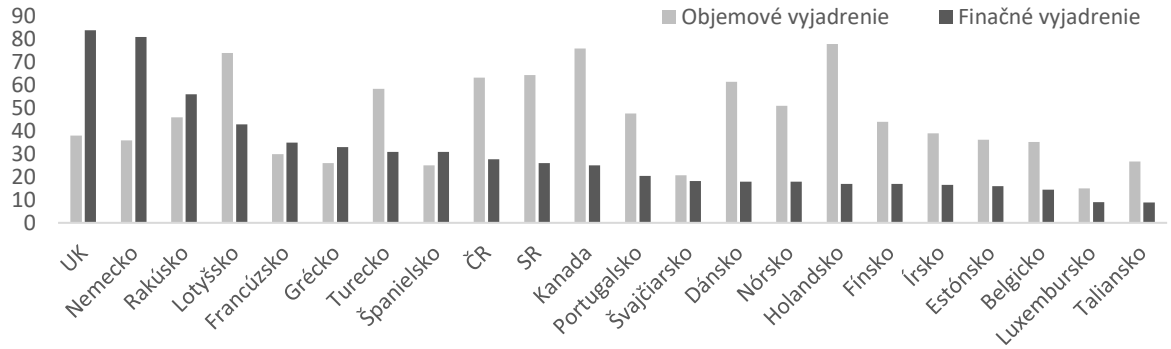
Graf 5 Vývoj spotreby generických liekov na Slovensku



Zdroj: OECD (2020), vlastné spracovanie

Na grafe č. 6 môžeme vidieť, že v porovnaní s ostatnými krajinami má Slovenská republika nižší podiel spotreby generík na celkových výdavkoch za lieky, vyššie hodnoty v porovnaní so sledovanými hodnotami dosahuje Slovenská republika naopak v podiele generík na celkovej spotrebe liekov. Kým v ostatných krajinách rástol podiel generík na celkovej spotrebe liekov v SR bol vývoj opačný kedy pokles spotreby generík v SR mal za následok rast doplatkov pacientov. Na celkovej spotrebe liekov sa generiká podielali 64,5% v objemovom vyjadrení, v peňažnom vyjadrení o cca polovicu menej – 26,1%. Prečo je podiel spotreby generík v SR oveľa vyšší v porovnaní s analyzovanými krajinami, ako podiel slovenských výdavkov na generické lieky? Trojprahový vstup vstup generík plus tretie najnižšie ceny originálnych liekov v rámci referenciácie medzi krajinami EÚ spôsobujú nízke ceny generík v porovnaní s originálnymi liekmi.

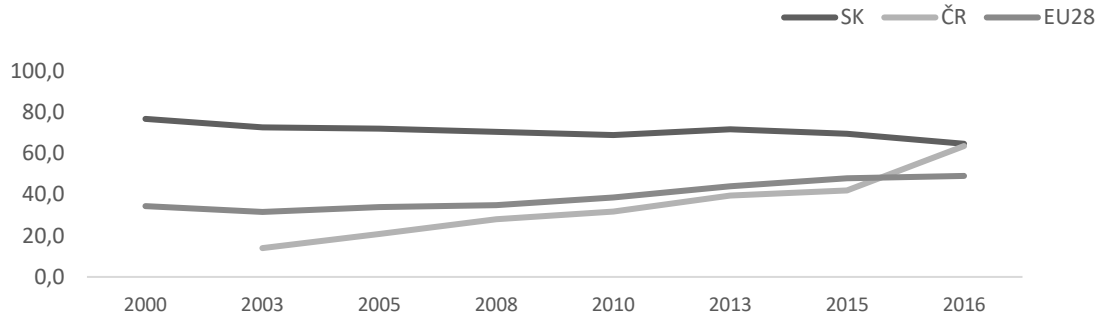
Graf 6 Spotreba generických liekov hradených z verejných zdrojov vo vybraných krajinách



Zdroj: OECD (2020), vlastné spracovanie

Dlhodobá stagnácia s následným poklesom spotreby generických liekov na Slovensku je v protiklade s postupným rastom spotreby v krajinách EÚ. Na grafe č. 7 môžeme vidieť, pokles spotreby genrík z hodnoty 76,8 % v roku 2000 na na 68,6 % v roku 2016. V ČR naopak možno vidieť opačný trend vývoja, kedy v roku 2003 spotreba generík predstavovala 14% na súčasnú hodnotu SR, t.j. 63,6%. Priemerná hodnota krajín EÚ sa v sledovanom období pohybovala v rozmedzí 34,4 – 49,1 %.

Graf 7 Spotreba generík na celkovej spotrebe liekov



Zdroj: OECD (2020), vlastné spracovanie

Ak sú ceny pôvodných liekov referencované na veľmi nízkej cenovej úrovni, plus je nastavená vysoká vstupná bariéra, zníži sa motivácia vstupu generických liekov na slovenský farmaceutický trh. Zároveň sa trojprahovým vstupom znížia úhrady pod výrobné ceny generík, čo má v konečnom dôsledku riziko na generické lieky. Absencia konkurenčného prostredia spôsobí zhoršenie dostupnosti generických liekov čo vedie k rastu nákladov.

IV. Odhad úspor finančných prostriedkov využitím generických liekov

Pre účel analýzy som z databázy Národného centra zdravotnických informácií (2020), ktoré disponuje zberom dát, ako aj s údajmi o spotrebe liekov začlenených do jednotlivých kategórií podľa Ministerstva zdravotníctva (2020a) vybrala z údajov TOP 50 liekov hradených z verejného zdravotného poistenia nasledovné humanitné lieky, ktoré sú uvedené v tabuľke č. 1:

1. Novalgin – analgetikum (liek zmierňujúci bolesť) a antipyretikum (liek na zníženie horúčky)
2. Concor – na liečbu vysokého krvného tlaku a angíny pektoris
3. Nebilet - liek na choroby srdcovo-cievneho systému
4. Flector – antireumatický liek
5. Vessel due F - choroby venózneho systému a choroby arteriálneho riečišťa
6. Prenessa – liek na vysoký krvý tlak a symptomatické srdcové zlyhanie

Z TOP 50 liekov vydaných na recept hradených z verejného zdravotného poistenia podľa množstva v baleniach bolo vybraných 6 humanných liekov. Prvé v rebríčku sú teda tie, ktoré pacienti nakupujú v najväčšom množstve, t. j. bola u nich najväčšia preskripcia za rok 2019. Ďalšie lieky, ktoré mi poslúžili pre účel analýzy som zvolila lieky slúžace na choroby srdcovo – cievneho systému, ako aj jeho pridružených diagnóz, ktoré patria v SR k jedným z najčastejších príčin úmrtia. Liek Vessel due F je jediným, pri ktorom bol z uvedenej tabuľky najvyšší doplatok poistovne 21,20 Eur/ balenie. Aj keď účelom analýzy je poukázať na úspory, ktoré je možne dosiahnuť využívaním generických liekov, nie vždy je táto alternatíva možná, čoho príkladom je práve tento liek, pre ktorý nie je na slovenskom farmaceutickom trhu žiadna iná generická alternatíva, t. j. tento liek zatiaľ v slovenskej legislatíve nemá prijatý generický liek. Celková úhrada za TOP liekov bola vo výške 86,97 mil. eur, z čoho úhrada zdravotnou poisťovnou predstavovala 56,50 mil. eur a doplatok pacientov 30,47mil. eur. Analýza sa tak týka približne 24% z celkovej úhrady za lieky, z čoho 23% predstavujú úhrady poistovní a 27 % úhrady od jednotlivých pacientov.

Tabulka 1 TOP 50 liekov vydaných na recept hradených z verejného zdravotného poistenia v SR za rok 2019

Poradie	Názov lieku	Množstvo lieku v baleniach	Úhrada v €	v tom	
				úhrada zdravotnou poisťovňou v €	úhrada/doplatok pacientom v €
1	NOVALGIN 500 mg tbl flm 20x500 mg	1 213 153,3	3 353 744,6	1 928 109,2	1 425 635,3
3	CONCOR 5 tbl flm 30x5 mg	844 784,7	3 037 594,7	772 905,9	2 264 688,8
4	NEBILET 5 mg tbl 28x5 mg	833 908,0	3 741 943,2	2 801 783,4	940 159,8
6	FLECTOR EP RAPID 50MG gra 20x50 mg	629 388,5	3 154 575,3	1 137 959,1	2 016 616,2
48	PRENESSA 4 mg tbl 90x4 mg	224 683,0	1 882 118,9	1 652 751,1	229 367,8
49	VESSEL DUE F kapsuly cps 60x250 LSU	219 013,4	5 949 076,2	4 644 025,3	1 305 050,9

Zdroj: Národné centrum zdravotnických informácií (2020), vlastné spracovanie

V tabuľke č. 2 uvádzam maximálnu cenu lieku, ktorá sa skladá z úhrady pacienta a úhradou, ktorú platí za pacienta jedna zo zdravotných poisťovní. Nakoľko sa jedná o lieky hradené z verejného zdravotného poistenia môžeme vidieť, že úhrada poistovne zostáva pri originálochi, ako aj generikách rovnaká. Mení sa jedine úhrada, ktorú dopláca pacient, ktorá je pri generických liekoch oveľa nižšia ako pri originálnych liekoch. Generiká kvôli reklame neuvádzam menovite, ale len označením G1 – Gx. Ich totožnosť s originálnym liekom je 99 – 96%, t. j. jedná sa o kvalitatívne rovnaké lieky, ktoré majú rovnaký farmaceutický účinok pre pacienta. Písomenom O sú označované originály.

Tabulka 2 Výpočet úspor pre pacienta pri využívaní generických liekov

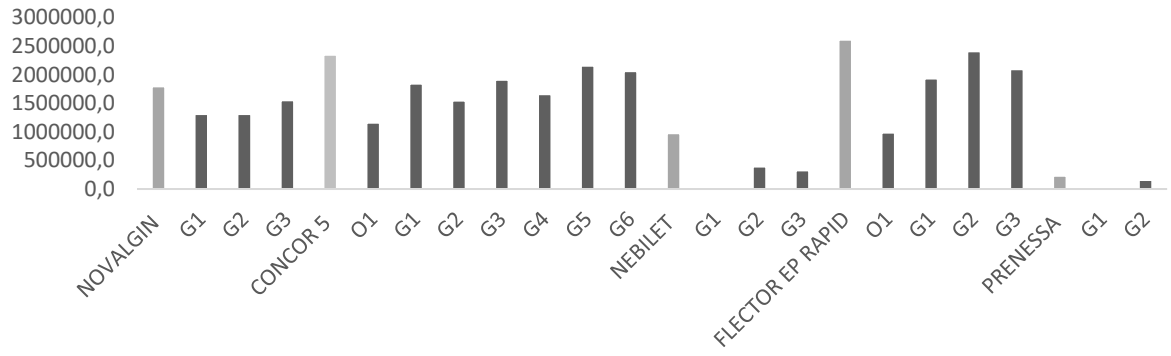
	Max cena	Pacient úhrada	Poisťovňa úhrada	Úspora balenie	"Nové" doplatky	Pôvodná suma	Celková úspora
NOVALGIN	2,91	1,48	1,43			1795466,9	
G1	1,83	0,4	1,43	1,08	1310205,6		485261,3
G2	1,83	0,4	1,43	1,08	1310205,6		485261,3
G3	1,63	0,2	1,43	1,28	1552836,2		242630,7
CONCOR 5	3,67	2,78	0,89			2 348 501,5	
O1	2,3	1,41	0,89	1,37	1157355,0		1 191 146,4
G1	1,49	0,6	0,89	2,18	1841630,6		506 870,8
G2	1,84	0,95	0,89	1,83	1545956,0		802 545,5
G3	1,41	0,52	0,89	2,26	1909213,4		439 288,0
G4	1,71	0,82	0,89	1,96	1655778,0		692 723,5
G5	1,12	0,23	0,89	2,55	2154201,0		194 300,5
G6	1,23	0,34	0,89	2,44	2061274,7		287 226,8
NEBILET	4,56	1,17	3,39			975 672,3	
G1	3,3	0	3,39	1,17			975 672,3

G2	4,09	0,7	3,39	0,47	391936,8		583 735,6
G3	3,83	0,78	3,39	0,39	325224,1		650 448,2
FLECTOR EP RAPID	5,07	4,15	0,92			2 611 962,3	
O1	3,2	2,58	0,62	1,57	988139,9		1 623 822,3
G1	1,7	1,08	0,62	3,07	1932222,7		679 739,6
G2	0,94	0,32	0,62	3,83	2410558,0		201 404,3
G3	1,44	0,82	0,62	3,33	2095863,7		516 098,6
PRENESSA	8,41	1,03	7,38			231 423,5	
G1	7,38	0	7,38	1,03			231 423,5
G2	7,71	0,33	7,38	0,7	157278,1		74 145,4

Zdroj: Národné centrum zdravotnických informácií (2020), Databáza farmaceutických výrobkov (2020 a – 2020 f), vlastné prepočty, Ministerstvo zdravotníctva (2020a)
Poznámka: pôvodná suma ni eje totožná s údajmi, ktoré vykazuje nczi, ale v siedmom stĺpci je porepočítaná cez maximálnu cenu, ktorú uhradil pacient prevzatú zo stránky adc.sk a množstvom balení, ktoré boli predané v roku 2019
Úhrada za štandardnú dávku liečiva pre všetky lieky v danej skupine by mala byť na úrovni úhrady najlacnejšieho lieku

Na grafe č. 8 je šedou farbou zobranená celková suma, ktorú pacienti v roku 2019 zaplatili za originálne lieky. Tmavšou farbou sú zobrazené ceny, ktoré mohli pacienti zaplatiť, ak by si kúpili generické lieky, ktoré sú dostupné na slovenskom farmaceutickom trhu. Ak by boli pacienti namiesto originálu uplatnili pri všetkých analyzovaných liekoch najlacnejšiu alternatívu, celkové úspory, ktoré mohli pacienti ušetriť by vedeli byť až vo výške 84%. Ak by pacienti nakúpili za priemerné ceny generík podľa jednotlivých kategórií, úspora by vedela byť vo výške až 70%. [6]

Graf 8 Porovnanie cien za nákup originálnych liekov versus generík



Zdroj: Národné centrum zdravotnických informácií (2020), Databáza farmaceutických výrobkov (2020 a – 2020 f), Ministerstvo zdravotníctva (2020a), vlastné prepočty
Poznámka: pri lieku Nebilet a Prenessa nie je G1 uvedené, čo je spôsobené tým, že pacient pri tomto generiku nemá žiadny doplatok – cena úspory sa teda rovná celkovej úspore

V. Biosimilárne lieky

Biosimilárny liek – **biosimilár** je biologicky podobný liek podobajúci sa už existujúcemu lieku s minimálnymi rozdielmi oproti originálu. Vzhľadom na to, že sú účinné látky tvorené živými bunkami, rozdiely môžu nastať aj medzi jednotlivými šaržami rovnakého biologického lieku. (Európska liekova agentura 2020c). Bezpečnosť liekov je regulovaná prostredníctvom EMA[7],

[6] Tretina slovákov nepozná pojem generikum, pätina Slovákov odmietne v lekárni lacnejšiu alternatívu, každý 11 sa opýta na lacnejšiu alternatívu (INEKO, 2019)
[7] EMA – európska lieková agentúra

ktorá dbá na zachovanie rovnakej účinnej látky, aj kvality. Sú však lacnejšie, nakoľko ich štúdie a testovanie sú jednoduchšie a menej finančne náročné.

Skoro 80 % všetkých nákladov na zdravotnú starostlivosť v EÚ, cca 700 mld. eur sa vynakladá na chronické ochorenia. V súčasnej dobe jednou z najväčších výziev sú biologické lieky, ale ako zabezpečiť, aby všetci európski pacienti mali spravodlivý prístup k liečbe? Biologické lieky sú lieky obsahujúce účinne látky pochádzajúce z biologického zdroja, väčšinou z bielkovín, vo veľkej miere využívajúcich sa pri liečbe onkologických, autoimunitných ochorení a diabetesu. Prístup k biologickým liekom je často obmedzený kvôli ich vysokým nákladom (viac ako 10 000 eur/pacient/rok), spojených s vysokými nákladmi na výskum, vývoj a komplexné výrobné procesy, preto výrobcovia pracujú na vývoji cenovo dostupnejších verzií týchto liekov, tj. biosimilárnych, prostredníctvom ktorých ponúkajú vysoko kvalitné alternatívy k nákladnejším liekom a rozšíreniu ich prístupu k pacientom. Výdavky poisťovní na biosimilárne lieky každým rokom rastú, avšak ich podiel na celkovej spotrebe liekov je stále veľmi nízky.

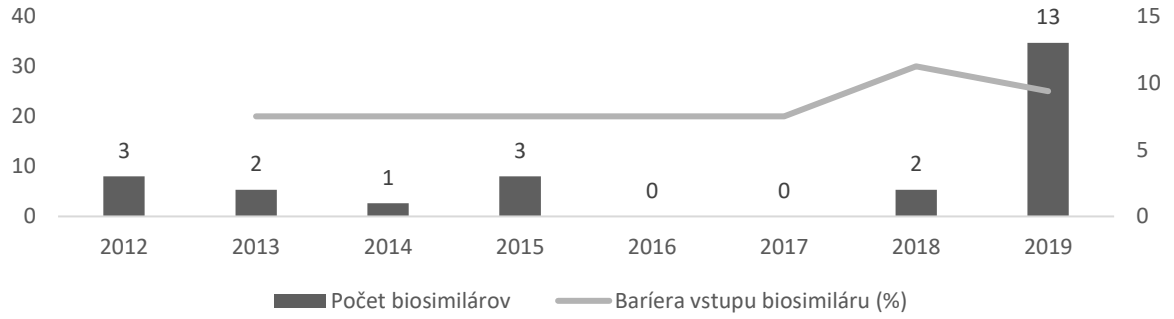
Tabulka 3 Podiel úhrad zdravotných poisťovní za biosimilárne lieky

	2015	2016	2017	2018
Úhrada ZP za lieky	1365	1427	1230	1407
Úhrada ZP za biosimilárne lieky	10,8	13,8	14	16,8
Podiel (%)	0,79	0,97	1,14	1,19

Zdroj: Ministerstvo zdravotníctva SR (2020), vlastné prepočty

Po tom, čo vyprší patent k referenčnému lieku a skončí obdobie, kedy je tento liek chránený patentom, môže prísť na trh biologicky podobný liek – biosimilar. V roku 2017 predstavovali biologické lieky 43 % globálneho využitia špeciálnych liekov. Tržby celosvetového trhu biologických liekov v roku 2017 predstavovali objem 238 biliónov eur a predpokladá sa, že do roku 2022 dosiahnu hodnotu 388 biliónov eur (INEKO, 2019). Od 80. rokov sa biologické lieky vyvíjajú pre rôzne ochorenia. Prvý biosimilár bol schválený EMA v roku 2006, v súčasnosti je ich vo vývoji okolo 50. Príchod nových biosimilárnych liekov každým rokom rastie, Slovensko však nemá stále vhodnú legislatívu, ktorá by ich vstup na trh jednoznačne podporovala. Zavádzanie biosimilárov vo väčšej miere môže v konečnom dôsledku poskytnúť benefity nie len samotným pacientom, ale aj systému zdravotnej starostlivosti, v možnosti zníženia rozpočtových obmedzení a prerozdelenia finančných prostriedkov do iných oblastí zdravotnej starostlivosti. Potenciálny prínos pre systémy zdravotnej starostlivosti krajín EÚ je na nasledujúcich 5 rokov odhadovaný na viac ako 15 miliárd eur, kedy sa usporené prostriedky môžu reinvestovať do iných oblastí zdravotnej starostlivosti (Medicine for Europe, 2017). Aj keď biosimiláry schvaľuje EMA, akceptovanie a reálne použitie musí vychádzať z legislatívy v danej krajine. V rámci 47 zaregistrovaných biosimilárov je na Slovensku dostupných 24 molekúl.

Graf 9 Dostupnosť biosimilárnych liekov na Slovensku versus bariéra prahového vstupu na trh v %



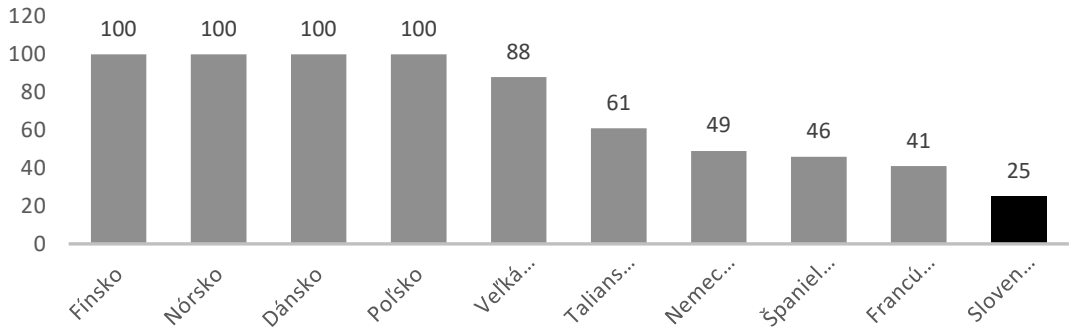
Zdroj: Ministerstvo zdravotníctva SR (2020), Zákon č. 577/2004, vlastné spracovanie

Z grafu č. 9 môžeme vidieť, ako má trojprahový vstup negatívny vplyv na príchod biosimiláru do krajiny a stáva sa neatraktívnym pre viaceré farmaceutické spoločnosti, čo môžeme vidieť z počtu dostupných biosimilárov v SR po roku 2013, kedy vstúpila do platnosti novela.

Zmiernenie povinnej zrážky z ceny prvého biosimilárneho lieku vstupujúceho na farmaceuticky trh a tiež otvorenejší prístup pri centrálnom obstarávaní liekov prispel v roku 2019 k priaznivejšiemu vývoju. Dovtedy sa pri tendroch centrálnych nákupov vypisovali nie na liečivú látku, ale na konkrétny liek. Okrem toho výrobcovia fázujú vstup na trh podľa medzinárodného referencovania. Medzi ďalšie bariéry vstupu môžu aj naďalej patriť absencie smerníc a stanovísk od odborných spoločností, regulátorov, platcov a nedostatočné povedomie. Od podania požiadavky na kategorizáciu biosimilarov po udelenie súhlasu v rámci krajín V4 to trvá v SR najdlhšie – 120 dní, v Poľsku a ČR o polovicu menej - 60 dní a v Maďarsku 90 dní. Najkratšie to trvá vo Švédsku 45 dní, naopak najdlhšie v Grécku – 270 dní. Podľa (INEKO, 2019) z hľadiska nákladovej efektívnosti, biosimilars predstavujú potenciál úspor vo výške okolo 30 miliónov eur. Vstupom prvých biosimilárov sme dosiahli úsporu 10 mil. eur, ale po implementácií je potenciál ďalších 20 mil. eur, čím sa zabezpečí efektívna starostlivosť, t. j. dostupnosť a liečba bude rovnaká, len bude lacnejšia a tým aj dostupnejšia pre viacerých pacientov. Na Slovensku stúpla spotreba viac ako 5-násobne po vstupe biosimilárnych liekov s účinnou látkou filgrastim. Zníženie cien je sprevádzané nárastom spotreby a teda aj rastom počtu liečených pacientov. Pokles cien znamená úsporu vo výdavkoch, ale aj zvýšenie dostupnosti zdravotnej starostlivosti. Biosimilárne lieky sa presadili na Slovensku hlavne v oblastiach, kde je vysoká citlivosť na výšku doplatku. V prípade ak je doplatok pacienta nulový, alebo kompenzovaný. presadenie biosimiláru trvá dlhšie.

Kým vývoj originálneho biologického lieku trvá 7-10 rokov a je spojený s investovaním do výskumu a vývoja farmaceutické spoločnosti avizujú, že cenový odhad za vývoj jednej molekuly sa odhaduje na 1,3 mld. eur. Do svojho vývoja však začali nekorektne započítavať aj náklady za zmarené investície a zrazu cena na vývoj nových liekov stúpla na 2,5 mld. eur. (NCBI, 2013). Výrobca na takýto nový liek získava exkluzivitu a na niekoľko rokov predáva originálny biologický liek ako jediný výrobca, keďže má udelený patent. Keď vyprší platnosť patentu, iní výrobcovia môžu vyrábať rovnaký druh lieku – tzv. biosimilárny liek. V záujme zachovania exkluzivity na trhu a vstupu nových generík a biosimilárov sa snažia výrobcovia originálu ponechať si svoje miesto na trhu a tak prostredníctvom malej zmeny niektorého parametru originálneho lieku získajú veľmi často nový patent (napr. verziu s predĺženým uvoľňovaním, alebo inej schémy dávkovania). Podľa štúdie Oxford University (2006) bola uskutočnená analýza na lieky za obdobie rokov 2005 – 2015, v ktorej sa zistilo, že skoro 80 % liekov, spojených s novým patentom, nie sú nové lieky.

Graf 10 Aplikovanie Infliximab-u vo vybraných krajinách



Zdroj: Remicade (2020), vlastné spracovanie

Infliximab má jednu z najvyšších úrovní konkurencie v Európe. Remicade je obchodná značka Influximabu. Biologicky podobné, schválené a dostupné v SR sú momentálne Inflectra a Remisma a Zessly. Pri Remicade bola maximálna cena na úrovni 454,57 eur, kde pacient doplácal 213,37 eur. Pri biosimilárnych liekov, ako je Inflectra a Remisma a Zessly doplatok poisťovne je vo výške 241,19 eur. Pacient nedopláca nič. Oproti lieku Remicade usporí pacient 213, 37 eur/balenie. V Nórsku, kde je biosimilár Infliximab používaný na 100 % oproti biologicky referenčnému lieku sa prostredníctvom tendrov znížili náklady s referenčným liekom až o 69 %. Naproti tomu môžeme vidieť jeho najnižšiu použiteľnosť v SR (25 %) v rámci analyzovaných krajín a do budúcna sa tak črtajú ešte limity v ktorých by bolo možné ušetriť.

VI. Záver

Slovenská republika patrí k štátom, kde podiel spotreby generických liekov dlhodobo klesá a preto pacienti, aj poisťovne platia zbytočne za lieky, ktoré majú lacnejšiu alternatívu v rovnakej kvalite. Z dlhodobého hladiska môže takýto trend ovplyvniť aj pacienta, ak sa zhorší dostupnosť generických liekov na trhu. Generiká a biosimiláry pôsobia na farmaceutickom trhu ako konkurencia oproti originálnym liekom ktoré boli pod patentovou ochranou, čím tlačia na pokles ich cien a stávajú sa dostupnejšie pre širší okruh pacientov, Zníženie cien vedie aj k úspore verejných zdrojov na úhradu za lieky. Za nižšou cenou sú minimálne náklady, ktoré sú nútené pred uvedením na trh vynaložiť na výskum a vývoj, testovanie účinnosti aj bezpečnosti. Vzhľadom na to, že biologický liek je vytváraný živým organizmom, tento proces je omnoho komplexnejší ako výroba chemických liekov (náklady na výrobu sú 10 000 €/pacient/rok). Problémom je aj veľmi slabé konkurenčné prostredie, kedy si originálny liek ako jediný účastník na trhu v krajine vie získať stálych zákazníkov a udržať si tak dominantné postavenie na trhu, aj po ukončení patentovej ochrany, čo vo veľkej miere vytvára taktiež riziko vstupu pre generické firmy. Každým rokom rastie dopyt po liekoch na celom svete. V roku 2018 dosiahol hodnotu 1,1 bilióna eur. Nakoľko biologické a orphan lieky patria k najdrahším možnostiam liečby, liečba je tak dostupná len pre úzku skupinu pacientov. Lacnejšou, ale nie menej kvalitnou alternatívou sa stávajú biosimilárne lieky, nakoľko ich vývoj vychádza z výskumu a vývoja referenčných liekov. Prostredníctvom úspory je šanca získať kvalitnejšiu liečbu pre viac pacientov. Svetový podiel generik a biosimilárov predstavujú približne 7 %, kým odhad do roku 2020 je 28 %. Podľa (INEKO, 2019) možno tvrdiť, že vstup ďalších biosimilárnych liekov v Slovenskej republike viedol až k 35 % zníženiu cien liekov a toto zníženie, ak by sa v plnej miere prejavilo vo finančnej úspore a nie v náraste spotreby, získali by sa verejné zdroje vo výške až do 40 miliónov eur ročne. Vstup generík a biosimilárov na farmaceutický trh predstavuje vysoko efektívny nástroj znižovania výdavkov verejného zdravotného poistenia. Podmienkou v SR je povinné znižovanie cien pri vstupe prvého generického, alebo biologicky podobného lieku na trh spoločne s povinným znížením cien. Pri

vstupe druhého a tretieho čo spôsobí zníženie cien liekov a úhrad zdravotných poisťovní. Ak sú ceny pôvodných liekov referencované na veľmi nízkej cenovej úrovni plus je nastavená vysoká vstupná bariéra zníži sa motivácia vstupu generických liekov na slovenský farmaceutický trh. Zároveň sa trojprahovým vstupom znížia úhrady pod výrobné ceny generík, čo má v konečnom dôsledku riziko na generické lieky. Absencia konkurenčného prostredia spôsobí zhoršenie dostupnosti generických liekov, čo vedie k rastu nákladov. Regulácia cien sama o sebe má význam, pokiaľ by nebol predpoklad férovej súťaže na trhu, ak však vstupuje na trh viac konkurenčných liekov stráca regulácia cien svoj význam. Na odstránenie farmakologickej nadspotreby v niektorých liekových skupinách okrem nástrojov liekovej politiky je potrebné aj zníženie negatívnych faktorov, ktoré vplývajú na ich spotrebu, napr. zvýšenie preventívnych prehliadok, zmeny životného štýlu, motivácia lekárov predpisovať generické a biosimilárne lieky, či zvýšenie povedomia samotných pacientov. V najbližších rokoch vyprší aj patentová ochrana viacerých originálnych liekov s vysokým objemom preskripcie a tak by Slovenská republika mala využiť aj tento potenciál ako možnosť vstupu generických a biosimilárnych liekov na trh.

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GENDER EQUALITY IN THEORY AND PRACTICE

Andrej Přívara[1], Eva Rievajová[2]

Abstract

Gender segregation is still a relevant subject in social life, as well as politics. We can label it a basic right of a democratic society. The goal of the paper is to identify the theoretical background of the topic and analyze the approaches and measures of the EU for the elimination of gender inequalities. The first section of the paper is focused on analyzing the characteristic of the types of discrimination, basic theories and principles. In the second section, we analyze the basic documents and measures on the part of the EU and EC for the period of the next five years, with the goal of achieving the greatest and fastest progress in the enforcement of gender equality throughout the EU. We have used the theoretical analysis and abstraction method to process the first section of the paper. The empirical section was processed using the primary analysis and logical procedures like synthesis and abstraction.

Keywords

Gender Equality, Discrimination, Human Rights Principle, Strategy of Gender Equality.

I. Introduction

Gender segregation is a long-lasting phenomenon, society has been dealing with for decades. Despite this, gender inequality is a visible problem in different areas of public and private life. In all countries we encounter favouritism of some individuals and disadvantaging of other individuals. These differences may be manifested due to different nationality, gender, age, religion or sexual orientation. In Slovakia, most of the legislative changes in this area were adopted during the primary process, when Slovakia was joining the European Union. On a larger scale, gender equality, meaning same treatment of people of different sex, also means treatment, which is different, but equal in terms of rights, benefits, obligations and possibilities. In general, the goal of gender equality is to create a respectable space for every woman and every man, so they can develop their full potential based on their desires and skills, and so they would not be limited by gender stereotypes, which means putting the social position of men and women on equal footing. The gender segregation is still a relevant topic in social life, as well as politics. We can label it a basic right of a democratic society. Over the past couple of decades, developed countries, different institutions, non-profit organizations and research institutes have been dealing with this question. They are attempting to create a suitable environment for the promotion of gender equality by introducing new measures and legislative changes. The basic measure for the promotion of gender equality or the removal of gender inequality is the introduction of changes in acts and policies, which lay down basic conditions for systematic measures implemented at the institutional level. Slovakia applies gender equality through the so-called dual approach, which takes into consideration the possible occurrence of gender differences and integrates measures for their compensation. At the same time, this principle oversees specific support of men and women in areas where certain groups are clearly disadvantaged. The EU has set out the key measures in the European Strategy of Gender Equality for the next 5 years, 2020-2025. This paper is focused on identifying the theoretical

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background of the topic and analyzing approaches and measures of the EU for the elimination of gender inequalities.

II. Theoretical Background

The Anti-discrimination Act § 2[3] distinguishes the following types of discrimination:

- **Direct discrimination** is the "action or omission, in which the person is treated less favourably than how a different person in a similar situation is treated or would be treated".

- **Indirect (hidden) discrimination** is an "outwards neutral regulation, decision, instruction or practice, which disadvantages or could disadvantage a person compared to another person; if this regulation, decision, instruction or practice is objectively justified by pursuing a legitimate interest or it is adequate and necessary to achieve this interest, it is not indirect discrimination".

- **Harassment** is a "treatment of a person, which this person may justifiably consider unpleasant, inappropriate or insulting, and the purpose or consequence of which is or may be to reduce dignity of this person or the establishment of a hostile, degrading or intimidating environment, or the endurance of which may be considered a condition for the decision or the exercising of rights and obligations arising from legal relations".

- **Instruction for discrimination** is an "action, which consists of the abuse of a subordinate person for the discrimination of a third person".

- **Encouragement of discrimination** is the "persuasion, affirmation or incitement of a person to discriminate a third person".

In theory and in practice, we encounter so-called horizontal and vertical gender segregation. Horizontal segregation is the concentration of men and women in individual sectors compared to the overall labour market. It can also be referred to as occupational gender segregation or segregation of occupations based on gender. On the other hand, vertical segregation represents a division of men and women based on hierarchical job positions. A higher concentration of men is registered at higher professional levels compared to women. Based on the EU Council Regulation No. 1303/2013, Art. 7, the member states and the European Commission are obliged to ensure support of gender equality and for gender equality to be incorporated. To achieve these goals, the Slovak Republic applies horizontal principles of non-discrimination and equality of men and women, which have been co-financed in the projects by European Structural and Investment Funds. To manage the EU Structural and Investment Funds assistance (ESIF), the European Commission approved the basic strategic document on June 6, 2014 - Partnership Agreement of the Slovak Republic for the years 2014-2020, where these principles were defined. The main goal of the horizontal principle for the European Social Fund programmes (ESF) was to ensure the equality of men and women in the labour market and in training for it, and the goal of other ESIF programmes is the reduction of horizontal and vertical gender segregation in sectors of the economy.

Gender segregations of occupations are the most common. They are examined by the following theories:

1. Neo-classical model theories/human capital model theories;

2. Institutional theories and labour market segmentation theories;

3. Non-economic and feminist theories.

[3] Act No. 365/2004 Coll. §2

Neo-Classical Model Theories/Human Capital Model Theories

The human capital theory was developed by Gary Becker. "The analysis of human capital is based on the assumption that individuals decide on their education, work training, healthcare and other additional knowledge and health by comparing of costs and revenues. The revenues include, in addition to improved income from employment, also cultural and other profits, while the costs usually depend on the missing value of time spent by acquiring these investments"[4]. According to this theory, the lower income of women is the result of their choice, which is conditioned by the priorities of men and women in the selection of employment[5]. Women usually invest in areas, which bring them satisfaction, but which are not characterized by return on investment, they have invested in these areas. According to Becker, the main interest of women is to focus their attention on their family and household care and therefore women choose less demanding occupations. These theories are based on the assumption that the employers and the employees behave rationally and effective market operation is also assumed. The employees strive to find a better paid position, while they consider their personal skills, limitations and preferences. On the other hand, the employers strive to maximize their profits and maximize work productivity with as little costs as possible[6].

Institutional Theories and Labour Market Segmentation Theories

These theories explain why men's and women's occupations are segmented or divided between the primary and the secondary sector. The primary sector includes occupations, which are characterized by higher salaries, better opportunities for advancement and they also provide job security. The companies in this sector prefer men to women, because they consider them to be more educated and more experienced. Women in this sector are represented less, as their careers are interrupted due to pregnancy and motherhood. The secondary sector consists of occupations, which we could label as "female occupations." These occupations are characterized by, for example, lower salaries, limited chances of advancement and also worse working conditions. This sector faces tougher competition[7].

Non-Economic and Feminist Theories

The feminist theories consider the disadvantaged position of women in the labour market a reflection of patriarchal approaches and of the subordinate position of the women in the family and in the society[8]. In all societies, household work and childcare are considered the woman's responsibility. On the other hand, it is the task of men to secure the family; men are referred to as the "breadwinners of families." This division of labour determines which knowledge and skills men and women should have, given their roles in the family. This division contributes to the fact that before entering the labour market, women have a lower tendency of accumulating human capital when compared to men. This is a reason why women are less educated. Women are also less likely to continue in certain areas of education, such as technical sciences[9].

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[4] Becker, G. S. (1997). Theory of Preferences. Praha: Grada Publishing. ISBN 807-1694630

[5] Přívara, A. (2019a). Citizenship-for-sale schemes in Bulgaria, Cyprus, and Malta. Migration Letters. 16. 245-254. 10.33182/ml.v16i2.735.

[6] Přívara, A. (2019c). Food Consumption Habits and Food Security Challenges among Immigrants. Transnational Marketing Journal, 7, issue 1, p. 59-72.

[7] Přívara, A., Rievajová, E. (2019). Destination Marketing and Policies Attracting High-Skilled Individuals in Germany and Singapore. Transnational Marketing Journal. 7. 229-244. 10.33182/tmj.v7i2.799. Přívara, A., Přívarová, M. (2019). Nexus between Climate Change, Displacement and Conflict: Afghanistan Case. Sustainability, MDPI, Open Access Journal, vol. 11(20), pages 1-19, October.

[8] Barošová, M. (2006) Monitoring of Gender Segregation in the Labour Market – Analysis of the Impact of Transformation Changes. Labour and Family Research Institute., Přívara, A. (2019b). Explaining emigration patterns in Estonia, Lithuania, Slovenia and Slovakia. Geographical Journal 71, 2, 161-180. DOI: https://doi.org/10.31577/geogrcas.2019.71.2.09

[9] Přívara, A., Rievajová, E., Yüceşahin, M. (2019). Labour Market Disadvantages Faced by Migrant Workers from Czech Republic, Hungary, and Slovakia in Britain. Migration Letters, Transnational Press London, UK, vol. 16(4), pages 585-594, October.

The most commonly used method of measuring gender differences is the **Gender Equality Index**, which was introduced in 2013 by the European Institute for Gender Equality. It is of great value also in political discussions, and it increases awareness about gender equality at the EU level, as well as the intra-state level. It is a comprehensive tool to assess the state and to monitor progress in the field of gender equality. It is based on the conceptual framework, which include various theoretical approaches to gender equality and integrates key questions of gender equality in the political framework of the EU. The shares of power, time, education, health, money and work are the six main areas, on which the index is based. Every area is rated. The value of the index is in the 1 to 100 points range. The maximum level of points represents total gender equality, however, this state is unreal.

III. Basic Documents and Directives of the European Union

The EU places great emphasis on the equality of men and women, as it has anchored it in many documents which have entered into force, and which govern the equal position of men and women in the society. We consider the most important documents to be:

The Treaty of Rome

For more than half of a century, the European Union has pursued the goal related to equal treatment of men and women. The Treaty of the European Community (the so-called Treaty of Rome), which was signed in Rome in 1957 by the six founding countries of the European Economic Community (EEC), contains the right to equal reward for men and women for the same work.

The Treaty of Rome (1957) on the establishment of the European Community anchored in Article 119 (now Article 141) the principle of equal pay of men and women for the same work and work of equal value. Article 119 says: "During the first stage, each member state shall ensure the application and observation of the principle of equal reward for men and women for the same work. Pursuant to this Article, "reward" means the usual basic or minimum salary or wage and all other fulfillments, whether in financial or non-financial form, which the employer pays directly or indirectly to an employed worker. The equal pay principle means that reward for the same work in task salary is calculated based on the same rate, and that reward for work in time salary is the same for the same work."

Until 1976, this principle was considered an economic goal (and not a social or human rights goal). Its purpose was to avoid differences in the costs for work by employing a female workforce paid less for the same work than a male workforce. In 1976, the European Court of Justice refused this principle, declaring that Article 19 has a double goal: prevent competitive preference of some member states, while it also belongs among social goals of the Community, which is more than just an economic union.

The principle of equal pay was transformed in 1975 into the Equal Pay Directive and the member states compulsorily applied it into their legislature. Since then, there have been many justice court rulings on its application in practice, including the European Court of Justice's ruling and it has commited all member states to ensure the equal principle of rewarding men and women for the same work or for work of equal value[10].

The Treaty of Amsterdam

It is one of the fundamental treaties between the states comprising the European Union. It was signed on October 2, 1997, and it entered into force on May 1, 1999. Its changes are re-numbered in the EU Treaty and the ES Treaty. Article 6, Section 1 declares that the "Union is

[10] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia: Treaty of Rome. Retrieved April 25, 2020, from https://www.gender.gov.sk/dokumenty/europska-komisia/zmluvy-eu-o-rovnosti/

established on the principles of freedom, democracy, observation of human rights and fundamental freedoms and the legal state, which are common for all member states." According to Article 2, gender equality is becoming one of the goals of the EU. In all activities listed in Article 1, the Community focuses on limiting inequality and support of equality between men and women. Article 3, Section 2 anchors the obligation of member states to focus all activities on limiting inequality and support of equality between men and women.

Article 13 establishes a fight against every form of discrimination, including discrimination based on gender or sexual orientation; article 137 establishes equality between men and women in the field of opportunities in the labour market and Article 141 establishes the application of the principle of equal salary for men and women[11].

Article 2, 13 and 141 support the legal basis for a wide framework of activities on the EU level and the enforcement of equality between men and women, and they were adopted for the new, consolidated text, known as the Treaty of Lisbon.

The Lisbon Treaty

The Lisbon Treaty was signed by 27 EU member states on December 13, 2007. It entered into force on December 1, 2009, when it was ratified by all EU countries pursuant to their intra-state procedures. The Treaty of Lisbon changes, amends and updates previous EU treaties and it recognizes the rights, freedoms and principles established by the EU Charter of Fundamental Rights, which, as its part, is also legally binding for the Slovak Republic. This means that the EU must observe fundamental human rights established by the Charter in the design and implementation of secondary EU legal acts, and the EU member states must also observe the Charter in their implementation of EU legal regulations. The rights everyone should use include the protection of personal data, right to asylum, equality before the law and non-discrimination, equality of men and women, rights of children and elderly people, and important social rights, such as protection against unfair termination and access to social security and social aid.

The Treaty also allows the accession of the EU to the European Convention on Human Rights. This Convention and the European Court of Human Rights, which oversees it, represent the pillars of protection of human rights in Europe.

Specific provisions of the Treaty of Lisbon relevant for the area of gender equality[12]:

Article 2: "The Union is established on the values of respect of human dignity, freedom, democracy, equality, legal state and respect of human rights, including the rights of minorities. These values are common for all member states of the Union, which is dominated by pluralism, non-discrimination, tolerance, justice, solidarity and equality of men and women."

Article 3: "The Union fights against social exclusion and discrimination and supports social justice and protection, equality of men and women, solidarity between generations and protection of the rights of the child."

Article 8 (original Article 3 Sec. 2 TES)

"(1) In all of its activities, the Union focuses on the removal of inequalities and support of equality of men and women."

Article 153 (original Article 137 TES)

"To achieve the goals set out in Article 151 (the goal of supporting employment of workers, improving living and working conditions to achieve their harmonization while preserving the

[11] National Council of the Slovak Republic (2020). Treaty of Amsterdam. Retrieved April 26, 2020, from https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/amsterdamska-zmluva.pdf

[12] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia: Treaty of Rome. Retrieved April 25, 2020, from https://www.gender.gov.sk/dokumenty/europska-komisia/zmluvy-eu-o-rovnosti/

achieved level, adequate social protection, social dialogue, dialogue between social partners, development of human resources with an emphasis on permanently high employment and fight against exclusion from the labour market), the Union supports and amends activities of the member states in the area of equality of men and women in terms of equal opportunities in the labour market and equal treatment in work."

Article 157 (original Article 141 TES)

1. Each member state shall ensure the application of the principle of equal pay for men and women for the same work or work of equal value.

2. For the purposes of this article, "reward" means the usual basic or minimum salary or wage and all allowances the employer pays directly or indirectly, in financial or non-financial form, to employed workers.

Equality of pay without discrimination based on gender means:

a) reward for equal work in task salary is calculated using the same rate,
b) reward for work in time wage is the same for the same work.

3. The European Parliament and the European Council, pursuant to the due legislative process and after consulting the Economic and Social Committee, will adopt measures to ensure the application of the principle of equality of opportunity and equal treatment of men and women in employment and occupation affairs, including the principle of equal pay for the same work or for work of same value.

4. Given the goal to fully ensure equal treatment of men and women in the practice of the work process, the principle of equal treatment does not prevent any member state from preserving or adopting measures allowing individual benefits to the less represented gender for easier application in the professional work, or as prevention or compensation for disadvantages in the professional career."

The European Social Charter

It is an international treaty on social and economic rights, ratified by the member states of the European Council. Together with the European Treaty on the Protection of Human Rights and Fundamental Freedoms, it is one of the two fundamental pillars of the contractual system for the protection of human rights in the member states of the European Council, and it was of great importance for the development of social policy on the European level. This Treaty contributed significantly to the establishment of European standards of human rights in the social and economic field. The Charter was adopted in 1961 in Turin and entered into force in 1965. The Czech and Slovak Federative Republic signed the Charter in Strasbourg in 1992.

The European Social Charter guarantees women the right to the same reward for work of equal value and right to equal opportunity and equal treatment in employment and occupation without discrimination based on gender. The additional protocol to the European Social Charter adds the right of all workers to equal opportunities and equal treatment in employment (career) without discrimination based on gender. (PIETRUCHOVÁ, Oľga: Gender Audit in State Administration and Implementation of Generally Binding Legal Regulations in the Area of Gender Equality. Methodical Tool for Tasks 35 and 39 of the National Action Plan for Gender Equality[13].

[13] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia. Retrieved March 5, 2020, from https://www.gender.gov.sk/wp-content/uploads/2014/10/metodika_audit_verejnej_spravy/

The EU Charter of Fundamental Rights

The Charter of Fundamental Rights of the European Union was passed on December 7, 2000, at the Summit in Nice. The Charter of the Fundamental Rights of the European Union, which was announced by the European Parliament, Council and Commission on December 12, 2007 in Strasburg, has the same legal force as the Treaties.

The preamble of the Charter says: "… conscious of its spiritual and moral heritage, the Union is founded on the indivisible, universal values of human dignity, freedom, equality and solidarity; it is based on the principles of democracy and the rule of law."

Article 20 of the Charter guarantees equality before the law, "All are equal before the law," and Article 21 guarantees non-discrimination, according to which, any discrimination, especially based on gender, race, colour of skin, ethnic or social origin, genetic features, language, religion or faith, political or other thinking, membership in a national minority, property, birth, disability, age or sexual orientation, is prohibited.

Article 23 explicitly deals with the equality of men and women and through its formulation it allows it to adopt affirmative action (compensating measures): "Equality of men and women must be ensured in all areas, including employment, work and rewards. The principle of equality does not prevent the preservation or adoption of measures, which establish specific benefits for the less represented gender."[14]

The European Pact for Gender Equality

It is a document for the years 2011 - 2020, in which the European Union states that equality of men and women is its fundamental value and also an important factor in achieving economic growth, prosperity and competitiveness. By adopting the Europe 2020 Strategy, the European Commission again confirms the ambitions of the EU in the field of gender equality. One of its goals is: to remove gender differences in the field of employment, education and support of social inclusion, especially by reducing poverty, and thus contribute to the growth potential of the European workforce and support a better balance of work and private life throughout the life of an individual. Increase participation of women in the labour market and contribute to the solution of demographic challenges, but also to adopt measures to fight all forms of violence of women[15].

The EU council recognizes that the equality of men and women is the basic value of the European Union and that the policies of gender equality are important for economic growth, prosperity and competitiveness. Five years since the adoption of the first pact for gender equality a new driving force is necessary to repeatedly confirm and support the close link between the Strategy of Equality of Men and Women 2010 - 2015, adopted by the European Commission, and the Europe 2020 Strategy - strategy of the European Union for employment and intelligent, sustainable and inclusive growth. The council therefore repeatedly confirms its commitment to fulfill the ambitions of the EU in the field of gender equality listed in the Treaty and especially to[16]:

1. remove gender differences in the field of employment and social protection, including the same reward for men and women, to achieve the goals of the Europe 2020 Strategy, especially in three areas, which are of great importance for the gender equality, specifically employment,

[14] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia: Treaty of Rome. Retrieved April 25, 2020, from https://www.gender.gov.sk/dokumenty/europska-komisia/zmluvy-eu-o-rovnosti/

[15] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia: European Pact for Gender Equality. Retrieved April 26, 2020, from https://www.gender.gov.sk/dokumenty/europska-komisia/europsky-pakt-pre-rodovu-rovnost-2011-2020/europsky-pakt-pre-rodovu-rovnost-plne-znenie/

[16] European Union Law (2020). The European Pact for Gender Equality. Retrieved April 30, 2020, from https://eur-lex.europa.eu/legal-content/SK/TXT/PDF/?uri=CELEX:52011XG0525(01)&from=EN/

education and support of social inclusion, especially by reducing poverty, and thus contribute to the growth potential of the European workforce,

2. support a better balance of work and private life throughout the life of an individual, even for men and women, to reinforce gender equality, improve the participation of women in the labour market and contribute to the solution of demographic challenges, and

3. fight against all forms of violence on women - in the interest of ensuring that women can fully enjoy their human rights and to achieve gender equality, also in respect of the inclusive growth.

The EU council called for the following activities in these areas to be carried out at the level of the member states and the Union itself[17]:

- measures to remove gender differences and to fight gender segregation in the labour market:

a) support the employment of women of all age groups and remove gender differences in the field of employment also by fighting all forms of discrimination;

b) remove gender stereotypes and support gender equality at all levels of education and professional training, as well as in work life, with the goal of reducing gender segregation in the labour market;

c) ensure equal reward for equal work and work of equal value;

d) support the strengthening of the position of women in political and economic life and strengthen the business activity of women;

e) encourage social partners and companies in the development and effective implementation of initiatives in favour of gender equality and support plans of gender equality in the workplace, and

f) support the participation of men and women in the decision-making process at all levels and in all areas, so that all talents are utilized to the fullest;

- measures to support better balance of work and private life of men and women:

a) improve the provision of adequate, available, high-quality services of care for pre-school children, with the goal of achieving the goals set out at the meeting of the European Council in Barcelona in March 2020, while taking into consideration the demand for such services and also to take into consideration the intra-state systems for providing childcare services;

b) improve the provisioning of services of facilities for the care of other dependent persons, and

c) support flexible working conditions and different forms of vacation for men and women;

- measures to fight all forms of violence on women:

a) adopt, introduce and monitor strategies focused on removing all forms of violence on women on the intra-state and Union levels;

b) reinforce prevention of violence on women and improve protection of victims and possible victims, including women from all disadvantaged groups, and

c) emphasize the role and responsibility of men and boys in the process of removing violence on women;

- administration of public affairs, implementation and monitoring:

[17] European Union Law (2020). The European Pact for Gender Equality. Retrieved April 30, 2020, from https://eur-lex.europa.eu/legal-content/SK/TXT/PDF/?uri=CELEX:52011XG0525(01)&from=EN/

The Council reaffirms its commitment to enforce the administration of public affairs through the implementation of gender equality by its inclusion in all areas of policies, including external activities of the EU, as well as taking into consideration the importance of the roles of men and boys in the spreading of gender equality, and also by observing that the effect of gender equality is considered in the impact assessment of new EU policies. The Council encourages the member states and the Commission, especially through Eurostat, to further develop existing statistics and indicators divided based on gender and use the possibilities of the European Institute for Gender Equality to the fullest.

It encourages the member states to implement gender equality and support policies of gender equality in the drafting and implementation of the national programmes of reforms, especially in terms of directives for the employment policies, and to properly use the approved indicators of gender equality, which were developed under the joint assessment and under the review of the Beijing Action Platform implementation in all relevant processes and areas of policies.

The Commission and the Council also call for the perspective of gender equality to be integrated into the annual growth survey, standpoints of individual countries and recommendations of individual countries. The ministers should discuss progress in the implementation of the European Pact for Gender Equality annually at the Council Level.

The Strategy of Gender Equality 2020-2025

This strategy is the first comprehensive strategy of the Commission in this area for the next 5 years. The Strategy of Gender Equality 2020 – 2025 establishes key measures for the next 5 years and it undertakes to provide for the Commission to include the perspective of equality into all areas of the EU policy. "Under the strategy of gender equality, we anchor gender equality as the core development of the EU policies. Our goal is to ensure that women do not have to overcome further obstacles, to achieve, what men have as given, and instead be able to fully use their potential."[18]

Thus far, no EU member state has achieved equality of men and women. Progress is slow, while the gender differences remain in employment, reward, care and pensions. The strategy drafts a set of key measures, including the removal of gender-conditioned violence and stereotypes, with the goal of overcoming these gaps and allow Europe to fully use its potential in business, politics and society, to ensure equal participation and opportunities in the labour market, including equal rewards, and to achieve gender equality in decision-making and politics.

According to the Commission, 33% of women in the EU faced physical and/or sexual violence, while 55% of them were sexually harassed. Women in Europe must live without violence and harmful stereotypes. To achieve this goal, the Strategy demands legal measures to criminalize violence on women. The Commission intends to implement measures especially in the field of criminal activity, where harmonization is possible throughout Europe.

The Commission states that women in the EU earn on average 16% less than men and they still face obstacles in accessing and remaining in the labour market. Gender equality is a necessary condition for an innovative, competitive and prospering European economy. Given the demographic challenges and ecological and digital changes, support of women in their search for employment in fields with lack of qualified workforce, especially in the fields of technology and artificial intelligence, will have a positive impact on European economy. To solve inequality of pay, the Commission leads a public consultation on the transparency of rewarding, and it will submit binding measures by the end of 2020. In order to allow women to prosper in the labour market, it will double its effort to enforce EU standards related to the balance of

[18] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). Gender equality in Slovakia: European Gender Equality Strategy 2020-2025. Retrieved May 20, 2020, from https://www.gender.gov.sk/europska-strategia-rodovej-rovnosti-2020-2025

work and private life, which will allow actual selection of men and women, so they can develop both personally and professionally. Gender equality in the context of the labour market, social inclusion and education will continue to be monitored during the European semester.

Women continue to be underrepresented in the top positions, including the largest companies in the EU, where only 8% of CEOs are women. To allow women career growth, the Commission will continue to strive to adopt a proposal from 2012 on gender balance in boards of directors. The Commission will also support the participation of women in politics in the European Parliament Elections in 2024 by financing and exchange of good practice. By 2024, the Commission itself will strive to achieve a 50% gender equality on all management levels. The Commission has included suggestions of the member states and the European parliament in the multiannual financial framework for 2012-2027, which ensures the integration of the gender dimension into various financing tools, especially the Plus European Social Fund, European Fund for Regional Development, Creative Europe, European Maritime and Fisheries Fund, Cohesion Fund and the Invest EU Programme[19].

The European Institute for Gender Equality (EIGE) is of the opinion that through positive increase of gender equality in the EU, it is possible to create an additional 10.5 million jobs by 2050. The employment rate would reach 80%, which could increase the domestic gross product of the European Union by almost 10% by 2050. According to this argumentation by the EIGE research, GDP growth is the second positive impact of increasing gender equality, which reflects the macro-economic performance of the economies of the individual states. More investments, welfare, higher levels of development and of living standards may be observed in growing economies[20].

IV. Conclusion

The question of gender equality has been an issue for several decades in a broader context, not only in Slovakia, but throughout the EU. In the past year, the reference framework - Strategic Commitment to Gender Equality, which was created by the European Commission for the years 2016 - 2019, has expired. This document dealt with areas of participation in the labour market, economic independence, salaries and pensions, equality in management positions and fight against gender-based violence. More and more member states strive to introduce national strategies or action plans for equality of men and women, with the goal of solving issues of gender inequality. The ambitions in individual states differ. However, the individual policies have a joint focus on gender equality in the labour market and gender-based violence. Less attention is paid to decision-making and most attention is paid to education, professional training, gender stereotypes and so-called work-life balance, i.e. harmonization of work and private life. Slovakia applies gender equality through the dual approach. The dual approach used in Slovakia is one which takes into consideration the possible existence of gender differences, and it integrates measures for their compensation. At the same time, this principle oversees the specific support of women or men in areas where certain groups are clearly disadvantaged. The projects for solving inequality are co-financed by the European Structural and Investment Funds, based on the approved Partnership Agreement of the Slovak Republic for 2014-2020. Faster and better-quality solutions in the area of ensuring gender equality are expected to have a clear impact on improving economic performance and economic growth. The new institute for solving gender inequalities for the next 5 years is the Strategy of Gender Equality 2020-2025. Vera Jour, the vice-president for values and transparency, stated in this

[19] Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). *Gender equality in Slovakia: European Gender Equality Strategy 2020-2025.* Retrieved May 20, 2020, from https://www.gender.gov.sk/europska-strategia-rodovej-rovnosti-2020-2025

[20] European Institute For Gender Equality, Luxemburg (2020). *The Publications Office of the European Union*. Retrieved April 30,2020 from https://eige.europa.eu/sk/in-brief

document: “Despite all of its shortcomings, Europe is a good address for a woman. Since our society is undergoing important transformations, may it be green or digital, we have to ensure for all men and women to have equal opportunities and not to deepen the inequalities. Quite the contrary, we have to create conditions for women to become actors of fair balance of work and private life.”

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Ministry of Labour, Social Affairs and Family of the Slovak Republic (2020). *Gender equality in Slovakia.* Retrieved March 5, 2020, from https://www.gender.gov.sk/wp-content/uploads/2014/10/metodika_audit_verejnej_spravy/.

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OCCURRENCE, EVENT, STATE AND SITUATION AS BASIC PHENOMENAS IN THE FIELD OF ECONOMY, CRIMINALISTICS, SOCIAL AND FORENSIC SCIENCE

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Abstract

The paper deals with the basic concepts of safety, which are necessary in the analysis and management of risks in any area of human professional activity. In every such field we encounter the terms phenomenon, action, event, state and situation. The concepts follow each other very closely, logically, but we still use them incorrectly in practice or do not even know them. The paper summarizes or defines the generally valid characteristics of the above entities, gives examples. These entities are then key in defining the various threats, assessing the frequency (probability) of their occurrence and their impacts (in the form of damage or injury). In other words, we can prioritize various risks in the areas of security, economics, social, political impact, criminology and other sciences, dealing with the issue retrospectively, etc.

Keywords

Security, Phenomenon, Event, Action, State, Situation

I. Úvod

Bezpečí je stav, kdy se daný subjekt necítí ničím ohrožen, nehrozí mu žádná škoda či újma. Bezpečnost je pak proces, zajištění tohoto bezpečí. Nutno podotknout, že pojem bezpečí je velice subjektivní a každý subjekt, na základě svých zkušeností, znalostí a v neposlední řadě i pocitů vnímá zcela jinak. Žijeme ve velmi dynamické době, plné nejrozmanitějších nebezpečí. Bezpečností se de facto dnes zabývá každá instituce, firma, stát, organizace atd. a v neposlední řadě i jedinec. Bezpečnost se tak týká všech oborů lidských činností. V bezpečnosti existuje celá řada termínů, které jsou však vnímány různým subjekty zcela rozdílně, někdy i mimo jejich skutečnou podstatu. Vznikají pak nedorozumění, často pak i závažné chyby, které vyúsťují do nebezpečných situací. Cílem tohoto příspěvku je teoretické vysvětlení pojmů, jejich definic a obsahů, jako jsou jev, událost, mimořádná událost, děj, bezpečnostní událost, stav, situace, bezpečnostní situace, mimořádná situace, operativní situace, model bezpečnostní situace, problémová situace. Klíčové jsou pojmy jev, událost, děj, stav a situace, které nutně potřebujeme znát a pochopit pro analýzu hrozeb, ocenění rizik, ze kterých pak vznikají různé typy situací, mající vztah k bezpečnosti.

II. Jev (Occurrence, effect)

Jevem se rozumí **souhrn skutečností zobrazujících ucelenou nebo uceleně popsanou část objektivní reality** (Tichý, 2006, s. 8). Jev souvisí s hmotou (nebo jejími projevy) nebo s vědomím, případně s obojím.

Jev je úkaz, který je výsledkem procesů. Je popsán souborem vlastností, parametrů a souřadnic, který se za stejných (podobných) podmínek vždy (opakovaně) uskuteční. (Procházková, 2013, s. 46).

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Jev – je to jakákoliv entita související s určitým objektem, kterou lze zjistit existujícími prostředky (pozorováním, měřením). Jev je spojen s procesem probíhajícím na objektu nebo v objektu – je to vlastně projev objektu (Janíček 2007, s. 29).

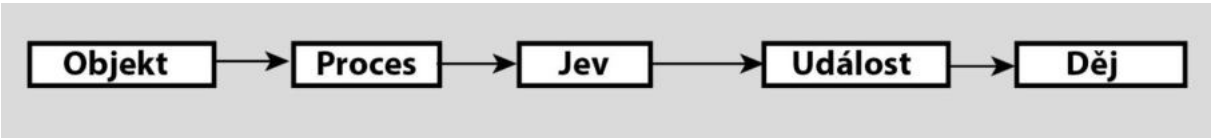
Jev, který se může změnit v negativní událost a způsobit tím škodu nebo újmu, je hrozba.

Příklad: *Projevem hmoty je např. gravitace, radioaktivita, hmotnost, hustota, teplota, pevnost materiálu apod., projevem vědomí je např. vztah člověka k ekologii, politice, náboženství, citlivost organismu na vlhkost, teplotu apod.*

Každý jev má svoji **podstatu** vyjadřující souhrn jeho vlastností (podstatou jevu „vítr" je sluneční záření, atmosféra, členitost krajiny; podstatou jevu „inflace" je výkonnost národního hospodářství, světové a lokální ceny; podstatou jevu dopravní nehoda jsou technické vlastnosti dopravního prostředku, dopravní cesty, řidiče/pilota/kapitána lodi apod., atmosférické jevy, podstatou jevu „Výtržnosti na fotbalovém stadiónu" je např. umístění fotbalových týmů v herní tabulce, rivalita, agresivita fanoušků, zabezpečení fotbalového stadionu, národnost hrajících týmů, vnější společenské, politické okolnosti apod.). Jevy mohou být (často jsou) závislé na čase. Takový jev by mohl být označován za děj, avšak to by bylo z mnoha důvodů nevýhodné. Argumentem projevu jevů nemusí být totiž vždy čas, ale i jiná veličina popisující polohu děje v prostoru nebo i zcela nefyzikální veličina – například organizační prvek ve výrobním procesu (Tichý 2006, s. 8).

Jestliže se jev může opakovat nebo může mít několik různých podob, a to v čase nebo v prostoru (nebo v obojím), považuje se jedno opakování nebo jedna z podob za **realizaci jevu**. Průběh realizace jevu v čase nebo prostoru lze v obecném případě popsat spojitou nebo nespojitou veličinou, popř. funkcí. Popis jevu může být analytický – odvozený od známé podstaty jevu, nebo empirický – odvozený z pozorování jevu, ze zkušenosti nebo z jiných vstupních údajů (Augustin, Odler, 2013, s. 58).

Obrázek 1 Objekty a procesy objektivně podmiňují jevy. Praktický výskyt teoretického jevu se nazývá událost. Pokud se v časovém úseku (období) projevuje v časové posloupnosti více různých událostí, hovoříme o ději. Objekt, proces, jev, událost i děj se mohou vztahovat k bezpečnosti, v pozitivním i negativním smyslu slova



Zdroj: autor, vlastní

Jevy se formálně popisují verbálně nebo matematicky. Matematické popisy jsou obvykle realizovatelné u přírodních a technických, popřípadě ekonomických oborů, u složitějších společenských oborů zpravidla neexistují žádné matematické modely a pak popis jevu bývá verbální (Rak a Kopencová, 2020, s. 14).

U jevů se obvykle popisuje:

a) jejich výskyt (ano/ne),
b) mohutnost, intenzita, vyjádřená různými veličinami podle jejich povahy (např. teplota ovzduší, rychlost vozidla, síla zemětřesení (Richterova stupnice), počet zaměstnanců v organizaci apod.[2]).

Pojem jev je důležitý z hlediska analýzy bezpečnostních rizik. Při analýze bereme v úvahu všechny objekty a jevy, které jsou teoreticky k dispozici a které mohou v libovolné kombinaci nastat, a mít negativní dopady. Pokud takovéto negativní jevy nastanou, dochází

[2] Intenzitu větru můžeme popsat jako bezvětří, vánek, vichřice, tornádo nebo jako poryvy apod.

k bezpečnostním událostem, ze kterých pak vyplývají reálné hrozby, nebezpečí. Českým synonymem pro *jev* jsou slova *úkaz* (přírodní, společenský apod.), nebo *efekt*. Jev může, ale nemusí, nastat. Pokud jev nastane, hovoříme o události. Jev můžeme chápat jako „to", „co se může stát", událost pak „to", „co se stalo".

Tabulka 1. Při práci s vybranými entitami, jako jsou jev, stav, situace, proces, událost, děj si musíme vždy velmi dobře uvědomit jejich časové trvání, tj. zda se jedná o konkrétní časový okamžik, nebo určitý časový interval. Jednak si dobře uvědomíme podstatu věci, jednak se budeme lépe a srozumitelněji umět vyjadřovat. V odborné literatuře je řada chybných či nepřesných definic bezpečnostních termínů právě proto, že jejich autorům unikl časový pohled na entitu; tedy zda se jedná o entitu vždy jen statickou, či dynamickou. Statické entity si můžeme představit jako entity dynamické, ale zastavené v konkrétním čase, jako např. fotografický snímek

Časový pohled na entitu		
	statický	**dynamický**
	(v jediný časový okamžik, v konkrétním čase)	(v určitém časovém intervalu, od-do)
Entita	Jev	Proces
	Stav	Událost
	Situace	Děj

Zdroj: autor, vlastní

III. Událost (Event)

Výskyt realizace jevu, popř. výskyt jednotlivých realizací několika jevů současně anebo v témže místě prostoru se označuje jako událost (Tichý 2006, s. 9).

Událost může být definována:

- **bodem** – např. vítr foukal rychlostí 20 m/s; vozidlo narazilo do překážky rychlostí 60 km/h.
- **intervalem** – např. rychlost větru byla větší 25 m/s; vozidlo narazilo do překážky rychlostí mezi 20-30 m/s.

Zásadní rozdíl mezi jevem a událostí můžeme shrnout takto. Jevy a jejich výskyty (četnost, intenzita) jsou teoretickou záležitostí (tj. jsou určitými objekty vhodnými pro bezpečnostní analýzu, resp. analýzu rizik), které prakticky analyzujeme, vyhodnocujeme a následně řešíme pro zajištění bezpečnosti (Hajdukova, 2016, 27). Událost je naopak již reálná, praktická skutečnost, která již nastala (v určitém prostoru, čase) a kterou musíme řešit, ideálně pomocí krizových scénářů, postupů, jež byly na základě analýzy rizik detailně rozpracovány a připraveny právě pro úspěšné zvládnutí nepříznivé události (Koraus, Dobrovic, Polak, a Backa, 2019, 325).

Tabulka 2 Příklady jevů a událostí

Jev	Událost
Var kapaliny	Při teplotě 100 st. Celsia (při normálním atmosférickém tlaku) se voda dostala do objemového varu a došlo k intenzivnímu vypařování, následně k destrukci varné nádoby, jež neodpovídala konstrukčním požadavkům uživatele.
Členitost krajinné rezervace	Na rozsáhlém prostoru chráněné krajinné rezervace došlo k požáru, jehož hašení bylo značně zpožděno nasazením odpovídající techniky, kterou nebylo jednoduchá do dané oblasti přivést.
Profylaktická kontrola brzdového systému rychlíkové soupravy	V důsledku absence profylaktických kontrol nebylo možné odhalit opotřebování brzdných bubnů a následně došlo k selhání brzdového systému a k přejetí červeného návěstidla, načež následovala srážka s protijedoucím vlakem.
Přívalová povodeň	Velmi silná bouřka zasáhla oblast Malé Fatry, která přinesla do obce Vrátna intenzivní srážky, které vyvolaly přívalovou povodeň. Celá událost se odehrála

	včera 21. 7. 2015 ve večerních hodinách a záchranáři při ní museli evakuovat až 120 lidí.
Nevhodně zabezpečený přístup k datům	Důvěrné informace o více než 400 000 klientech získali zatím neznámí hackeři v italské pobočce UniCredit banky. Je to jeden z největších kybernetických útoků cílených na banku v Evropě a vůbec největší v Itálii (Obří kybernetický útok 2017)
Agresivita fanoušků	Při fotbalovém zápase na stadionu Slávie dne 23. 6. 2016 došlo k výtržnostem agresivních fanoušků ze zahraničí, při kterých bylo lehce zraněno 18 osob, 2 osoby těžce.
Teroristický útok nožem ve veřejném prostoru	Bojovník Islámského státu zaútočil nožem na pláži v egyptské Hurghadě na cizinky. Dvě podlehly okamžitě, třetí o týden později v nemocnici. Dalších tři ženy byly vážně zraněny.
Teroristický útok pomocí vozidla ve veřejném prostoru	14. července 2016 přibližně ve 22:40 hodin SELČ se v jihofrancouzském městě Nice uskutečnil teroristický útok, když do davu lidí oslavujících státní svátek Dobytí Bastily najel těžký nákladní vůz. Událost se odehrála na Promenade des Anglais, odkud toho večera účastníci oslav pozorovali ohňostroj. Atentát si vyžádal 87 mrtvých a více než 400 zraněných. Ke konci útoku se rozpoutala přestřelka mezi řidičem vozu a policií, při níž pachatel zločinu zahynul (Zprávy 2016).

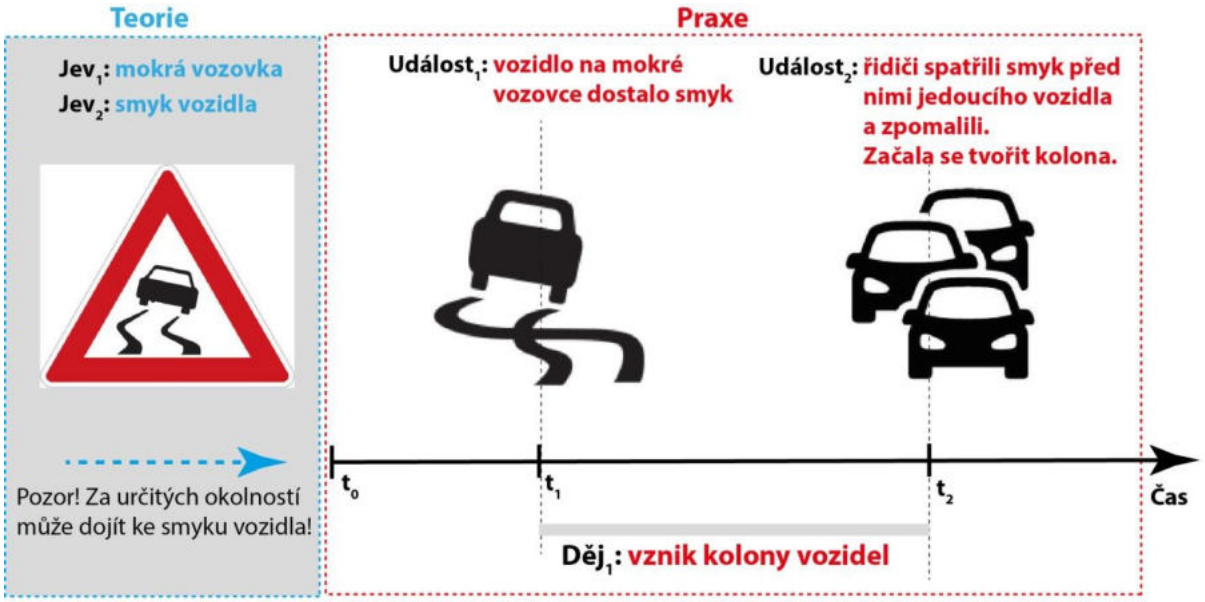
Zdroj: autor, vlastní

Každá událost může nabývat těchto 3 stavů:

- příznivá událost.
- nepříznivá událost.
- neutrální událost.

Charakter události je zpravidla subjektivní. V praxi můžeme konstatovat, že událost příznivá pro určitý subjekt (osobu, instituci apod.) je nepříznivá pro jiný subjekt a dalšímu subjektu dokonce lhostejná.

Obrázek 2 Vysvětluje pojmy jev, událost a děj. Jev je záležitost teoretická, událost je praktické, reálné naplnění jevu. Děj je zřetězení po sobě jdoucích událostí. Obrázek vysvětluje vznik děje, při kterém se vytvořila kolona vozidel



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Události též můžeme členit na události:

- nežádoucí.
- nepravděpodobné.

- nepředvídatelné.
- iniciační.
- očekávané.
- mimořádné.

Nežádoucí událost (*Undesirable event*)

Nežádoucí událost je taková událost, jejíž dopady neodpovídají našim zájmům, představám, požadavkům. V souvislosti s bezpečností **je nežádoucí událost** taková událost, jejíž dopady způsobují na chráněném objektu (procesu, zájmu) škody nebo újmy.

Nepravděpodobná událost (*Unexpected event*)

Událost, která je neočekávaná na základě provedené analýzy rizik na stanovené hladině věrohodnosti (Procházková 2010, s. 102).

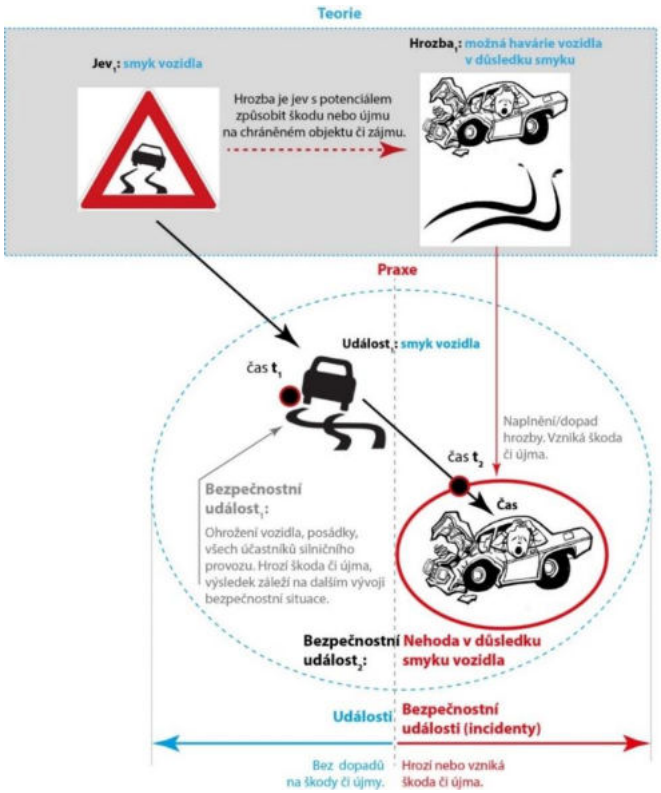
Nepředvídatelná událost (*Unforeseen event*)

Nepravděpodobná událost, kterou nelze identifikovat na základě provedené analýzy rizik na stanovené hladině věrohodnosti (Procházková 2010, s. 102).

Iniciační událost (*Initiating/Trigger event*)

Iniciační (spouštěcí) událost je událost, nebo řetězec či souběh propojených škodlivých událostí, které odstartují hrozbu (upraveno dle (Procházková 2010, s. 102). Jiná odborná literatura používá synonymní pojem agent hrozby (původce, příčina, iniciátor apod.), který spustí, aktivuje či iniciuje hrozbu.

Obrázek 3 Na obrázku jsou znázorněny dvě časově po sobě jdoucí události, tedy nehodový děj. Smyk vozidla a nehodu vozidla v důsledku smyku chápeme jako bezpečnostní události. Při smyku dochází k ohrožení vozidla a jeho posádky, takže řidič by měl reagovat tak, aby nedošlo následně k žádným škodám či újmám. To se mu však díky okolnostem nepodařilo, takže srážkou vznikají škody a újmy (zranění osob)



Zdroj: autor, vlastní

Očekávaná událost (*Expected/Anticipated event*)

Očekávaná událost je událost, jejíž výskyt je očekáván v určitém časovém intervalu na základě provedené analýzy rizik na stanovené hladině věrohodnosti (Procházková 2010, s. 103).

Mimořádná událost (*Extraordinary event*)

Mimořádná událost v obecném smyslu slova je událost, která je spojená s neočekávaným a často neočekávatelným zlomem, zvratem v podmínkách existence systému objektů, skokem v jeho kvalitativním vývoji. Je to vychýlení z normální dynamické rovnováhy (energetické, hmotnostní, informační, strukturální, společenské, politické apod.). Při mimořádné události dochází k nežádoucímu uvolňování kumulovaných hmot, energií, narušení informačních toků, strukturálním změnám v systému objektů, politické a společenské nestabilitě apod.). Dochází při tom k destrukci systému objektů, k narušení funkčnosti, hranic odolnosti, jeho tvaru a obsahu apod. doposud neobvyklou, tedy mimořádnou intenzitou události. Při mimořádné události dochází k ničení společenských, materiálních, kulturních, energetických, ekologických a dalších hodnot. Projevuje se pokles kvality vztahů mezi objekty (prvky) systému až po jeho dezintegraci, dochází ke znehodnocení funkčních systémů až po úplnou destrukci jejich objektů, prvků (Buzalka, Blažek 2011, s. 37).

Mimořádná událost v užším slova smyslu (z pohledu státu, definovaná zákonem č. 239/2000 Sb.) je škodlivé působení sil a jevů vyvolaných činností člověka, přírodními vlivy, a také havárie, které ohrožují život, zdraví, majetek nebo životní prostředí a vyžadují provedení záchranných a likvidačních prací. Mimořádná událost je škodlivé působení sil a jevů vyvolaných činností člověka, přírodními vlivy a také havárie, které ohrožují život, zdraví, majetek nebo životní prostředí a vyžadují provedení záchranných a likvidačních prací (Procházková 2010, s. 103). Mimořádná událost je událost nebo situace vzniklá v určitém prostředí v důsledku živelné pohromy, havárie, nezákonnou činností, ohrožením kritické infrastruktury, nákazami, ohrožením vnitřní bezpečnosti a ekonomiky, která je řešena obvyklým způsobem orgány a složkami bezpečnostního systému podle zvláštních právních předpisů. Pod tímto pojmem je v současných právních předpisech ČR uváděna řada pojmů, jako jsou např. mimořádná situace, nouzová situace, pohroma, katastrofa, havárie (Mamojka a Müllerova, 2015).

Tabulka 3 Klasifikace mimořádných událostí podle Světové zdravotnické organizace (WHO)

Přírodní klimatické mimořádné události (voda, oheň, zem, vzduch)		Antropogenní (socio-ekonomické) mimořádné události	
		Vojenský konflikt	Civilizační katastrofy
Tektonické (zemětřesení) - **požáry** - **sesuvy** - **tsunami** - **hladomor** - **epidemie** -	**Topologické** - povodně - sesuvy půdy - laviny	**Vojensko-politického charakteru v době míru** - náhodný jaderný úder - pád jaderného nosiče - národnostní konflikty - teroristická a diverzní činnost - imigrační vlny	- doprava - průmysl - vodní stavby - toxické odpady - velké požáry - jaderná energetiky - kritická infrastruktura (blackouty) atd.
Telurické (sopečné) - **bahnotok** - **sopečné povodně** - **Horká sopečná mračna** - **k**	**Meterologické** - cyklony - extrémní horko, sucho - mrazy - krupobití - přívalové deště apod.		

Zdroj: (Pastuchová-Neumannová 2017, s. 11)

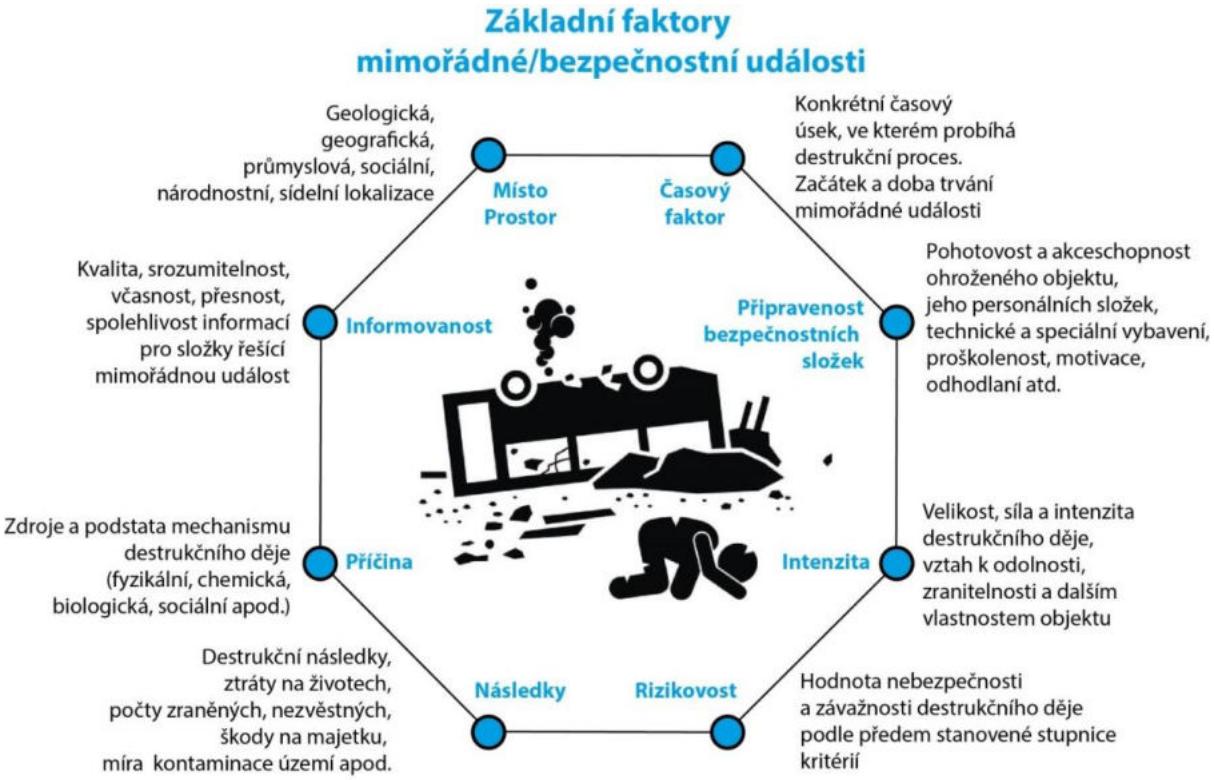
Mimořádná událost je nenadálý, částečně nebo zcela neovládaný, časově a prostorově ohraničený děj, který vznikl v souvislosti s provozem technických zařízení, působením živelních pohrom, havárií, neopatrným zacházením s nebezpečnými látkami, epidemiemi nebo jiným nebezpečím, které ohrožuje životy nebo zdraví lidí, značné majetkové hodnoty nebo životní prostředí (Novotný 2000, s. 104). **Mimořádná událost** je v odborné literatuře často používána jako obecné označení pro pojmy **katastrofa** (*catastrophe*), **krize** (*crisis*), **krizová situace** (*crisis situation*), **neštěstí** (*accident*), **pohroma** (*disaster*) případně **stav nouze – tíseň** (*emergency*).

Bezpečnostní událost (*Security event, incident*)

Bezpečnostní událost (incident) je proces, který se připravuje, vzniká, má svůj průběh a zaniká a který má za následek vznik bezpečnostní situace. Bezpečnostní subjekty pak řeší vzniklou situaci s cílem objasnit relevantní incident. Jde o děj, který se obvykle stal v minulosti, ale může jít o děj, který se připravuje, probíhá nebo který se utajuje. Vyznačuje se svými prvky, které ji determinují a specifikují. Klasifikaci bezpečnostních incidentů lze provádět podle řady kritérií. Specifikace, resp. konkrétní určení o jaký druh bezpečnostního incidentu se jedná, ovlivňuje vznik konkrétního druhu a zabezpečení specifických činností bezpečnostních subjektů, které jsou do těchto činností nasazené (Odlerova, 2017, 2015). Bezpečnostní událost je objektivní právní skutečnost. Událost je nezávislá na lidské vůli a právo s ní spojuje určité právní následky (živelné události, působení přírodních zákonitostí, výsledky biologických procesů). Specifickou právní událostí je plynutí času. Zvláště kvalifikovaným případem události, je tzv. vis maior (vyšší moc). Události jako objektivně právní skutečnosti jsou převážně právně významné jen ve spojitosti se subjektivními skutečnostmi).

Bezpečnostní událost můžeme též definovat jako událost, v jejímž důsledku vznikají nebo mohou vznikat škody nebo újmy na chráněném objektu či zájmu. Stav bezpečí se vychyluje směrem k nebezpečí.

Obrázek 4 Grafické znázornění základních faktorů mimořádné události



Zdroj: autor, vlastní

V širším slova smyslu synonymem pojmu bezpečnostní událost je pojem **incident**, který se běžně používá v anglofonní literatuře. V užším slova **smyslu incident je událost, při které vzniká nebo může vzniknout škoda nebo újma na chráněném objektu či zájmu, a která byla iniciována člověkem nebo jím vytvořenými artefakty**. Ne každou bezpečnostní událost nazýváme v praxi incidentem. Události, které jsou způsobeny přírodními nebo méně často společenskými silami, obvykle v občanském životě nazýváme pohroma. Někteří autoři, jako např. doc. Procházková, pojmem pohroma nazývají jakoukoliv bezpečnostní událost. S pojmem incident se můžeme setkat i při kategorizaci následků bezpečnostních událostí, které jsou podle rozsahu dopadů členěny na nehody, havárie, závažné havárie, pohromy a katastrofy. Slovo incident je anglickým překladem nejnižšího stupně dopadů bezpečnostní události, v českém jazyce označované slovem „nehoda".

Každá bezpečnostní (mimořádná událost) má tyto charakteristické determinanty (Šimák 2015, s. 47-48):

- **Riziko vzniku bezpečnostní (mimořádné) události** – míra pravděpodobnosti a možných důsledků realizace hrozby (nebezpečí).

- **Příčina vzniku bezpečnostní (mimořádné) události** – subjekt, objekt, či proces, který svým působením spouští hrozbu, v důsledku které vzniká bezpečnostní (mimořádná událost). Synonymem příčiny jsou pojmy agent hrozby, zdroj, původce, iniciátor, aktér hrozby.

- **Důsledek (dopad) vzniku bezpečnostní (mimořádné) události** – je taková změna skutečnosti, která způsobí narušení funkčnosti objektů, procesů, či dokonce jejich zásadní změnu, případně takovou změnu jejich existence, kde původní jevy a procesy zanikají. Pro vlastníka objektů či procesů vznikají škody nebo újmy.

- **Čas vzniku bezpečnostní (mimořádné) události** – vyjadřuje konkrétní časové určení vzniku události, rychlost a tempo změn, které způsobily bezpečnostní (mimořádnou) událost anebo změn způsobených bezpečnostní (mimořádnou) událostí. Od stanovení času vzniku bezpečnostní (mimořádné) události se odvíjejí časy přijímaných opatření bezpečnostním managementem. Kvantitativní změny, které způsobily vznik bezpečnostní (mimořádné) události, mohou probíhat:

- velmi pomalu, postupně,

- okamžitou změnou, náhlým zvratem.

- **Doba trvání bezpečnostní (mimořádné) události** – vymezuje období od času vzniku bezpečnostní (mimořádné) události, během kterého působí destrukční síly, s následkem negativních změn, během jejich zastavení, ukončení nebo odeznění a možného přijetí opatření na odstraňování následků bezpečnostní (mimořádné) události. Na zařazení bezpečnostních (mimořádných) událostí do jednotlivých skupin (kategorií délky časového průběhu události) neexistuje žádná norma, ale posuzuje se jednotlivě každý příklad a zařazuje se do jedné z těchto skupin:

- krátkodobá bezpečnostní (mimořádná) událost,

- střednědobá bezpečnostní (mimořádná) událost,

- dlouhodobá bezpečnostní (mimořádná) událost.

- **Doba vzniku bezpečnostní (mimořádné) události –** vymezuje denní a roční dobu vzniku bezpečnostní (mimořádné) události, která mimo jiné charakterizuje světelné, povětrnostní, klimatické podmínky této události, jež pak mají zásadní vliv na vybrané metody, nástroje, technologie a procesy řešení použité zásahovými (bezpečnostními) složkami. Z tohoto pohledu v jednotlivých případech událostí zohledňujeme:

- den,
- noc,
- roční období,
- další specifičnosti ročního období (mimořádná sucha, záplavy, rizika požárů atd.).

- **Prostor (místo) vzniku bezpečnostní (mimořádné) události** – vymezuje geografické, urbanistické, výškové (hloubkové – podzemní, podvodní, jeskynní, důlní atd.), velikostní, prostorové a jiné souvztažné podmínky a předpoklady vzniku a průběhu bezpečnostní (mimořádné) události, jež mohou být:

- ohraničené venkovními podmínkami,
- limitované vnitřními podmínkami.

- **Úroveň informovanosti o bezpečnostní (mimořádné) události** – vyjadřuje množství, obsah, přesnost, pravdivost, aktuálnost, relevantnost a způsob získávání zpracovaných a využitých informací o vzniku a průběhu bezpečnostní (mimořádné) události. Úroveň informovanosti ovlivňují:

- zabezpečení prvotní informace (informování) o vzniku bezpečnostní (mimořádné) události,
- vyrozumění pracovníků managementu bezpečnostních složek a varování skupin osob (obyvatelstva) v daném prostoru události,
- poskytování úplných informací pro řídící stupně (bezpečnostního) managementu, pro odborníky z praxe a pro širokou veřejnost.

- **Intenzita bezpečnostní (mimořádné) události** – představuje komplex charakteristických vlastností vyjadřujících velikost, sílu, intenzitu, tlak, hustotu, početnost, nárůst destrukčních změn apod., které způsobily vznik bezpečnostní (mimořádné) události nebo jsou spojené s jejím průběhem (Kopencová, 2020, s. 2479).

- **Připravenost bezpečnostních složek reagovat na bezpečnostní (mimořádnou) událost** – komplexní schopnost odborných bezpečnostních složek včas a adekvátně reagovat na vznik bezpečnostní (mimořádné) události. Tento faktor může zásadním způsobem rozhodovat o tom, jak dále negativně se bude bezpečnostní (mimořádná) událost rozvíjet (Felcan, Kopencová a Rak, 2019, s. 43). Záleží na oblasti, ve které bezpečnostní událost vznikla, což determinuje konkrétní bezpečnostní složku, která bude mimořádnou událost řešit (složky Integrovaného záchranného systému, úvar rychlého nasazení, kriminální služba, celní správa, zpravodajské složky apod.).

IV. Děj (*Action*)

Děj je **řada vzájemně propojených událostí v prostoru a čase** (Procházková 2013, s. 46). Děje jsou výsledkem pozitivních i negativních událostí, které mohou mít vliv na celkovou bezpečnost a tedy i potenciál pro vznik újem a škod. Stejně jako události, i děje mohou být příznivé, nepříznivé nebo neutrální.

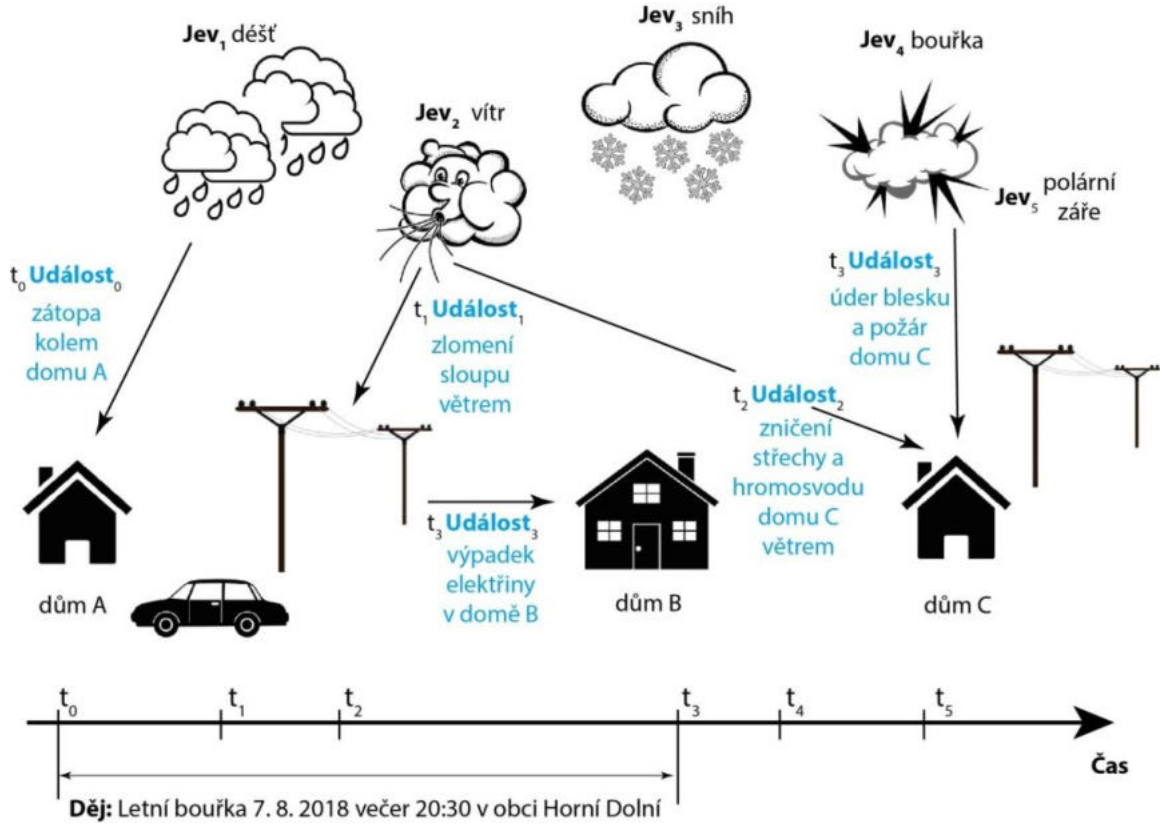
Příklad: Při fotbalovém zápase došlo k výtržnostem na stadionu. Fanoušci házeli petardy na hrací plochu stadionu. Po předčasném ukončení zápasu se nepokoje přenesly do ulic, kde fanoušci obou klubů rozbíjeli výlohy a zapalovali auta.

Synonymem slova **děj** je **proces**, protože v obou případech se jedná o posloupnost postupných, na sebe navazujících stavů, které se vyvíjí v čase v určitém prostoru.

Stav objektu/procesu (*State of object, process*)

Stav objektu/procesu **je souhrn hodnot určitého počtu intenzivních (významných), sledovaných veličin (parametrů), které objekt či proces charakterizují.** Podobně můžeme definovat systém, kde sledovaných objektů, procesů parametrů, vzájemných interakcí je mnohem více. Stav je též určitý proces (zastavený) v konkrétním čase, a sledovaný podle (významných) veličin. Je důležité, abychom znali v různých časech stavy objektů, které nám pak pomohou na základě analýzy významných objektových parametrů, hodnocení přijímat konkrétní rozhodnutí, opatření; tedy proaktivně řídit stav objektů (je-li to možné) nebo alespoň řídit negativní procesy, které vyvolávají tyto nežádoucí stavy; tedy řídit i bezpečnost objektu (procesu) a případně i jejich bezprostředního okolí.

Obrázek 5 Vztah jevu, události a děje. Ne všechny jevy se musí v daném čase projevit. Události se mohou řetězit (domino efekt). Ne všechny události musí mít dopady do bezpečnosti objektů, systému(ů). Děj trvá určitou dobu, časový interval



Zdroj: autor, vlastní

Tabulka 4 Příklady různých stavů objektů/procesů

Sledovaný objekt /proces	Název stavu („výsledek“)	Sledované stavové veličiny, charakteristiky
Člověk, jeho zdraví	**Zdravotní stav** („vážně nemocný“)	Teplota, tlak, EKG, EEG, puls, dýchání, složení krve, stav orgánů, …
Nemovitost, prodej	**Stav nemovitosti** („zchátralá“)	Statika budovy, energetická náročnost budovy, kvalita rozvodu el. energie, plynu, vody, …
Člověk, rodinné vazby	**Rodinný stav** („bez závazků“)	Svobodný, ženatý, rozvedený, vdovec.

Sledovaný objekt /proces	Název stavu („výsledek“)	Sledované stavové veličiny, charakteristiky
Vyšetřování tr. činu	**Stav vyšetřování** („podle plánu“)	Stádium vyšetřování, výsledky z ohledání místa trestného činu, existence verzí, podezřelé, zadržené osoby apod.
Projekt	**Stav projektu** („kritický, nutné krizové řízení“)	Časový harmonogram, stav zdrojů, neřešené problémy, motivace týmů apod.
Vozidlo, koupě	**Stav vozidla** („závadové, nekupovat“)	Technický stav vozidla (opotřebení spojky, motoru, únik kapalin, …), spotřeba, stáří, počet najetých kilometrů, předchozí vlastníci, odcizení, leasing, exekuční blokace …
Libovolný objekt, proces	**Nouzový stav**	Sledované veličiny jsou za hranicí doporučovaných, „provozních“ hodnot, ale nepřekročily ještě hranici, mez odolnosti objektu/procesu ve sledovaném parametru. Dochází k provozním omezením, výpadkům. Nouzový stav je řešen doporučovanými postupy pro nouzový stav, vlastními zdroji provozovatele, zodpovědných subjektů.
Libovolný objekt, proces	**Kritický stav**	Sledované veličiny překročily mez, hranici odolnosti objektu/procesu ve sledovaném parametru. Dochází k celkovému selhání funkčnosti objektu/procesu, k jeho postupné, nevratné destrukci. Kritický stav je řešen jako krizový, s využitím všech dostupných prostředků.

Zdroj: autor, vlastní

Stav objektu či procesu je **množina všech jeho vlastností a projevů, které lze na něm v daném čase rozpoznat.** Veličiny, vyjadřující stav objektu či procesu se běžně v technických disciplínách označují jako **stavové veličiny**. Existují **stavové veličiny vlastností objektu či procesu**, a stavové veličiny projevů objektů či procesů, případně jiné stavové veličiny (Janíček 2007, s. 359). Pro objekty, subjekty či procesy je charakteristické, že u nich lze popsat různé stavové veličiny. Všechny stavové veličiny, které lze v určitém časoprostoru vymezit na daném objektu či procesu, vytvářejí množinu, kterou lze označit jako **úplnou množinu stavových veličin objektu nebo procesu.** Při řešení konkrétního problému na objektu vybírá řešitel z úplné množiny stavových veličin jen ty veličiny, které považuje pro řešení problému za podstatné (Janíček 2007 s. 359).

Jestliže je objekt, který se nachází ve **výchozím stavu**, vystaven ze svého okolí působení, vznikající na něm nebo v něm (nebo platí oboje) procesy, které způsobují, že **výchozí stav** se mění v konkrétním čase a na konkrétním místě na **stav aktuální** (ten, který nás zajímá v čase jeho posuzování). Tomuto stavu pak odpovídá určité **aktuální chování objektu** (Janíček 2007, s. 359).

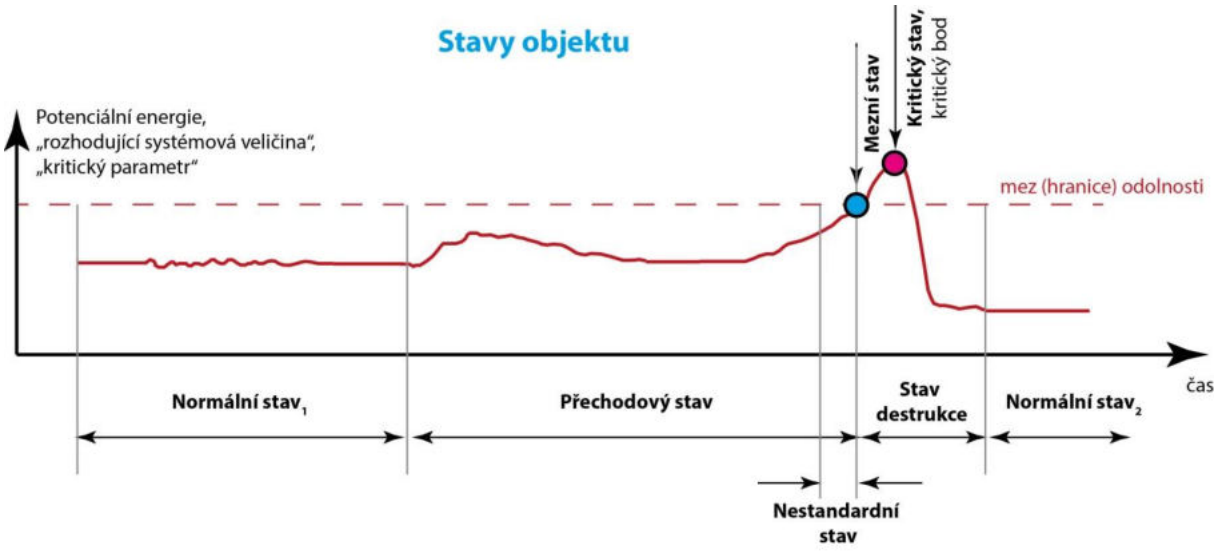
Janíček popisuje členění změn stavových veličin. Toto členění je obecné, neplatí jen v „technickém světě“, jako je inženýrství, mechanika a lze je užít i obecně. Tedy, rozlišujeme změny:

- **Změny kvantitativní** – ty představují změnu hodnot některého z podstatných parametrů souvisejících s objektem či procesem. Tyto změny mohou být charakterizovány různými požadavky technické praxe – funkční, spolehlivostní, ekonomické, provozní, požadavky na bezpečnost práce, obecnou bezpečnost, ohrožení společnosti atd.

- **Změny kvalitativní** – změny stavových veličin mají takový charakter, že nastává kvalitativní změna vlastností objektu nebo procesu, např. topografických, tvarových, fyzikálních, chemických, mechanických atd.

Změny stavových veličin v čase lze rozdělit na **změny spojité** a **změny skokové**.

Obrázek 6 Zobrazení stavu objektu v závislosti na čase a rozhodující systémové veličiny. Tu můžeme formálně zaměnit v našich představách potenciální energií, entropií (mírou neuspořádanosti) nebo kritických parametrem. Tento pojem používáme zejména tehdy, má-li objekt více parametrů, které jej charakterizují, ovlivňují a jeden z nich dosahuje mezního stavu dříve než parametry ostatní



Zdroj: autor, vlastní

Společnou vlastností změn stavových veličin je, že u kvantitativních změn přecházejí hodnoty stavových veličin spojitě, u kvalitativních změn přecházejí z jedné kvality na jinou kvalitu. Lze tedy hovořit o přechodech z jednoho stavu do jiného stavu. Stavy objektu nebo procesů pak můžeme rozlišovat (Janíček 2007, s. 359; doplněno):

- **Standardní stav objektu či procesu** (běžný, normální stav) – hodnoty stavových veličin, které jsou z hlediska zájmu subjektu o objekt nebo proces podstatné, se nachází v „normálním intervalu" hodnot, které na objektech či procesech zaručují „normální chování". **Normální** je to, co je **přípustné**.

- **Přechodový stav objektu (procesu)** nastává tehdy, jestliže některý ze stavových parametrů objektu/procesu změní kvalitu nebo kvantitu, aniž by to muselo znamenat ztrátu funkčnosti objektu/procesu, resp. dosáhl předem stanovenou hodnotu související s předmětem zájmu subjektu o objekt/proces.

- **Nestandardní stav objektu/procesu –** hodnoty stavových veličin leží mimo interval „normálních hodnot". Nestandardní stav objektu/procesu nemusí znamenat vyřazení objektu/procesu z funkce, ale může to funkci ovlivnit.

- **Mezní stav objektu/procesu** nastává, když objekt/proces ztratí schopnost nebo možnost plnit předepsanou funkci.

- **Stav destrukce (zničení) objektu/procesu –** nastává v okamžiku, kdy není možné již obnovit schopnost nebo možnost plnit předepsanou, původní funkci. Objekt nebo proces přecházejí do jiného normálního stavu. Není však ale ještě vyloučeno, že objekt/proces nemůže plnit zcela jinou funkci.

V souvislosti se stavy objektů, procesů či systémů často používáme termín „**kritický stav**“ či „**kritický bod**“, který můžeme definovat takto:

Kritický stav (kritický bod) je stav entity (objektu, procesu či systému), který se nachází na časové ose za mezním stavem dané entity a při kterém kulminují rozhodující systémové veličiny (kritické parametry), mající podstatný negativní vliv na funkčnost dané entity. Po dosažení kritického stavu (kritického bodu) dochází k maximální ztrátě funkčnosti entity, hodnoty rozhodujících systémových veličin (prudce) klesají.

Rozdíl mezi pojmy stav a situace

Základní rozdíl mezi „stavem“ a „situací“ spočívá v tom, že „stav“ objektu či procesu se obvykle hodnotí k určitému času a místo objektu/procesu v prostoru není v tomto okamžiku rozhodující (vozidlo, budova, člověk apod. jsou v „desolátním“ stavu) a pro naše rozhodování, řízení daného stavu není rozhodující, kde se nacházejí (objekty, procesy, ať už jsou kdekoliv, jsou v „desolátním stavu“ tak či tak). Pokud mezi parametry, pomocí kterých hodnotíme stavy objektů nebo procesů, zavedeme parametr místa (určité souřadnice), dostaneme se do definice „situace“. Pokud hodnotíme „situaci“, kromě parametru „času“ hovoříme zároveň i o „místě“ (lokalizaci, teritoriu) objektu, procesu. Hovořit obecně o bezpečnostní situaci, aniž bychom upřesnili kromě času i její místo (lokalizaci), nemá smysl – bezpečnostní situace v Praze, Berlíně, ČR či Londýně budou ve stejný okamžik zcela rozdílné, takže pouhý pojem „obecné bezpečnostní situace“ je nic neříkající, protože není teritoriálně vymezen.

Hodnocení „stavu“ realizujeme obvykle k jednodušším, jednotlivým objektům. Hodnocení „situace“ je více komplexní, globálnější, obecnější pojem, týkající se více objektů, systémů apod., přičemž každý objekt, systém hodnotíme podle jiné množiny významných parametrů. Všechny objekty při hodnocení situace spojují ale vždy dva významové parametry, které jsou stejné: čas a místo[3] objektů.

Pokud se člověka zeptáme jaký je jeho stav, v první chvíli nepochopí naši otázku a bude chtít další upřesnění. Bude stručně odpovídat na stav rodinný (svobodný, ženatý, rozvedený, …), zdravotní stav, finanční atd. Budeme-li hovořit o jeho životní situaci, jeho odpovědi budou mnohem složitější, komplexnější, protože bude hodnotit různé pro něho důležité stavy.

Specifický stav – tíseň (*Specific state - distress*)

Tíseň, v právním pojetí, **je přechodný stav s omezenými možnostmi rozhodování, který je obvykle vyvolán nepříznivými okolnostmi** (Hendrych 2009, s. 1 209). Tíseň může být finanční, osobní, rodinná, sociální, zdravotní, bezpečnostní. Vyznačuje se stavem, do kterého se člověk dostane a nemůže z něj vystoupit bez cizí pomoci. Záleží na okolnostech vzniku tísně.

V občanském právu je tíseň jednou z okolností, která vylučuje svobodu vůle a proto má podobu neúměrného krácení vůči osobě v tísni. Nový občanský zákoník označuje toto jednání za nepoměrné obohacování. To znamená, že smlouva je neplatná, uzavírá-li se s někým, kdo je viditelně v tísni, nezkušený nebo v rozumové slabosti. Smlouva, která byla uzavřena za těchto podmínek, není platná. Ten. kdo zneužívá tísně druhé osoby nebo skupiny lidí k vlastnímu zisku porušuje tímto jednáním zákon. V trestním právu se tíseň projevuje v trestných činech jako jsou lichva (§ 218), zneužití pravomoci úřední osoby (§ 329), útisk (§ 177), obchodování s lidmi (§ 168), neoprávněné odebírání lidských tkání a orgánů (§ 164) a trestné činy proti těhotenství ženy (§ 159, § 162).

[3] Místo je relativně shodné u všech objektů.

Specifický stav – nouze (*Specific state - emergency*)

Nouze bývá v právním smyslu **považována za bezvýchodnou situaci**. Synonymy nouze jsou chudoba, nedostatek, bída, nuzota.

Česká legislativa pracuje s těmito pojmy nouze:

- **Hmotná nouze** - je stav, kdy člověk, občan nemá dostatečné příjmy, aby si vlastním přičiněním zabezpečil základní životní podmínky. Občan, který nemůže vlastním přičiněním nebo za pomoci své rodiny tyto podmínky splnit (typicky v důsledku nízkého příjmu) a nedisponuje ani majetkem, jehož prodejem, pronájmem či jiným využitím by mohl získat prostředky k zajištění svých potřeb, má zpravidla v rozvinutých a civilizovaných zemích nárok na pomoc od státu. Společensky uznanou hranicí příjmu občana, pod níž nastává stav hmotné nouze, je tzv. životní minimum, které je stanoveno právní normou. Charakteristickou formou takové sociální pomoci jsou peněžité a věcné dávky[4].

- **Sociální nouze** - je stav, kdy člověk není schopen zabezpečit své sociální potřeby. Důvodem k tomuto může být nezletilost, zdravotní stav, absence sociálního zázemí (tzn. osamělost starých či handicapovaných lidí). Dalším důvodem je ohrožení vlastních zájmů jinou osobou, jako poslední je připouštěn i jiný závažný důvod, pro nějž jednotlivec není schopen zabezpečovat své základní životní a sociální potřeby. Nejčastěji je to myšleno ve smyslu zabezpečení péče o svou osobu, výživu a domácnost a o svá práva a oprávněné zájmy.

- **Legislativní nouze** - je institut umožňující zrychlené projednávání zákonů, pokud je to odůvodněno zcela mimořádnými okolnostmi (Vlach, 2020, 223).
- **Krajní nouze** - je v právu takový stav, který představuje přímé ohrožení zákonem chráněného zájmu. Odvracení krajní nouze „činem jinak trestným“ pak trestným činem ani přestupkem není, přestože toto jednání jejich zákonné znaky jinak naplňuje. Jde tedy o okolnost vylučující protiprávnost takového činu. V civilním právu jednání v krajní nouzi vylučuje odpovědnost za způsobenou újmu (podmínkou je, že osoba jednající v krajní nouzi sama nevyvolala nebezpečí, které svým jednáním odvrací). Dalšími zákonnými podmínkami je nemožnost odvrátit nebezpečí jinak a přiměřenost použitých prostředků, tzn. následek, který byl odvrácením krajní nouze způsoben, nesmí být stejně závažný nebo ještě závažnější než nebezpečí, které původně hrozilo (Vlach, 2020, 215). Dané nebezpečí musí hrozit bezprostředně (Trestní zákoník č. 40/2009 Sb.).

V. Závěr

V příspěvku byly rozebrány entity, jako jsou jevy, děje, události, situace a další. Pro tyto entity je charakteristické, že jsou spojeny s proměnou – s časem. Pokud dokážeme správě pochopit všechny potenciální jevy kolem nás, které se za určitých okolností mohou naplnit – tedy stát se událostí (s negativním, neutrálním nebo pozitivním dopadem) a dokážeme správně tyto jevy a hrozby (události s potenciálním negativním dopadem) popsat, dále pak charakterizovat potenciální četnost výskytu a potenciální, negativní dopady (škody a újmy), pak dokážeme efektivně, proaktivně řídit rizika a tím realizovat neustále probíhající proces bezpečnosti, tedy zajistit žádoucí stav bezpečí pro daný subjekt.

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[4] Zákon č. 111/2006 Sb.

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IS THERE HYPERACTIVITY DISORDER AS RISK FACTOR OF POVERTY?

Jiří Rotschedl[1]

Abstract

This paper focuses on the research of the risks of poverty from the perspective of individuals who, following the methodology of the American Psychiatric Association (DSM-V), show symptoms of hyperactivity. There were 193 respondents participating in the research, of which 33 had symptoms of hyperactivity, 90 respondents belonged to the control group not showing any symptoms of hyperactivity, and the remaining 70 respondents were excluded from the research as they showed mild symptoms of hyperactivity and could not be included in the tested or control group. Individuals with hyperactivity symptoms have 1.4 times higher relative risk of the absence of a financial reserve to cover costs for 3 months. Furthermore, individuals with hyperactivity were confirmed to be 3.07 times more likely to prefer the present value over the future value (but only for small amounts for a short time), implying impulsive behaviour of these individuals, which also increases the risk of poverty, especially in the context of possible negative economic shocks, such as the COVID-19 pandemic.

Keywords

Hyperactivity Disorder, Risk of Poverty, Decision-making, Financial Reserve

I. Introduction

Economic theories calculating with "Econs"[2] are limited to their behaviour, without them being interested in the motives leading to their decision. Therefore, economic modelling sets a number of assumptions, e.g. about preferences (e.g. the consistency of preferences) and thus creates an unrealistic model figure, which is used to demonstrate economic models. However, the average person as an individual behaves differently. Their preferences are inconsistent, and their decisions are impacted by the manner in which a task is assigned (framing), "ego exhaustion", and many other psychological and physiological aspects.

The differences between ordinary "Humans" and "Econs" are striking, and the current polarization of society is proof of how easily the preferences of "Humans" can be influenced, while "Econs" make rational decisions at all times. Economic models work with the general population; however, in this paper, I intend to deal with a narrow group of persons who are characterised by certain qualities affecting the basic rational decision-making. These are individuals who show the symptoms of hyperactivity disorder to a lower or higher extent.

In recent years, there have been a number of experiments testing the ADHD disorder with time discounting. Due to the fact that the delay in consumption is a key psychological aspect of a number of economic issues at the micro and macro level, this paper focuses on summarizing the knowledge about ADHD in relation to intertemporal decision-making.

The paper aims to verify how hyperactivity, as one of the components of ADHD, affects consumer intertemporal decision-making and subsequently whether hyperactivity, therefore, poses a risk of poverty.

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[2] The concept of Econs vs. Humans was taken from Richard Thaler.

II. ADHD and Intertemporal Discounting

The ADHD disorder has two components: the attention deficit disorder (AD) and hyperactivity disorder (HD). The disorder has a prevalence of approximately 3-8% in adolescents and approximately 4% in adults (Biederman J. *et al.*, 2012). Individuals with ADHD are characterised by a lack of powerful brain functions, such as attention, working memory, etc., which are accompanied by neurological abnormalities in certain parts of the brain (Hart *et al.*, 2012; Hart *et al.*, 2013; Rubia *et al.*, 2014a). However, it is essential for the economy that individuals with the ADHD disorder (especially HD) have a disorder of the timing function and functions related to motivation with affects decision-making on rewards measured by time discounting or hazard (Noreika *et al*., 2013; Kerr and Zelazo, 2004; Rubia *et al.*, 2009; Cools *et al.*, 2011; Robinson *et al.*, 2012; Rogers, 2011). In healthy adults, striatal 5-HT levels have been shown to modulate the selection of longer and delayed rewards (Doya, 2008; Schweighofer *et al.*, 2007; Tanaka *et al.*, 2007).

The origin of ADHD has been found in dopamine and serotonin deficiency. The neural systems involved in time discounting are highly innervated with dopaminergic neurons or regions (Norman, L. J. et al., 2018). Experiments on the genetic level, as well as research using imaging and biochemical methods, unambiguously demonstrate that human behaviour, which is transmitted to everyday decision-making, is made up of multifactorial elements (congenital genetic mutations, lower hormone levels, etc.).

III. Methodology

This paper deals with the research of the behaviour of individuals without and with the symptoms of HD (rather than ADHD). An extensive research questionnaire has been developed for this purpose. An online form was used for data collection. The questionnaire was published for 3 months (03-06 / 2019). The fundamental part of the research consisted of the part monitoring the HD disorder according to the methodology for the ADHD diagnosis. This section comprised a total of 12 standardised questions according to the Diagnostic and Statistical Manual of Mental Disorders – 5th edition recommended by the American Psychiatric Association (hereinafter only as of the "**DSM-V**").

The individuals of the test group included the respondents who would be diagnosed as having hyperactivity according to the DSM-V. In order to determine whether an individual suffers from hyperactivity, the respondent had to state out of 12 standardised symptoms according to DSM-V:

- At least five or more symptoms indicating the occasional, frequent or very frequent occurrence;
- They also occurred in an individual for more than 6 months;
- They occurred simultaneously in two or more areas of life.

It was not decisive for the test group whether they suffered from ADHD, but only whether they demonstrated the HD symptoms, and therefore comorbidities were not tested. In the classic ADHD diagnosis, it is also necessary to assess whether other comorbidities, such as schizophrenia, psychotic disease, etc., are behind the symptoms.

The control group consists of the respondents who answered in the majority that they never or very seldom suffer from the symptoms, using the 12 standardised questions. In the course of the research, a third group was identified demonstrating a milder form of hyperactivity disorder and was therefore on the edge between the control group and the test group. A total of 193 respondents from the Czech Republic participated in the research, of which 33 were in the test group, 90 in the control group and 70 in the non-decisive group. Only the respondents from the test and control groups were included in the assessment.

The subject of the experiments consists of the calculation of the relative risk (RR) or odds ratio (OR). The verification of independence in a four-field table is conducted using Fisher's exact test. In order to facilitate the interpretation, individuals who demonstrate the symptoms of the hyperactivity disorder according to the above methodology will be hereinafter referred to as the test group or individuals with hyperactivity.

The collected data were processed using the STATA statistical software (version 16).

IV. Experiments

Hypothesis 1

The first hypothesis is: "Individuals with hyperactivity are more prone to poverty than individuals without hyperactivity."

The hypothesis was tested between the control and test groups, in which it was assessed whether the net income, including social benefits per household member, is below the income poverty line. The income poverty line applicable in 2018 was used. Fisher's exact test failed to show any significant differences between the control and test groups ($p=0.385$). Therefore, the hypothesis was not confirmed.

Hypothesis 2

The second hypothesis is: "Individuals with hyperactivity more frequently do not have a financial reserve to cover their expenses for at least 3 months than individuals in the control group."

The test showed that the chance of occurrence of the reserves to cover expenses in individuals with hyperactivity is 2.7 times lower than the chance of occurrence of the reserve to cover expenses of individuals from the control group ($p=0.0153$). Individuals with hyperactivity have a 1.4 times higher the relative risk of the absence of a financial reserve to cover their expenses at least for three months.

Hypothesis 3

The third hypothesis is: "Individuals with hyperactivity run into debt more frequently than individuals without hyperactivity."

At the significance level of $p=0.05$, the Fisher's exact test failed to confirm that individuals with hyperactivity ran into debt more frequently, and therefore the third hypothesis was not confirmed ($p=0.115$).

Hypothesis 4

The fourth hypothesis is: "Individuals with hyperactivity prefer current consumption to future consumption."

This hypothesis was tested with a total of four questions standardly used in psychological studies focused on intertemporal decision-making of individuals. The questions in the questionnaire focused on the willingness to wait for a higher reward. The first question verified the subjective discount factor at a small value (CZK 100 today or CZK 110 tomorrow). The second question focused on the same amounts, yet with a longer time lag (CZK 100 today or CZK 110 in a month). The series of the other two questions changed from the previous two by only amounts (CZK 100,000 and CZK 110,000). The period remained 1 day and 1 month.

The testing results indicated the preference of the present value over the future value in individuals with hyperactivity only in the first case, i.e. with the low amount (100 CZK / 110 CZK) and the short period of 1 day.

The test confirmed that the probability of occurrence of individuals with hyperactivity who prefer CZK 100 today over CZK 110 tomorrow is 3.07 times higher than in individuals from the control group (p=0.013).

For the remaining three questions, the test did not show the independence of values and no significant difference between the test and control groups was demonstrated (Question 2: RR=1.1; p=0.216, Question 3: RR=1.1; p=0.708, and Question 4: RR=1.75; p=0.114).

V. Discussion

According to the research, it may be stated that individuals with hyperactivity prefer the present value to the future value, especially for small amounts and in a very short period. In the context of other results demonstrating significant differences between the test and control groups, a certain degree of differences between the two groups may be stated: individuals with hyperactivity have in particular:

- A higher risk of the absence of a financial reserve to cover expenses for 3 months;
- They prefer the present value over future value, especially for small amounts for a short time.

On the contrary, hypotheses aimed at poverty or running into debt were not confirmed. The research shows that there are no significant differences in these areas between the test and control groups.

The results correspond in some respects to already known studies on intertemporal decision-making in individuals with ADHD, e.g. Scheres et al., 2006; Scheres et al., 2008; Costa Dias et al., 2013; or Barkley et al., 2001. The most common studies are performed in children with ADHD and significantly less frequently in adults.

Due to the number of respondents in this research, it is inevitable to consider the results as preliminary; the research is thus followed by further data collection to deepen and refine the results.

VI. Conclusion

At present, the greatest risks of income poverty include the effects of the COVID-19 pandemic, which is most likely to lead to job losses, i.e. an increase in unemployment, for many months to come. In the context of these events, other risks are rather negligible. However, differences in individuals' behaviour may also be mitigated by the effects of the COVID-19 pandemic, such as the creation of a financial reserve.

The research of the respondents has shown that individuals with hyperactivity have a 1.4 times higher the relative risk of the absence of a financial reserve, and therefore any other factor (e.g. a pandemic) worsens the risk of poverty in individuals with hyperactivity more significantly than in individuals without hyperactivity who form a financial reserve more willingly. Therefore, even research into seemingly insignificant risk factors is valuable and provides some knowledge complementing the overall image of the risk of poverty.

Individuals with hyperactivity were also confirmed to be 3.07 times more likely to prefer the present value to the future value (but only for small amounts for a short time). This result confirms that hyperactive individuals show a higher rate of impulsive behaviour which has further consequences for the risk of poverty through reckless shopping. If we combine reckless, i.e. impulsive shopping with a higher risk of the absence of a financial reserve for hyperactive individuals, it may be concluded that these individuals fall more easily below the income poverty line, especially if market shocks occur.

The research tentatively confirms that some groups of the population may be further on the path to poverty than other groups, and for these reasons, continuing this research and expanding it to a larger group of respondents is important for the society.

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SOCIAL NETWORKS AND THEIR RISKS FOR CHILDREN AND YOUNG PEOPLE

Jaroslav Šigut[1]

Abstract

The main topic of the article is the issue of social networks, dangers and threats that their users may encounter. The article is mainly focused on child users. The main threats and dangers that children may encounter on social networks are listed. The aim is to investigate the real situation and to find out personal experiences of children with this issue. The aim is also to draw conclusions from the findings and to suggest possible solutions to solve discovered dangers. The examination of the current situation was carried out in the form of a quantitative research. The data was collected in the form of a questionnaire, which was submitted to children at six schools in various localities of the Ostrava region, Karviná region and Opava region (village, city, regional city). This topic should be addressed not only to school facilities who already have implemented this issue into their education systém, but especially to parents. They should be more concerned with the behavior of their children on social networks, try to make them more vigilant and be their role model in this. This research is only one of the pilot probes to map the severity of the problem in the Moravian-Silesian region.

Keywords

Social Network, Internet, Criminality, Cyberbullying, Sexting, Cybergrooming, Children

I. Úvod

Internet a s ním spojené virtuální digitální prostředí je fenoménem dnešní doby. Slovy „klasika“ s tím nemusíme souhlasit, můžeme protestovat, ale to je tak jediné, co proti tomu můžeme dělat. Internet se postupem doby stal úžasným komunikačním prostředkem, který prošel od úvodních textových zpráv, později doplňovaných obrázky a fotografiemi, až po sdílení filmových záběrů. Zcela nevídaný rozměr zaznamenal ve sdělování informací nejrůznějšího druhu, opět texty počínaje a videi konče. Nesmírný pokrok se odehrál i v oblasti využití k výuce, kde od média, které poskytuje uložené informace, přes ukládání podkladů k výuce, zadávání a zpracovávání testů došel až k on-line výuce. Tato forma distanční výuky našla zcela mimořádného uplatnění v dnešní složité době, která vzdělávací procesy ve školách velmi zkomplikovala. Mimo spoustu dalších podob využívání internetu a jeho služeb se objevilo prostředí, které usnadňuje sociální kontakty, bez nichž se většina z nás jen těžce obejde. Tímto prostředím se staly sociální sítě.

Sociální sítě vyvolávají poměrně velkou polemiku o jejich přínosech, ale i škodlivosti. Zastánci obou táborů mají zřejmě pravdu a je tedy potřeba se zamyslet, zda jejich obrovský rozmach vzniká z nedostatku (sociálních kontaktů, lásky, porozumění?), nebo naopak přebytku (např. času? i když tvrdíme opak). Pokud se zamyslíme nad tím, zda nám Internet a Sociální sítě nenahrazují běžnou komunikaci, jaká bude asi odpověď? Zřejmě „Ano“ a není to žádné překvapení. Děti si svůj život, bez těchto prostředků (s nimiž jsou seznamováni od útlého věku) vůbec nedovedou představit. Mladí lidé a děti nechápou existenci světa bez možnosti okamžité komunikace pomocí mailů, sociálních sítí a mobilních telefonů.

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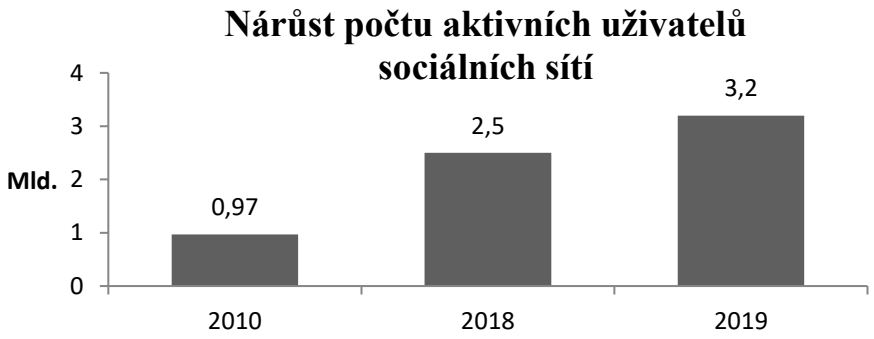
II. Sociální sítě

Sociální sítě jsou v současné době nejrozšířenější částí internetových služeb. V jednoduchých formách se komunikace více osob stejných, nebo podobných zájmů objevovala samozřejmě od dob většího rozmachu Internetu. Tehdy se jednalo o vítané zpestření služeb, které se, díky zvýše rychlosti a vymanění se z potřeby používat analogové prostředí telefonních sítí, šířily rychle mezi firmami a do jednotlivých domácností a internetových kaváren. Skutečný boom však přišel až s rozšířením sítě Facebook. Na jeho vzrůstající oblíbenost reagovaly i další sítě, které již existovaly, nebo vznikaly nové. Dynamika jejich používání se neustále zvyšuje a rozšiřuje se počet uživatelů. Podle nejrůznějších publikovaných výzkumů veřejného mínění pouze 2 % lidí nedokáže uvést o jakou službu se jedná. Z uvedeného pak vyplývá, že sociální sítě lidi přitahují, což je nutí trávit tam značnou část volného času. Čím jsou tedy sociální sítě tak přitažlivé a proč se těší tak velké oblibě? Existují různé definice sociálních sítí, ale vyplývají z nich samozřejmě očekávaná komunikace mezi skupinou lidí, zasílání a sdílení informací, ale ukazuje se i velmi podstatný prvek kterým je vzájemné ovlivňování.

Velká část lidí sociální sítě na základě různých zpráv zatracuje, ale i ti je většinou, stejně jako miliony dalších navštěvují a používají. Hledáme tam své přátele, spolužáky, lidi, s kterými jsme ztratili kontakt, nebo jejichž dočasný, nebo trvalý pobyt je vzdálený, často i v zahraničí. Pro jiné toto prostředí znamená zábavu, nebo vyhledání nových kontaktů. Někteří se chtějí prezentovat a nejen existovat, ale být objeveni. Pod hlavičkou svého zvoleného Nicku (přezdívky) si pak zvolí svůj přístup a postoj k tématům v diskusi. Facebook a další sítě poskytují pro vytvoření jakéhokoli obrázku obrovské možnosti. Počet lidí používající mobilní sítě rok od roku stoupá, Graf 1 poskytuje o této situaci představu.

Graf 1 Nárůst počtu aktivních uživatelů sociálních sítí



Zdroj: Časopis Chip (2019), vlastní zpracování

Sociální sítě jsou i velmi dostupné a to doma, v zaměstnání, ve škole, nebo i ve veřejných prostorách a díky mobilním telefonům a datovým službám v podstatě kdekoli. Tím, že mobil obsahuje i kameru, si nemusíme jen psát, popř. volat, ale můžeme vytvářet a sdílet snímky a videa. Mladí lidé v dnešní době upřednostňují tyto prostředky, před klasickým posíláním textových zpráv a SMS. (Kohout, Karchňák, 2016)

Sociální sítě jsou různými autory děleny podle různých kritérií. Např. Sahan Ullagaddi (2014) rozděluje sociální sítě do tří skupin podle možností sdílení všedních událostí života, ale vhledem k dynamickému rozvoji je možno najít i další skupiny:

1. Osobní sítě

Jde o nejstarší sociální sítě, které mohou sloužit zejména ke komunikaci, udržení kontaktu a sdílení důležitých momentů s přáteli, ale samozřejmostí je i vyjádření pocitů a názorů. Uživatel zde hraje hlavní roli. Tyto sítě jsou charakterizovány aktuálností a přítomností. Uživatelé sdílí

své zájmy, pocity a zajímavosti ze svého pohledu. Mezi osobní sítě patří např. Facebook, Snapchat. (Dobosiová, 2015)

2. Sítě zaměřené na sdílení obsahu

Tato kategorie sociálních sítí je kombinace osobního, uměleckého a profesního obsahu, což napomáhá jejich uživatelům projevit více stránek své osobnosti a různé aspekty jejich života. V popředí těchto sociálních sítí ale už na rozdíl od předchozích, osobních sítí, není uživatel, ale obsah. Pomocí popisů a obsahů a využitím tzv. hashtagu může uživatel usnadnit vyhledávání obsahu. Na těchto sociálních sítích není vždy dáno, že jeho „přítelem" či „sledujícím" je osoba, s níž se zná z reálného života. K těmto sítím patří např. Twitter, Instragram, YouTube a Pinterest. (Dobosiová, 2015)

3. Komunity se stejnými zájmy

Komunity se stejnými zájmy byly vytvořeny zejména pro profesionály i když je začali využívat i běžní uživatele patří. Tyto komunity se obvykle liší specifickými zájmy, které je dále rozdělují. Tuto kategorii zastupuje např. profesně orientovaná sociální sítť Linkedln, ale i komunity zaměřující se na fotografování zajímavých míst a měst sdružující se na Flickr a další. Díky tomu, že se na těchto sítích shledávají lidé se stejnými zájmy, vzniká právě zde spousta nových virtuálních přátelství a vztahů, a to dále může vést k osobnímu potkávání se a přátelství v reálném životě. (Dobosiová, 2015)

4. Další sociální sítě

Mezi další sociální sítě můžeme zařadit rovněž komunikační a virtuální sítě. Příkladem komunikačních sítí je například Facebook Messenger nebo WhatsApp a jejich cílem je především komunikovat. Příkladem virtuálních sítí jsou naproti tomu, různé válečné hry typu World of Warcraft, World of Tanks, nebo poměrně netradiční síť Second Life.

Množství těchto sítí a jejich lákavé nabídky, možnosti hodnocení – „lajkování" jsou pro uživatele velmi zajímavé, neboť nabízejí v různé podobě sociální kontakty, bohužel často jen virtuální, které mnozí zaměňují za reálné. Rychlým sdílením informací, často i různě upravených fotografií, nebo videí, vytvářejí sociální sítě i rizikové prostředí. Rizika směřují vůči všem uživatelům, ale díky směšování reality a virtuálních zážitků jsou hodně nebezpečné zejména dětem.

III. Rizika sociálních sítí pro děti a mladistvé

Sociální sítě jsou, jak již název říká určeny k sociálním kontaktům, tedy k udržování vztahů mezi přáteli a seznamování se s novými. Jsou to tedy místa pro setkávání lidí, sdílení zážitků, obsahu. Snadno se můžeme seznámit, sdělit své zážitky nebo sdílet obsah, stačí se jen přihlásit a můžeme začít. Problémem se zde stává chování některých uživatelů vycházející z pocitu anonymity a tím i nepostižitelnosti. Není nijak složité založit si falešný profil, popř. profil jiné osoby a doplnit je texty a fotkami. Sociální sítě jsou místem, kde je možno prezentovat své názory a ovlivňovat ty s nimiž komunikuji. Pokud si to propojíme s dětskou naivitou a snadným ovlivňováním dětí, musíme si uvědomovat i velké riziko, které je s tím spojeno. Vše, co v prostředí Internetu sdělíme, fotky a videa, která uložíme, „žijí" ve virtuálním prostředí „vlastním životem". Nikdy nevíme, co se s nimi děje. Kdo si je uložil, sdílel, nebo různě upravil? Kdy a jak je použije v budoucnu i když jsme je ze svého alba vymazali, nevíme. (Máca, 2014)

Problémem je uchovat si i v těchto podmínkách své soukromí, ale rovněž nenarušovat úmyslně soukromí druhých. Soukromí je sice chráněno nejrůznějšími zákony a vyhláškami, ale na sociálních sítích jsme sami se svým účtem a záleží na míře informací, které jsme ochotni o sobě poskytnout a na tom, jak máme nastaven svůj profil.

Oblíbenost sociálních sítí tví především v tom, že je to v první řadě zábava. Každý si chce povídat se svými známými, ale taky jen tak volně i s neznámými lidmi a kamarádit se s nimi, zvláště pokud si zájmově a názorově „sedneme“. Sítě jako jsou Facebook, Lidé.cz nebo Libimseti.cz k tomu přímo vybízejí. Bylo by dobré u toho zůstat, ale to neznamená, že není potřeba být obezřetný. Velmi snadno lze podlehnout pocitu, že „jsme tu jen mezi sebou“. Ve skutečnosti může skoro každý, kdo se stane virtuálním přítelem pročítat profil, ale jakou máme jistotu říct, kdo se za tímto přítelem doopravdy skrývá? Vždy je potřeba si uvědomit jaké informace o sobě, a hlavně komu je sdělujeme.

Pro mnohé dospělé se Facebook stal synonymem pro sociální sítě a když jim syn, nebo dcera řekne, že je on-line na sociální síti, mají dojem, že je vše v pořádku. Rodiče si neuvědomují, že by dítěti mohlo něco hrozit, vždyť je doma v bezpečí a podle jeho slov si píše s kamarády. Právě Facebook, ale i ostatní sítě umožňují registraci dětem od 13 let, ale profily si zakládají i děti mladší 10 let a uvádějí tedy nepravdivé údaje.

Mnohdy ani rodič neví, že dítě je registrované. A pokud rodič ví, dítě je zděšeno z toho, že by mělo mít svého rodiče v přátelích, aby viděl fotky, či odkazy které sdílí. Mnoho mladých lidí si ani neuvědomuje své riziko, kterému se vystavuje až v budoucnosti například při hledání práce, někdo uvidí fotografie a bude si číst jeho profil. V dnešní době je známo, že si někteří zaměstnavatelé prověřují své potenciální zaměstnance přes sociální sítě. (Máca, 2014)

Může nastat situace, že dítě či adolescent „objeví“ sociální sítě a nechá se jimi pohltit. Může nastat ztráta iluzí a hrozí i případný psychický dopad. Děti, které nemají zkušenost se sociálními sítěmi a jejich riziky, jsou opravdu velkým terčem a rájem pro tzv. predátory. Odpověď rodičům na dotaz, co dělají, mnohdy zní – „Píšu si s kamarádem (kamarádkou)“. Rodiče to sice uklidní, ale za onou „kamarádkou“ se může skrývat kdokoli. (Máca, 2014)

Ne vždy je problém na straně dítěte. Někteří rodiče jsou sami pohlceni sociálními sítěmi a místo trávení volného času s dětmi, koupí dětem počítač, tablet nebo telefon, aby se dítě zabavilo, bylo doma v bezpečí a nezlobilo. Přitom ve skutečnosti u počítače v bezpečí vůbec není, i když mu zdánlivě doma nic nehrozí. (Máca, 2014)

Komunikace na Internetu může přinést řadu úskalí a to nejen dětem, ale ve všech věkových generacích. Virtuální svět není totožný se světem reálným. Uživatel se může vydávat díky anonymitě za někoho jiného, vyhledávat a předem promýšlet situace, které bude na druhých uživatelích praktikovat. Může to být například vydírání, vyhrožování, urážení, nucení k osobnímu kontaktu a podobně. Oběť neví, jak má na danou situaci zareagovat. Při zneužití hrozí například deprese, úzkosti, fóbie, sebepoškozování a v nejhorší fázi i sebevražda. (Eckertová, Doležal, 2013)

Kybergrooming

Kybergroomingem rozumíme chování lidí, kteří se snaží vyhlédnuté protějšky vylákat na osobní schůzku tím, že vyvolávají ve svých obětech falešný pocit porozumění a důvěry. Jde o nebezpečnou aktivitu, jejímž výsledkem bývá často fyzické a sexuální násilí na oběti, zneužití pro dětskou prostituci či k výrobě dětské pornografie. K vylákání na schůzku může sloužit i zaslání intimních fotografií, které byly na oběti vylákány. Děti jsou k takovéto manipulaci náchylnější obzvláště proto, že dosud nemají plně rozvinuté sociální dovednosti a nemají dostatek životních zkušeností. Nejčastějšími oběťmi kybergroomingu bývají děti s malou sebeúctou, děti bez sebedůvěry, s emocionálními problémy, oběti v nouzi, děti přehnaně důvěřivé a naivní (Kopecký, Krejčí 2010).

Příprava groomera bývá docela dlouhá, neboť tento typ útočníka si získává postupně důvěru a dovede být velmi přátelský. Ve své přípravné fázi vymyslí a zřídí svůj profil a identitu doplní fotografií, popř. filmovým klipem, kterým zdůvodní nemožnost komunikovat s použitím

webkamery apod. V průběhu procesu se pachatel snaží, aby se dítě nesvěřilo rodičům či kamarádům. Snaží se, vybudovat důvěrný vztah v co možná největší míře. Účelem je stát se pro dítě přítelem, důvěrným kamarádem. Čím více informací pachatel získá, tím více se stává dítě fixované a závislé – pachatel zná jeho tajemství, radí, jak se má chovat, na druhou stranu dítěti zakazuje, aby se o jejich vztahu bavilo s jiným člověkem.

Výsledkem těchto předchozích fází je snaha o osobní schůzku. V tomto okamžiku pachatel používá všechny dostupné styly manipulace, které zná. V případě, že oběť setkání odmítne, začne dítě soustavně vydírat zveřejněním velice citlivých informací dítěte – např. intimních fotografií, zaznamenaného videa, odkrytím nebezpečného tajemství apod. Dítě je pak na vážkách, zda chce, aby byly citlivé materiály zveřejněny a ono bylo tímto aktem zesměšněno, nebo zda na místo setkání dorazí. Osobní schůzka je pak tou nejrizikovější fází kybergoomingu a může skončit i sexuálním zneužití oběti

Pokud ke zneužití dítěte došlo, je velice obtížné to odhalit, protože děti nenacházejí dost odvahy k vyhledání pomoci. Má obavy z reakce rodičů, z pomsty útočníka, ze zveřejnění jím shromážděných informací, nebo jen ze zesměšnění, že naletělo a fotky, či informace poslalo cizímu člověku.

Kyberšikana

Kyberšikanou rozumíme záměrné obtěžování, urážení, ponižování, vyhrožování, zesměšňování druhých prostřednictvím informačních technologií nebo mobilních telefonů, které probíhá většinou v delším časovém období. Od dlouho známé šikany se kyberšikana odlišuje nejen specifikou prostředí, ale i osobou pachatele a stejně i těžko definovatelným časem, kdy k ní dochází. Nekončí osobním setkáním, ani společným pobytem na sportovišti, ve škole, v parku, na společenské akci apod. Pachatel, bez ohledu na jeho fyzickou sílu, pohlaví, nebo věk může vést útok v kteroukoli dobu, a to i když se oběť nachází v bezpečném prostředí domova nebo školní třídy. Útok může být veden spolu s rozsáhlým zveřejněním, čímž je vysoce umocňován a může být znovu kdykoli zopakován. Sám pachatel se rovněž, vzhledem k možnostem mobilních telefonů, může nacházet kdekoli a může být zcela anonymní, což umožňuje týrat svou oběť opakovaně. Pocit nepostižitelnosti může vést útočníka ke stále tvrdším a cílenějším postupům a útokům. V současné době dochází i ke kombinaci klasické šikany a kyberšikany, kdy je šikanované dítě natáčeno, zesměšňováno a videa pak zveřejněna.

Kyberstalking

Kyberstalking je charakterizován opakující se snahou kontaktovat svou oběť prostřednictvím informačních technologií, tedy e-maily, telefonáty, SMS zprávami, různými formami chatu apod. Zasílané zprávy mohou zpočátku i příjemné a veselé, snažící se o navázání kontaktu nebo komunikace. V případě odmítání, nebo postupem času se mohou stát urážlivými, zastrašujícími, nebo přejít ve vydírání, vyhrožování, či vedou k vyvolání pocitu viny apod. Stalker obvykle své dlouhodobé a systematické obtěžování stupňuje, může narůstat intenzita popř. změna technologie. Dochází tak např. ke komentování příspěvků, nebo fotografií oběti na sociálních sítích, ale mohou být i vytvářeny falešné účty pod jménem oběti, kde jsou zveřejňovány lživé informace o oběti ve snaze snížit její důvěryhodnost či společenské postavení (Kopecký, 2010).

Sexting

Jde o nový pojem složený ze slov sex a textování. V dnešním pojetí to však znamená zasílání zpráv, fotografií, videoklipů a komunikace týkající se sexu. Tento způsob komunikace je využíván jak dospělými, tak i adolescenty a v dnešní době i dětmi. Dokonce se v tisku a na internetu objevily publikované zprávy o tom, že zasílání fotografií za finanční odměnu, nabití kreditu, popř. jinou materiální odměnu je nový business. Problémem takové komunikace je možnost zveřejnění zaslaných materiálů a jejich zneužití k jiným druhům počítačové

kriminality v případě intimních fotografií dětí jde o výrobu a šíření dětské pornografie. Texty a fotografie získané tímto způsobem mohou rovněž sloužit k vydírání, stalkingu a v případě dětí ke kybergroomingu a kyberšikaně. V posledních deseti letech narůstá množství dětských uživatelů internetu, kteří dobrovolně sdílí své vlastní intimní materiály. Stává, že materiály získané při sextingu u dětí sloužily intimní materiály k následnému vydírání dítěte. Nejzásadnější problém, který je s tímto spojen, značí ztrátu kontroly nad intimním materiálem, který je skrze internet či mobilní telefony rozesílán a šířen dalším uživatelům. Dalším rizikem, které s šířením souvisí, je časový aspekt spojený se sextingem. K odhalení může dojít dokonce i v odstupu mnoha let od doby kdy vznikly (Kopecký, Kožíšek 2015).

Netolismus

Přílišná využívání informačních technologií mohou přejít až do jedné z forem závislosti. Závislost se projevuje zejména v komunikaci na sociálních sítích. Závislé dítě je často roztěkané, nedokáže se soustředit na jednu činnost a neustále potřebuje mít u sebe prostředek, který bude napojen na komunikační síť. Má představu, že musí ihned reagovat na všechna sdělení od svých kamarádů. Například pokud rodiče musí sdělit svému dospívajícímu potomkovi, že nadále nesmí používat svůj profil na Facebooku či má odevzdat mobil, reakce je, že dítě začne být agresivní, nadává a chytne záchvat vzteku. Ze zkušeností mnoha rodičů vyplývá, že emocionální reakce dětí v takové situaci se dost podobá té, jaká by se dala očekávat u závislého, kterému hrozí abstinenční příznaky. Dnes již nikoho nepřekvapí, že využívání sociálních sítí jak u mládeže, tak u dospělých v poslední době výrazně vzrostlo. Děti se často uchýlí k tajnostem a stejně si dělají, co chtějí. (Müller, 2011).

Další nebezpečí

Na internetu a sociálních sítích mohou děti narazit mimo vybrané, výše uvedené jevy i na další řadu nebezpečí, jako je šíření poplašných, nepravdivých správ – hoaxů, hraní her plných násilí, různé výzvy k následování, natáčení nečekaných útoků apod.

1. Nebezpečné výzvy (Challenge)

Na sociálních sítích se objevuje řada výzev, které nabádají často k nebezpečnému chování, kdy jejich uposlechnutí může napodobitelům způsobit vážnou zdravotní újmu. Děti si nepřipouštění míru nebezpečí, které z toho plynou.

2. Happy Slapping – natáčení fyzického útoku (zábavné fackování, kopání apod.)

Je vedeno snahou o získání videa, které bude mít velkou míru zhlédnutí. Jednotlivci, nebo skupina osob se odhodlá k fyzickému, či sexuálně orientovanému napadení oběti. Další člen skupiny napadení natáčí a natočené video zveřejnění, což je pak možnou příčinou napodobování, nebo je použito ke kyberšikaně. Útok může být zacílen na konkrétní oběť, ale cílen může být i na náhodně vybranou osobu. Důsledky útoků vedou k napodobení jinými skupinkami a pro oběť mohou být i někdy až fatální.

3. Vystavení se sexuálním obsahům

Součástí internetového obsahu jsou i hojně navštěvované pornografické stránky. Tvůrci pornografie přichází z řad profesionálů, ale často jsou to i amatérští uživatelé. Mezi tvůrce pornografie patří, bohužel, i čím dál tím častěji také děti nebo teenageři. (Eckertová a Dočekal 2013, s. 84)

Sexuální obsahy jsou na internetu volně dostupné, stačí jen odkliknout, že je uživatel starší 18 let. K těmto obsahům je možné se dostat prostřednictvím pornografických webových stránek, ale také pomocí různých stránek, které slouží například pro sdílení dokumentů nebo vyvěšování videí.

Šance, že se dítě nebo mladistvý k takovému obsahu dostane je proto vysoká. (Ševčíková a kol. 2014, s. 100)

Ne vždy vyhledávají děti či mladiství sexuální obsahy záměrně. Na internetu převažuje nezáměrná expozice těchto obsahů. Z provedených výzkumů vyplynulo, že nejčastějším místem, kde se děti a mladiství setkávají s těmito obsahy, jsou sociální sítě. Není však pravidlem, že se jednoduché sdílení sexuálních obsahů online pojí s rozsahem jeho expozice, protože ne všechny nezletilé děti mají s tímto zkušenost. Ze studií také vyplývá, že čím je dítě starší, tím větší je pravděpodobnost, že bude vystaveno sexuálním materiálům. (Ševčíková a kol. 2014, s. 102-103)

Ševčíková (2014, s. 105) však zdůrazňuje, že nezáměrné vystavení se sexuálním obsahům je v mnoha případech jen výjimečným jevem a existují konkrétní způsoby, jak se k takovým obsahům dostat. Je to především prostřednictvím vyskakujících (tzv. pop-up) webových oken, dále užíváním online stránek pro nahrávání a ukládání souborů a videí a neposlední řadě díky komunikací s dalšími lidmi online. Tyto skutečnosti mohou vést některé děti k představě, že ukládání, zasílání intimních fotografií, nebo vyžádání zaslání, není nic nepřirozeného. Neuvědomí si možnosti zneužití takto zaslaných fotografií a videí.

IV. Zjištění stavu míry rizikového chování vybrané skupiny dětí

Pro zjištění stavu možného ohrožení dětí při využívání informačních technologií a stavu jejich informovanosti o problematice, jsme provedli šetření mezi dětmi ve věku 13 až 17 let, a to jak ve dvou vesnických ZŠ, ve dvou ZŠ v menších městech a na Gymnáziu a ZŠ krajského města. Metodou získání a vyhodnocení požadovaných informací byl kvantitativní výzkum, kde data byla sbírána formou dotazníku, který byl na vybraných školách rozdán dětem k vyplnění. Průzkumu se zúčastnilo celkem 502 dětí a mladistvých, ale vzhledem k nekompletnosti vyplňování byla použita data od 486 dětí a adolescentů. Oslovený výzkumný vzorek charakterizuje následující Tabulka 1. V tomto článku jsou uvedeny pouze dílčí části výzkumu a uvádí odpovědi na vybrané otázky. Výzkum sloužil, jako pilotní ověření aktuálnosti této problematiky v moravskoslezském regionu.

Tabulka č. 1 Pohlaví dotazovaných.

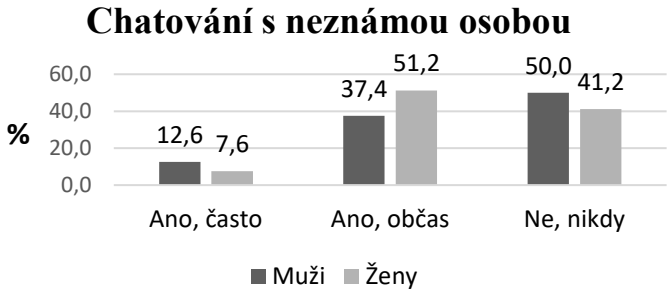
Pohlaví	Počet	%
chlapec	229	47,1
dívka	257	52,9

Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Z uvedeného vyplývá, že v rámci průzkumu byla zpracována anonymní data od celkem 486 dětí a adolescentů. Dále jsou uváděny odpovědi na vybrané otázky.

Graf 2 ukazuje procentuální četnost odpovědi na problematiku kontaktu a komunikování s neznámou osobou. O tuto oblast mají větší zájem dívky, ale jde o oblíbenou činnost i na straně chlapců.

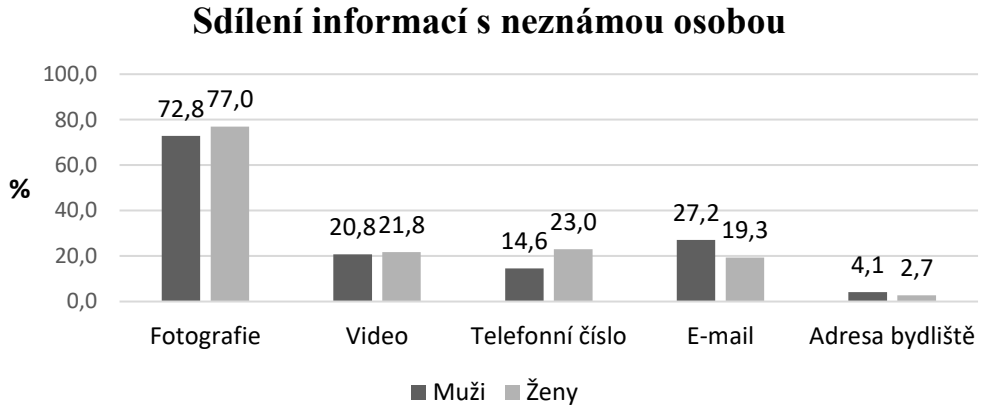
Graf 2 Chatování s neznámou osobou



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Po tomto úvodním zjištění směřovaly další otázky k problematice on-line komunikace a poskytování informací o své osobě. Zajímavé odpovědi uvádí zejména Graf 3, který uvádí rozsah poskytovaných informací dětí.

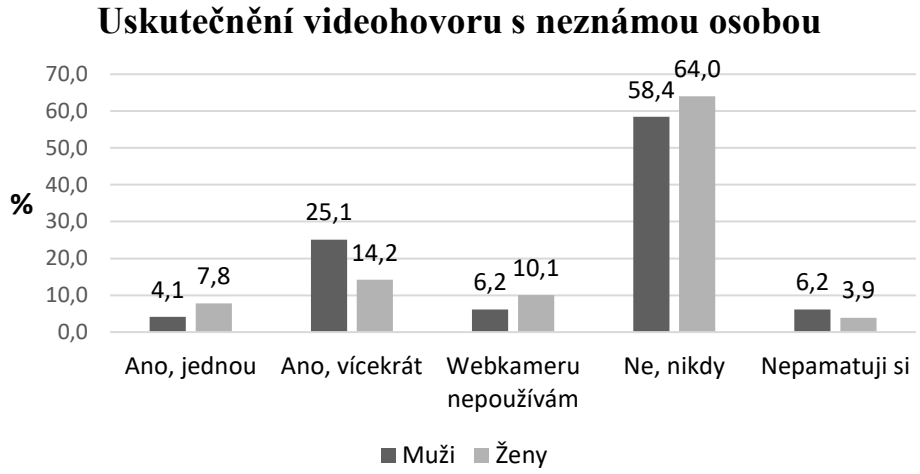
Graf 3 Sdílení informací o sobě s neznámou osobou



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

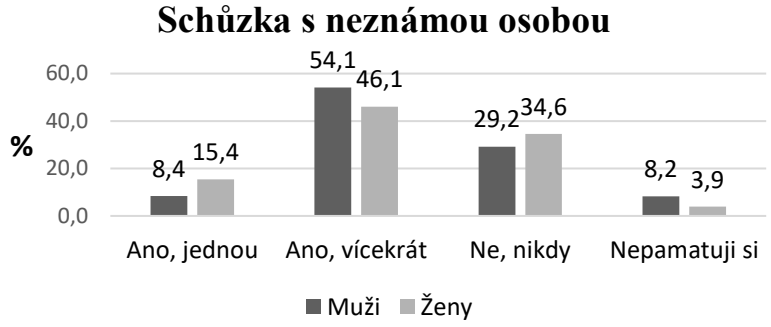
Samozřejmostí je, že někteří poskytli více svých osobních údajů. Graf 4 zatím ukazuje, že videohovory nejsou dětmi tak preferovány – vícekrát je uskutečnila čtvrtina chlapců a 14 % dívek.

Graf 4 Uskutečnění videohovoru s neznámou osobou



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

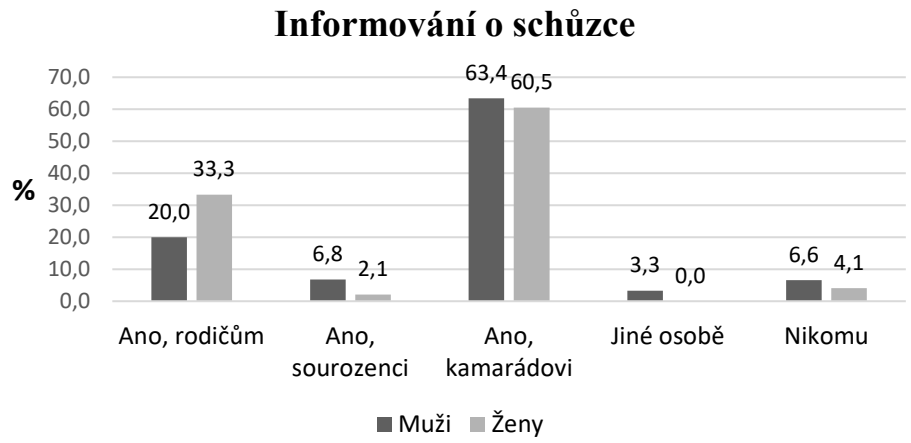
Graf 5 Schůzka s neznámou osobou



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Velmi zajímavým zjištěním, které uvádí Graf 5, je sjednání a uskutečnění schůzky s osobou, kterou poznali na sociální síti. Takovou schůzku uskutečnilo asi 60 % dívek a 62 % chlapců. Někteří uvádějí, že si to nepamatují, což by mohlo znamenat, že tuto skutečnost nechtěli uvést. Naproti tomu dotazovaní uvedli, že o schůzce řekli svým blízkým, i když ve více než 60 % to byly kamarádky, nebo kamarádi, zatím co rodičům se svěřilo 33 % dívek a jen 20 % chlapců – viz Graf 6.

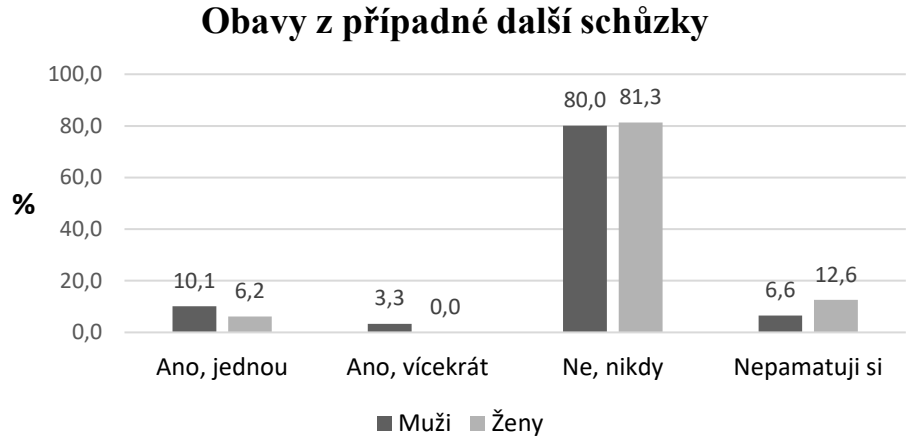
Graf 6 Informování o schůzce s neznámou osobou



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Další Graf 7 ukazuje, že naštěstí jen malá část odpovídajícím měla se schůzkou špatnou zkušenost a i přes naléhání druhé strany měla s případné další schůzky obavy. Jednalo se cca 13 % chlapců a 6 % dívek.

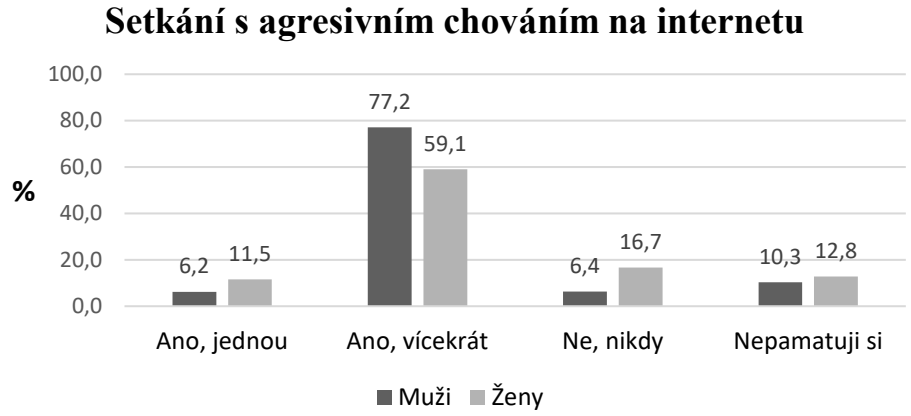
Graf 7: Obavy z případné další schůzky



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Další dvě otázky směřovaly na vlastní zkušenost s komunikací na Internetu. Velká část dotazovaných uvedla zkušenosti s agresivním chováním na sociálních sítích – viz Graf 8. Opakovanou zkušenost s agresivním chováním uvedlo téměř 60 % dívek a 77 % chlapců.

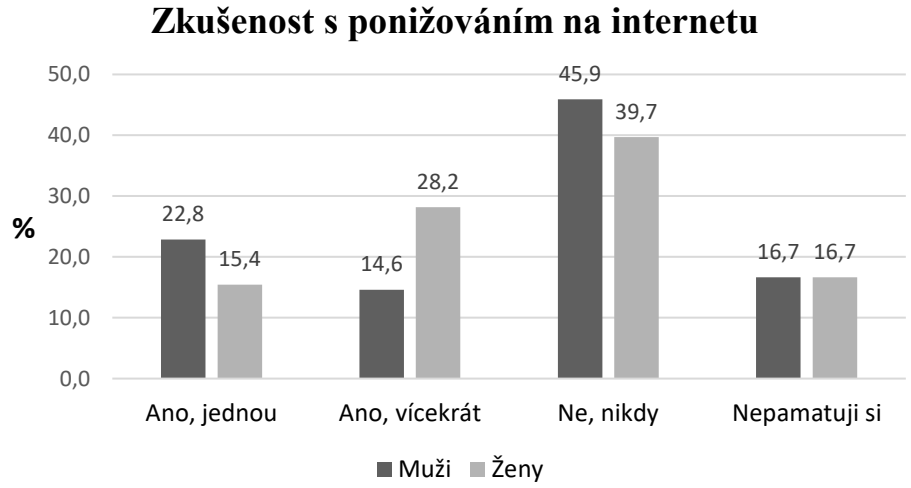
Graf 8 Setkání s agresivním chováním na internetu



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Z Grafu 9 zase vyplývá, že cca třetina chlapců, ale i dívek se setkala alespoň jednou s ponižováním. Naproti tomu se s tímto chováním nesetkalo více, než 40 % chlapců a dívek.

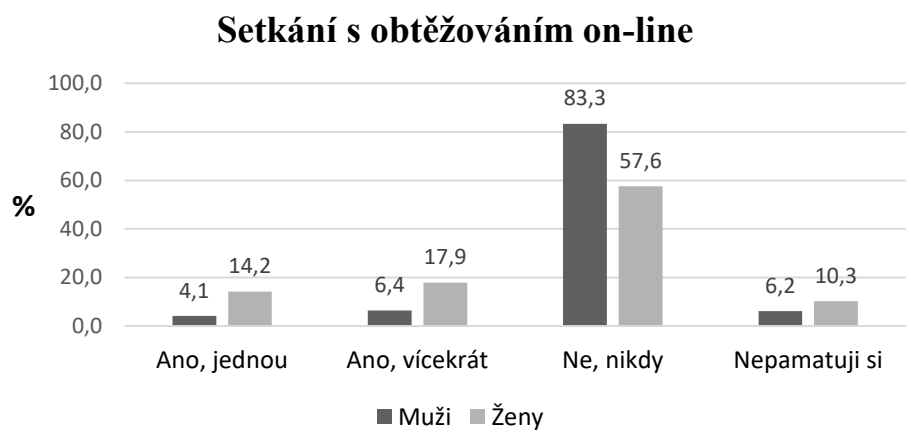
Graf 9 Zkušenost s ponižováním na internetu



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Poslední uváděná otázka zjišťovala, zda se dotazování setkali s obtěžováním při on-line komunikaci. Výsledky uvádí Graf 10. Alespoň jednou se to stalo více než 30 % dívek a10 % chlapců. Výsledek je docela očekávaný, neboť tyto útoky jsou více směrovány k dívkám, ale ohroženi jsou samozřejmě i chlapci.

Graf 10 Setkání s obtěžováním on-line



Zdroj: Lasáková (2020), Szymoniková (2020), zpracování vlastní

Velmi zajímavý výsledky rovněž vyplynuly z názoru dotazovaných na pravdivost informací, které
o sobě uvádějí a na jejich důvěru v informace, které uvádějí ostatní. Více než čtvrtina uvedla, že pozměňují údaje o své osobě a rovněž více než tři čtvrtiny nevěří zcela údajům, které zveřejňují ostatní.

V. Závěr

Každá generace nás dospělých má výhrady k jednání a chování generací mladších. Naše výtky směřují k jejich žebříčku hodnot, životnímu postoji, k morálce a velmi často k trávení volného času. Zásadním rozdílem však je, že současná mládež vyrůstá v době obrovského rozvoje informačních a komunikačních technologií. Děti mají s touto technologií nezřídka zkušenosti před svým nástupem do mateřské školy. Informační technologie a s nimi propojené sociální sítě jsou pro ně zdrojem informací, zábavy, ale i sociálních kontaktů, což berou jako samozřejmost.

Naopak my dospělí se těšíme a radujeme z toho, jak jsou naše děti „počítačově gramotné“, ale zapomínáme, ovládnutím práce na Internetu nemusí být „gramotné sociálně“. Ve virtuálním světě na ně, vzhledem k jejich nezkušenosti, číhají různá nebezpečí. Mohou propadnout závislosti, mít špatné sny z násilných scén, mohou se stát obětí kyberšikany nebo vydírání. Neuvědomují si mnohá nebezpečí, se kterými se i přes falešný pocit anonymity mohou setkat. Řešením však není zakazovat komunikaci v kyberprostoru, zvláště pokud sami nedáme mobil z ruky a bez něj jsme nervózní a neustále přijímáme zprávy, odepisujeme a sdílíme fotografie. Tento virtuální svět bychom měli přijmout, být rádi za digitální gramotnost svých dětí, ale hovořit s nimi o možných rizicích a způsobech jejich řešení. Je potřeba děti poučit, jak se ve virtuálním světě chovat, co jim může hrozit a jak se tomu bránit, poučit je o tom, že se mají chovat stejně jako ve světě reálném.

Samozřejmostí jsou silná hesla programové a technické prostředky zaměřené proti napadení počítače a ztrátě dat, ale poučit je i o skutečnostech, že zprávy a informace na Internetu mohou být poskytovány účelově, zkreslovány a podávány tak, aby došlo k plánovanému ovlivnění uživatelů. Nezbývá než se vzdělávat v tomto nové, dynamicky se rozvíjejícím prostředí a být dětem oporou a rádcem. Je velmi obtížné dětem vysvětli, že je špatně, pokud jsou závislé na mobilu, Facebooku, svých „virtuálních kamarádech“ a „lajcích“. Snažme se co nejdéle objevovat svět společnými silami, a to v podobě reálné, papírové formou knih a časopisů, nebo v podobě digitální.

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A COMPARISON OF THE TRENDS IN THE FACTORS OF FINANCIAL PERFORMANCE OF COMPANIES IN CZECH CLUSTERS

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Abstract

This paper deals with the effect of clusters on trends in the financial performance of companies in seven different industries (automotive, engineering, IT, furniture, nanotechnology, packaging, textile). The companies were divided into three groups – members of cluster organisations, non-members operating in the same region, and others. Changes in companies' performance were measured using the Malmquist index based on distance functions, the values of which were obtained using Data Envelopment Analysis (DEA). The overall change in performance was decomposed into technical efficiency change – including pure technical efficiency change and scale efficiency change – and technological change**.** The companies' own equity and liabilities were used as DEA inputs; revenues gained from their own products and services and economic value added were used at the outputs. The results of the research show that the effects of clustering on performance are only partial and are felt differently in different industries. There was only one industry (nanotechnology) where clustering was found to have no effect on any component of performance. In four industries (automotive, furniture, packaging, IT**)**, companies in cluster organisations were found to enjoy faster technological progress. In the engineering and textile industries, a positive impact on scale efficiency was found.

Keywords

Industry Cluster, Cluster Analysis, Financial Performance, Data Envelopment Analysis, Malmquist Index

I. Introduction

As early as in the 19th century, Alfred Marshall discovered that spatial agglomeration resulted in benefits and positive externalities for businesses. In the 1990s, Porter determined other factors of competitiveness and explained why certain industries are more successful in some regions. He introduced the term cluster for these industry groupings. However, explaining the functioning of clusters was only the beginning – targeted support for the establishment and development of clusters has become the basis of regional and innovation policy in many countries.

In the Czech Republic, clusters have been financially supported through operational programmes since 2004. In previous programming periods up to 2013, public resources worth nearly CZK 1.3 billion had been spent on supporting clusters. In the current programming period, an additional nearly CZK 696 million (API, 2020) has been released by the Operational Programme Enterprise and Innovation for Competitiveness. Such a large amount of support logically leads to the question of how efficient it is. Žižka, Hovorková Valentová, & Štichhauerová (2019) found that public support for clusters is efficient. Efficiency was measured using the tax and non-tax revenues paid by member companies into public budgets compared to the amount of support provided. At the same time, an assumption was made that cluster membership would lead to improved financial performance by the cluster. The research

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in the present paper raises the question of whether the existence of a cluster generally leads to faster increased financial performance compared to companies that do not operate in clusters.

The main objective of this paper was to find out whether industry clusters generally have a positive effect on the growth of financial performance of companies in various industries. Seven industries were selected for the analysis, representing both traditional industries (textile, furniture, engineering, automotive, packaging) and new industries (IT, nanotechnology). An additional sub-objective was to determine whether performance varies between companies depending on the cluster type (an institutionalised cluster organisation or a natural grouping). We assumed that member companies in a cluster organisation achieve a faster rate of growth than companies outside the cluster organisation, which is also attributable to the support received. At the same time, we also assumed that the collaborative environment of a cluster and the presence of an educated workforce, and educational and research institutions in the region in which the cluster is located would have a positive effect on non-member companies in the cluster (with some simplification, this group of firms can be referred to as a natural cluster), Therefore, companies outside the cluster organisation and the region in which it operates were supposed to show the weakest increase in performance. Another sub-objective was to identify trends in financial performance factors over time.

II. Clusters and financial performance

Both in theory and in this paper, the meaning of the term cluster is twofold. First, it is an industry grouping for which the term industry cluster is used. Second, it is the result of a multivariate statistical method used to classify objects. To distinguish these from the first meaning, any groups that are found are referred to as statistical clusters.

The development of the theory of industry clusters is associated with Michael Porter, who defined four basic determinants of competitiveness in 1990 – together, these form a diamond (factor conditions, demand conditions, relating and supporting industries, firm strategy, structure, and rivalry). According to Porter (1990), competitive advantage in a global world results from and is maintained by highly localised processes. Differences in national values, culture, economic structure, institutions, and culture contribute to competitive success (Porter, 1990). In this regard, Porter built on the work of Marshall ([1890], 1920) who identified agglomeration advantages in industrial districts. These benefits result from the existence of a specifically educated workforce in the local labour market, specialised suppliers, and knowledge spillover between competing companies. The existence of hereditary skills and close informal relationships between companies is also important. According to Porter & Ketels (2009), industrial districts and clusters have one thing in common, namely that the agglomeration of related economic activities and types of interaction have an impact on economic performance. Clusters mean a broader concept, encompassing many different variations of business-institution relationships. Clusters include a configuration of businesses that can also be found in industrial districts. Industrial districts can therefore be considered as one possible type of cluster.

In general, Porter (1998) defines an industry cluster as: *"...geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies, or common inputs. Finally, many clusters include governmental and other institutions - such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations - that provide specialized training, education,*

information, research, and technical support". Besides the location of entities within a given territory (which may comprise a city, region, state, or even cross-border areas), the central point of this definition is the cooperation between businesses, research institutions and universities. Porter linked location theory with business strategy. The result is not only a theoretical model of competitiveness, but also a practical tool of regional policy (Martin & Sunley, 2003).

Industry clusters may form and function perfectly naturally. Such clusters are sometimes referred to as Porterian (Pavelková et al., 2009) to emphasise the fact that they meet Porter's original characteristics, i.e. they formed with no external intervention. Such clusters result from endogenous development, which is the natural intense cooperation between companies and other institutions, and they benefit from close proximity. In addition, organised efforts expended by various actors to create and strengthen clusters began to be supported in the 1990s (Andersson et al., 2004). This process is called a cluster initiative. The result is planned or organised clusters (Lindqvist, Ketels, & Sölvell, 2012) which are also referred to as cluster organisations (Pavelková et al., 2019). The aim of cluster initiatives is to create a cluster identity, strategy, and brand, and to support innovation, research projects and networking between cluster actors. A cluster organisation is a legal entity established to facilitate and manage the development of a cluster (So, 2017). It acts as an intermediary between the various cluster members, and stimulates cooperation both within the cluster and between the cluster and the outside world (Schretlen et al., 2011).

In the European Union, support for clusters is related to the concept of smart specialisation, which results in economy of scale, knowledge transfer and networking between the various actors and infrastructures. It is in the area of networking that clusters play a central role (Pavelková et al., 2019). Various research shows that strong clusters have a positive impact on growth of employment and innovation, which can be measured e.g. through patents (Delgado, Porter, & Stern, 2014). While the positive impact of clusters on innovation is relatively well described in the literature, their impact on financial performance has received less attention. Moreover, the existing results of research in this area are not convincing, let alone unambiguous.

Kukalis (2010) examined a sample of US companies from the semiconductor and pharmaceutical industries in terms of differences in financial performance between companies operating within and outside a cluster. Performance was measured using the ROA and ROS indicators. He concluded that the difference between these groups of companies was either insignificant, or even that the non-clustered companies showed better performance than the companies in a cluster. Krželj Čolović, Milić, & Vrdoljak Raguž (2016) investigated the impact of clusters on business performance in the environment of small- and medium-sized enterprises in the tourism industry in Croatia. Business performance was evaluated using labour productivity and the income/expenditure ratio. They found that there was no difference in business performance between clustered and non-clustered companies. An extensive study of more than 4,000 companies from 86 different industries in the US on clustering's impact on corporate profitability as measured by ROA was conducted by Ruland (2013). The results showed that small companies in a cluster had worse profitability than non-clustered companies. For larger companies, the results were mixed. By contrast, in an extensive survey of 17,000 financial sector companies in the UK, Kuah (2008) proved that financial performance was better in certain types of clusters. To assess financial performance, he used return on capital employed (ROCE) and solvency. Specifically, if the companies were part of a cluster that was narrowly defined in terms of sector, their financial performance was worse than that of companies outside the cluster. However, if they were clustered in a related industry, this had a positive impact on their financial performance. A similar conclusion was found with regards to solvency. Žižka (2018) compared the financial performance of companies in the textile industry in the Czech Republic. The multi-criteria DEA method was used to measure performance, where the output

was economic value added (EVA), while the inputs were the number of employees, assets, and long-term capital. The growth in financial performance was identified to be faster among member companies of a cluster as compared to other companies in the same industry outside the cluster. Also, research that was conducted on more than 200 technology companies in clusters in Taiwan concluded that knowledge sharing and collaborative innovation strategies have a positive effect on financial performance (Chen, Wang, & Wang, 2018). However, here, the improvement in financial performance was measured by the opinion of managers on a three-point scale. In this context, it should be noted that according to the research conducted by Suchánek & Částek (2019), managers' opinions on financial performance may not match performance when measured using hard accounting data.

The above research shows that there is no clear linkage between a company's membership in a cluster and its financial performance. The assumed positive effect of clustering depends on the industry, type of cluster, its age and functioning. The results that are have been determined so far point to a research gap in the area of defining the factors that – in the case of clusters – have a positive effect on improving the financial performance of their member companies.

In general, the concept of performance can be characterised as the correct deployment and management of the components of a causal model (enterprise) that lead to the achievement of set goals at the right time, within the constraints specific to each company (Lebas, 1995). Financial performance is a measure of change in a company's financial situation, i.e. in the financial flows resulting from managerial decision-making and the implementation of these decisions by individual actors within the company. The essence of financial performance is to create value in order to maintain the existence of the company (Carton & Hofer, 2006). Performance can be measured using various simple indicators (see the ROA, ROCE, ROS indicators above), pyramid indicators, composite indicators, but also multidimensional and multicriteria methods. Mono-criteria approaches, which are based on the use of a single measure, are simple and widely used in practice, but comparing companies according to different indicators may yield different results. That is why more complex linear-programming methods have been developed that can take into account various inputs and outputs that affect a company's performance. This group includes Data Envelopment Analysis (hereinafter DEA), which evaluates a company's performance (both financial and non-financial) using a larger number of inputs and produced outputs.

DEA is a tool used for evaluating the performance and efficiency of homogeneous units that are referred to as Decision Making Units (DMU). DEA uses linear-programming techniques to find an empirical efficient frontier or best-practice frontier for the set of observed units (Zhu, 2014). The first DEA model, CCR, was introduced by Charnes, Cooper and Rhodes (the name of the model is derived from the authors' names) in 1978. This model works with virtual inputs and virtual outputs, and weights that maximize efficiency are sought for each DMU, input, and output. The CCR model was developed assuming constant returns to scale (CRS). In 1984, the model was generalised to address variable returns to scale (VRS). The modified model is known as BBC, after the names of the authors Banker, Charnes and Cooper (Düzakın & Düzakın, 2007). Units can seek to achieve an efficient frontier either by maximising outputs at constant inputs (output-oriented models) or by minimising inputs at constant outputs (input-oriented models) (Yan, 2019).

In the case of the input-oriented CCR model, let us assume that we have homogeneous DMUs (companies) that consume a vector of n inputs $\boldsymbol{X}$ and produce a vector of m outputs $\boldsymbol{Y}$. For each DMU_I, this is the input vector $\boldsymbol{x_I}$ and the output vector $\boldsymbol{y_I}$. For each DMU, the rate of technical efficiency TE can be determined expressing the ratio of the weighted outputs to the weighted inputs, which are called virtual outputs and inputs, see formula (1). If the rate of technical efficiency is one, the DMU is efficient. If the rate of technical efficiency is less than one, the

DMU is inefficient (Yan, 2019). DEA thus divides the set of units into efficient and inefficient ones.

The optimal weights can be obtained by solving the following model (1), see e.g. Coelli & Coelli (2005). We are seeking $\boldsymbol{u}$ and $\boldsymbol{v}$ weights that maximise the efficiency of a given decision-making unit U_I.

$$\text{Maximising eff}(U_I) = \frac{\boldsymbol{uy_I}}{\boldsymbol{vx_I}} \qquad (1)$$

under the constraints

$$\frac{\boldsymbol{uy_j}}{\boldsymbol{vx_j}} \leq 1, j = 1, 2, \ldots, I$$

$$\boldsymbol{u, v} \geq 0$$

However, the model is not linear. Using the Charnes-Cooper transformation, the model can be easily linearised, see formula (2).

$$max_{\mu,w}(\boldsymbol{\mu y_i}) \qquad (2)$$

under the constraints

$$\boldsymbol{wx_i} = 1$$

$$\boldsymbol{\mu y_j - vw} \leq 0, j = 1, 2, \ldots, I$$

$$\boldsymbol{\mu, w} \geq 0$$

where μ and w are also weights, but they are obtained by solving a different linear-programming problem.

To manage the economy of inefficient units, a dual model can be used. The output of the dual model are the weights λ of peer efficient units, which can be used to obtain information on what changes need to be made to the amounts of inputs for inefficient units.

For the dual problem, it is necessary to solve model (3).

$$min_{\theta,\lambda}\theta \qquad (3)$$

under the constraints

$$-\boldsymbol{y_i} + \boldsymbol{Y\lambda} \geq 0$$

$$\theta\boldsymbol{x_i} - \boldsymbol{X\lambda} \geq 0$$

$$\boldsymbol{\lambda} \geq 0$$

where θ is a scalar that expresses the efficiency score of a given firm.

In the case of a model that assumes variable returns to scale, the rate of technical efficiency is called pure technical efficiency (PTE). The ratio of technical efficiency to pure technical efficiency is called scale efficiency (Yan, 2019), see formula (4).

$$SE = \frac{TE}{PTE} \qquad (4)$$

In the case of BCC, the input-oriented model used in our research, a convexity constraint needs to be added (5).

$$\sum_{j=1}^{n} \lambda_j = 1 \qquad (5)$$

The rate of technical efficiency or, where relevant, pure technical efficiency, can be determined in each period. However, it is important to realise that there are innovations that are taking place

over time, resulting in a shift of the efficient frontier. The Malmquist index is used to measure changes in efficiency over time.

Designed in 1953 by Malmquist, the index evaluates changes in relative productivity between different time periods. One of the advantages of the Malmquist index is its identification of the components that lead to a change in productivity. The index breaks down overall productivity change into technical efficiency change *EFFCH* and technological change *TECH*, see formula (6). On the one hand, companies strive to come closer to the efficient frontier (the best companies in an industry) through various internal organisational measures. This effort is expressed by the *EFFCH* component (Li, Crook, & Andreeva, 2017). At the same time, however, innovations lead to an efficiency frontier shift over time. This shift is expressed by the *TECH* component. In general, it is desirable that the *MI*, *EFFCH*, and *TECH* values be greater than one. In such a case, industry productivity increases, efficiency improves and there is technological progress.

The change in internal technical efficiency *EFFCH* can be further decomposed into the product of pure technical efficiency change *PECH* and scale efficiency change *SECH*. *PECH* expresses the DMU's ability to improve its internal technical efficiency between two periods *t* and *z* under variable returns to scale. *SECH* measures scale efficiency change between these periods. The optimal value of *SECH* is one, because in that case a company is operating under constant returns to scale and its production at the its technically best (Pantzios, Karagiannis, & Tzouvelekas, 2011).

$$MI^{t,z}(x^z, y^z, x^t, y^t) = EFFCH_I TECH_I = (PECH_I SECH_I) TECH_I \qquad (6)$$

Similar to the previous description of the CCR/BCC models, let us assume there is a company (DMU) that operates with a vector of *n* inputs $\boldsymbol{x}^t$ and produces *m* outputs $\boldsymbol{y}^t$ in period *t*. Then (x^t, y^t) denotes an input-output pair for the given DMU in period *t* and (x^z, y^z) is an input-output pair for the same unit in period *z*. The Malmquist index (MI) between periods *z* and *t* is given by the formula (7), or (8).

$$MI^{t,z}(x^z, y^z, x^t, y^t) = \sqrt{\frac{D^t(x^z,y^z) D^z(x^z,y^z)}{D^t(x^t,y^t) D^z(x^t,y^t)}} \qquad (7)$$

$$MI^{t,z}(x^z, y^z, x^t, y^t) = \frac{D^z(x^z,y^z)}{D^t(x^t,y^t)} x \sqrt{\frac{D^t(x^z,y^z) D^t(x^t,y^t)}{D^z(x^z,y^z) D^z(x^t,y^t)}} \qquad (8)$$

$$EFFCH^{t,z}\ TECH^{t,z}$$

The expressions $D^t(x^t, x^t)$ and $D^z(x^t, x^t)$ in formulas (7) and (8) are distance functions. They express the distances between a DMU with inputs and outputs in period *t* and the efficient frontiers in periods *t* and *z*. Another pair of distance functions $D^z(x^z, x^z)$ and $D^t(x^z, x^z)$ measures the distances between a DMU with inputs and outputs in period *z* and the efficient frontiers in periods *z* and *t* (Wang, 2019). The values of distance functions *D* are determined using Data Envelopment Analysis (DEA). In general, the distance between the periods may not be one, but instead may be wider.

Formula (8) indicates the decomposition of the Malmquist index into two components. Technical efficiency change $EFFCH^{t,z}$ assumes an efficient frontier in the same period and expresses the ratio of a given DMU's efficiency in period *z* to its efficiency in period *t*. This means that the DMU tried to improve its internal performance through various work organisation and production measures. Technological change $TECH^{t,z}$ characterises the frontier shift. If the efficient frontier shifts from its position in period *t* towards the position in period *z*, the $TECH^{t,z}$ value will be greater than one and there will be technological progress taking place. The $TECH^{t,z}$ component expresses a group change in efficiency brought about by all DMUs, i.e. by innovations in the industry (Wang, 2019).

III. Data and Methodology

The research included clusters from seven industries – furniture (the group designation starts with the letter F), IT (I), packaging (P), engineering/machinery (E), automotive (A), nanotechnology (N), and textile (T). These industries were selected because they have existing cluster organisations in the mature phase (active for at least 10 years). At the same time, they represent a mix of different industries, both traditional and modern. The companies in each industry were divided into three groups:

- companies in a cluster organisation (the letter C appears second in the group designation),
- companies that operate in the same industry and region as the cluster organisation, but are not members of the cluster organisation (the letter N appears second in the group designation),
- companies operating in the same industry, but outside the region where the cluster operates (the letter O appears second in the group designation).

The basic characteristics of each industry are listed in Table 1. Before the slash is the number of companies in each of the relevant groups; after the slash is the number of companies for which financial data were successfully obtained for the entire 2009–2016 time series. The number of analysed companies is affected by the fact that entrepreneurs – natural persons – are not obliged to publish financial statements. Business corporations in the category of micro- and small-accounting entities publish condensed financial statements without any profit and loss statement, which also makes performing an in-depth analysis of financial performance impossible. At the same time, these two categories of businesses are the most common in the economy: according to CZSO (2019), 97.5% of all entities in the manufacturing industry had fewer than 20 employees in 2018.

Table 1 Characteristics of the industries under examination

Industry	Region of operation of CO	Core NACE	Year of establishment of CO	Number of companies in CO	Number of companies in the region outside CO	Number of companies outside the region
Automotive	Moravian-Silesian	293	2006	11/9	25/13	135/52
Engineering	Moravian-Silesian, Olomouc, South Bohemian	251, 28	2003	10/6	1,011/167	1,836/197
IT	Moravian-Silesian	620	2006	8/6	718/21	3,409/85
Furniture	South Bohemian	161, 162, 310	2006	16/12	1,794/46	9,125/68
Nanotechnology	Central Bohemian, Pardubice	721	2010	6/3	357/19	790/45
Packaging	Hradec Kralove	172, 222	2005	16/9	104/15	764/162
Textile	Liberec, Hradec Kralove, Pardubice	13, 141	2006	19/19	275/38	1,430/138
Total				86/64	4,284/319	17,489/747

Source: Prepared by the authors (2020)

The research was divided into the following steps.

Step 1: Compiling a list of companies in all seven industries – a list of member organisations was compiled for each cluster organisation. The data were sourced from the cluster website or

from the cluster organisation manager. For each organisation, the main line of business according to the NACE statistical classification was determined using the MagnusWeb database (Bisnode, 2019). Since the research focused on evaluating the financial performance of companies, only business entities were included in further analysis. Since DEA analysis requires the evaluated DMUs to be homogeneous, i.e. that they operate in similar markets (**Soteriou & Zenios, 1999**), the cluster core that determines the main focus (industry) of the entire cluster was identified for each cluster organisation, (see the NACE column in Table 1). Subsequently, the MagnusWeb database was used to identify companies that operate in the same industry and region in which the cluster organisation is based, but are not member of the cluster organisation. Finally, companies operating in the same industry in other regions were also identified.

Step 2: Determining the inputs and outputs for Data Envelopment Analysis – capital, namely equity and liabilities, was used as the input, whereas revenues from their own products and services and economic value added (EVA) were used as the outputs. EVA is based on economic profit that respects all the costs of the capital invested, i.e. both equity and liabilities (Grant, 2003). EVA is considered a modern measure of a firm's success because it expresses the company's true profitability and it is associated with the need to maximise shareholder wealth (Stewart, 1994). Since the transformation of accounting profit into economic profit is a relatively complicated process that is affected, among other things, by national accounting standards, Neumaierová & Neumaier (2002) created a model for calculating the EVA indicator, see formula (9). The same calculation methodology has been used by the Ministry of Industry and Trade since 1999. This is an equity-based approach where EVA is defined as the product of equity and spread (i.e. return on equity minus alternative cost of equity):

$$EVA = (ROE - r_e).E \qquad \textbf{(9)}$$

ROE … Return on equity

r_e … alternative cost of equity

E … Equity

The alternative cost of equity (r_e) can be calculated using formula (10), where a risk premium is added to the risk-free rate (r_f). According to the Ministry of Industry and Trade (2017), the risk premium consists of a risk premium for business risk (r_{pod}), financial structure (r_{finstr}), financial stability ($r_{finstab}$) and the size of the company or the liquidity of its shares (r_{la}).

$$r_e = r_f + r_{pod} + r_{finstr} + r_{finstab} + r_{la} \qquad (10)$$

Step 3: Collecting data for each group of companies in each industry – for all three groups of companies in each industry, financial data were obtained from their balance sheets and profit and loss statements. The data were collected for the 2009–2016 period. The initial year of collection was determined taking into account the process of establishing cluster organisations, so that at least three years have passed since the establishment of the cluster organisation. It is assumed that the cluster's positive effect on performance would be felt with a certain amount of delay. 2016 was determined taking into account the number of financial statements obtained, as the number of available statements dropped in subsequent years. Only those companies for which a complete time series of financial statements was obtained were included in the research. Accounting data were sourced from the MagnusWeb database (Bisnode, 2019) and the collection of documents available in the public register (Department of Justice, 2020). As mentioned above, the problem is that micro and small businesses do not publish their accounting data. That said, even some large corporations do not comply with their legal obligation and either do not publish their accounting data at all, or do so with a significant amount of delay. As Table 1 shows, obtaining accounting data for member companies in cluster

organisations was the most successful, as these were mostly business corporations which have to publish their annual reports and financial statements in the public register.

Step 4: Calculating the Malmquist index and decomposing it – businesses were divided into a total of 21 files (7 industries, each comprising 3 groups of companies). For each group, the DEA-score-based Malmquist index was determined, including its components (EFFCH – technical efficiency change under CRS; PECH – pure efficiency change under VRS; TECH – technological change and SECH – scale efficiency change). An input-oriented model with radial distances was used. The MI compares a DMU's performance between periods t and z, see formula (7). The analysis was performed at one-year periods. The geometric means of the Malmquist index and its components were determined for each industry and for each group of companies within the industries. DEA scores were calculated using the MaxDEA 7 Ultra software.

Step 5: Comparing the Malmquist Index and its components between groups of companies and industries – since the final output of step 4 was geometric means, the companies' original values of the MI and its components were logarithmised. This is because the geometric mean is a monotonic function of the mean of logarithms. Thus, if there is a significant difference between the means of the logarithmised data, there is also a significant difference between the geometric means of the original variables (**Alf & Grossberg, 1979**). The Shapiro-Wilk test proved that the data did not have a normal distribution and, for some groups of companies, Levene's variance check test found that the homoscedasticity constraint was not met. For these reasons, the non-parametric Games-Howell post-hoc test was used to identify the differences between all groups of companies. The Games-Howell test works with the order of original values and examines the differences in the means for the various groups. The differences were tested using the Statgraphics XVIII software. The significance level alpha was 5%.

Step 6: Statistical cluster analysis of groups of companies – a hierarchical cluster analysis was performed to identify similarities between the various groups of companies in different industries. Ward's method of clustering with squared Euclidean distances was used. First, the similarity of groups of companies was assessed using a dendrogram of objects. Then, the basic characteristics of the MI and its components EFFCH and TECH were calculated for each statistical cluster.

IV. Research Results

Table 2 shows the average annual changes in the Malmquist index and its components in the industries under evaluation, by group of companies according to their cluster and region affiliation. Table 2 shows that performance in the industries under review decreased by 1.4% year-on-year, over the entire 2009–2016 monitoring period. The reasons for the decrease were both on the part of the companies, namely a decline in their internal efficiency, and in the shift of the efficient frontier in an undesirable direction. The decline in technical efficiency was caused by a decrease in scale efficiency, which means that the companies were not operating at the optimum scale of production.

Table 2 Average scores of the Malmquist index and its components by industry in the 2009–2016 period

Group	Count	MI	EFFCH	TECH	PECH	SECH
AC	9	1.082	1.018	1.063	1.005	1.013
AN	13	1.108	1.020	1.086	1.045	0.977
AO	52	1.011	1.030	0.981	1.050	0.981
Auto total	**74**	**1.036**	**1.027**	**1.009**	**1.043**	**0.984**
EC	6	1.073	1.104	0.972	1.020	1.082
EN	167	0.984	1.006	0.978	1.103	0.913
EO	197	1.021	1.015	1.006	1.061	0.957
Engineering total	**370**	**1.005**	**1.013**	**0.993**	**1.079**	**0.939**
IC	6	1.023	0.978	1.046	0.989	0.989
IN	21	0.926	1.009	0.917	0.992	1.018
IO	85	0.972	0.949	1.023	1.004	0.945
IT total	**112**	**0.966**	**0.962**	**1.004**	**1.001**	**0.961**
FC	12	1.032	0.994	1.038	0.985	1.009
FN	46	0.976	0.990	0.986	1.015	0.976
FO	68	0.980	0.981	0.999	1.060	0.925
Furniture total	**126**	**0.984**	**0.986**	**0.998**	**1.036**	**0.951**
NC	3	0.971	1.021	0.951	1.021	1.000
NN	19	0.996	0.975	1.022	0.960	1.015
NO	45	0.994	1.010	0.984	1.026	0.985
Nano total	**67**	**0.994**	**1.000**	**0.993**	**1.007**	**0.994**
PC	9	0.978	0.926	1.055	0.998	0.928
PN	15	1.022	1.011	1.011	0.998	1.013
PO	162	0.982	1.032	0.952	1.120	0.922
Packaging total	**186**	**0.985**	**1.025**	**0.961**	**1.103**	**0.929**
TC	19	1.012	1.008	1.004	1.006	1.003
TN	38	0.961	0.935	1.028	1.048	0.892
TO	138	0.934	0.936	0.998	1.084	0.863
Textile total	**195**	**0.947**	**0.942**	**1.005**	**1.069**	**0.881**
Core total	64	1.025	1.001	1.024	1.001	1.000
Natural total	319	0.984	0.994	0.989	1.059	0.939
Other total	747	0.984	0.994	0.991	1.068	0.930
Industry Total	**1,130**	**0.986**	**0.994**	**0.992**	**1.062**	**0.937**

Source: Prepared by the authors (2020)

The automotive and engineering industries were an exception, as their performance grew at an average annual rate of 3.6% and 0.5% respectively. In the automotive industry, both components contributed positively to performance growth, i.e. both improved internal organisation and technological progress resulted in a shift of the industry's efficient frontier. In the engineering industry, performance growth was driven by improved internal efficiency. As far as the other industries are concerned, it should be noted that packaging showed an average annual increase in technical efficiency of 2.5%. However, at the same time, there was a negative shift in the efficient frontier in this industry. In the remaining industries, both components of performance declined or stagnated.

In terms of the various groups of companies, the fastest growth in performance (almost 11 % per year) was found in the automotive industry in the region in which the cluster organisation is based. This group was followed by companies in the cluster organisation with an average growth rate of over 8 % per year. In both cases, both components contributed to the growth, but the *TECH* component – which can be interpreted as a result of innovation activities in the industry – contributed more significantly. It is apparent that there is a competitive and collaborative environment in the automotive industry in the Moravian-Silesian Region, which contributes to the growth in company performance.

By contrast, the sharpest decline in performance was identified in IT companies in the region in which the cluster organisation exists. In this group of companies, performance declined by an average of 7 % per year. This was caused by technological change. Interestingly, in the same industry, IT companies in the cluster organisation grew at an average rate of 2.3 % per year and, conversely, their growth was driven by technological progress. Given these trends, it can be concluded that the existence of the IT cluster had a positive effect. Similar trends can be observed in the furniture industry, where the performance of companies in the cluster organisation also grew (by an average of 3.2 % per year) due to innovation. In contrast, furniture companies outside the cluster showed a decline in performance in both components.

The following Tables 3 to 5 show the results of the Games-Howell post-hoc test, which was used to compare the average values of the *MI* and its components in each group of companies. Given the extent of the outputs, the tables are only provided for those components where more frequent differences between groups were found. The other differences are only commented on in the text.

In terms of the overall Malmquist index, significant differences (at a significance level of 5%) were only identified between three groups of companies (AN > AO, AN > IN, AN > FN). This means that the hypothesis that clustered companies had faster performance growth rates was only confirmed in one case, namely in the automotive industry. However, the hypothesis that members of the automotive cluster organisation would perform better than non-member companies was not confirmed. This conclusion is also apparent when making a comparison of the *MI* values for the AC and AN groups of companies in Table 2. For the *EFFCH* component, a significant difference was only found for one pair of values (PC < PO). This means that in the packaging industry, companies outside the cluster showed a significantly lower rate of decline in technical efficiency than companies in the cluster organisation. No significant difference was confirmed for the other pairs of values.

A higher incidence of significant differences was found in the case of the *TECH* component, see Table 3. On the diagonal, groups of companies within the same industry are compared. Above the diagonal, pair differences between industries are shown. The assumption that the trends in the *TECH* component would be better for clustered companies was confirmed in three industries. In the automotive industry, companies in a cluster organisation and in a natural cluster showed faster technological change than companies in other regions. In the furniture industry, technological progress was found in companies within the cluster organisation, both in comparison to other companies within the same region and in comparison to companies in other regions. However, unlike the automotive industry, the technological growth of companies within the natural regional cluster was not significantly better than that of other companies in other regions. All three assumptions were confirmed in the packaging industry. Technological progress was strongest among companies within the cluster organisations. At the same time, it was also stronger in non-member companies operating near the cluster as compared to packaging companies from other regions. Only companies from other regions showed technological regress. In the IT industry, significantly stronger technological progress was identified in companies within the cluster organisation as compared to other companies outside

the region in which the cluster operates. However, technological change in the natural IT cluster was negative, even in comparison to companies in other regions. At the same time, an analysis of the *TECH* component revealed industries that showed trends that were opposite than expected. Engineering companies in the cluster organisation experienced a shift of the efficient frontier in an undesirable direction, in contrast to companies outside the region of the cluster. In the nanotechnology cluster, technological progress was achieved by companies in the region in which the cluster organisation exists, but not directly by its member companies.

An inter-industry comparison of the *TECH* component is more difficult. If we look directly at cluster organisations, the IC group of companies showed significantly faster technological growth compared to EC and NC, and the PC group compared to EC. In the group of natural clusters, companies in the automotive industry (AN) grew faster compared to the EN, FN, IN, and PN groups.

Table 3 Significant differences in the TECH component between groups of companies over the 2009–2016 period

Industry	A	E	I	F	N	P	T
A	AN > AO, AC > AO	AN > EN, AN > EO	AC > IN, AN > IN	AC > FN, AN > FN	AN > NC	AN > PN	x
E		EC < EO	EC < IC, EO < IC, EO > IN,	EN < FC	x	EC < PC, EO < PC	EN < TN
I			IC > IN, IN < IO	FN < IC, FO < IC	IC > NC	IC > PO, IN < PC	IN < TC, IN < TN
F				FC > FN, FC > FO	x	FC > PO	x
N					NC < NN	x	x
P						PC > PO, PC > PN, PN > PO	x
T							x

Source: Prepared by the authors (2020)

Table 4 Significant differences in the PECH component between groups of companies over the 2009–2016 period

Industry	A	E	I	F	N	P	T
A	x	x	x	x	x	AC < PO	x
E		x	x	x	EN > NN, EO > NN	x	x
I			x	x	x	IO < PO	x
F				x	x	x	x
N					x	NN < PO	x
P						PC < PO, PN < PO	x
T							x

Source: Prepared by the authors (2020)

In the *PECH* component (see Tab. 4), significant differences were only identified within one industry (packaging), but they were opposite to the original assumption. Packaging companies outside the region in which the cluster operates showed an increase in pure technical efficiency, in contrast to member companies of the cluster organisation and other companies in the region

in which the cluster operates. In the group of natural clusters, engineering companies achieved significantly better improvement in efficiency than companies in nanotechnology. Other differences between industries can be seen in Table 4.

Significant differences in scale efficiency change *SECH* are shown in Table 5. The original assumption that the existence of a cluster organisation would have a positive effect on economies of scale was confirmed in two industries – engineering and textile. In the first case, the difference is significant compared to non-member companies of the cluster. In the textile industry, the difference is significant compared to other textile companies that operate in other regions than that in which the cluster operates.

Table 5 Significant differences in the SECH component between groups of companies over the 2009–2016 period

Industry	A	E	I	F	N	P	T
A	x	x	x	x	x	x	AC > TO, AO > TO,
E		EC > EN	x	x	x	EC > PC	EC > TN
I			x	x	x	x	x
F				x	x	x	FC > TO
N					x	x	x
P						x	x
T							TC > TO

Source: Prepared by the authors (2020)

In terms of the overall comparison of all three groups of companies across all industries (members of cluster organisations, non-members operating within the same region, and companies in other regions), some differences can be observed in the trends in performance and its components (see Table 2). However, most differences are not significant at a 5% level. This applies both to the overall trends in performance *MI*, and to changes in internal efficiency *EFFCH*. The Games-Howell post-hoc test (see Table 6) only identified significant differences in the *TECH* component between member and non-member companies of the cluster organisation. This means that in the group of cluster organisations, there was a significant desirable shift in the efficient frontier. For the *PECH* component, trends opposite than those originally assumed were identified. Specifically, the change in pure technical efficiency was significantly worse in the group of cluster organisations (it practically stagnated) in contrast to the group of non-member companies or other companies, where there was a year-on-year increase in pure internal efficiency (by an average of 6 % to 7 % per year). In terms of scale efficiency *SECH*, a significant change was identified in the group of cluster organisations in comparison to the group of other companies.

Table 6 Results of Games-Howell post-hoc tests for each group of companies

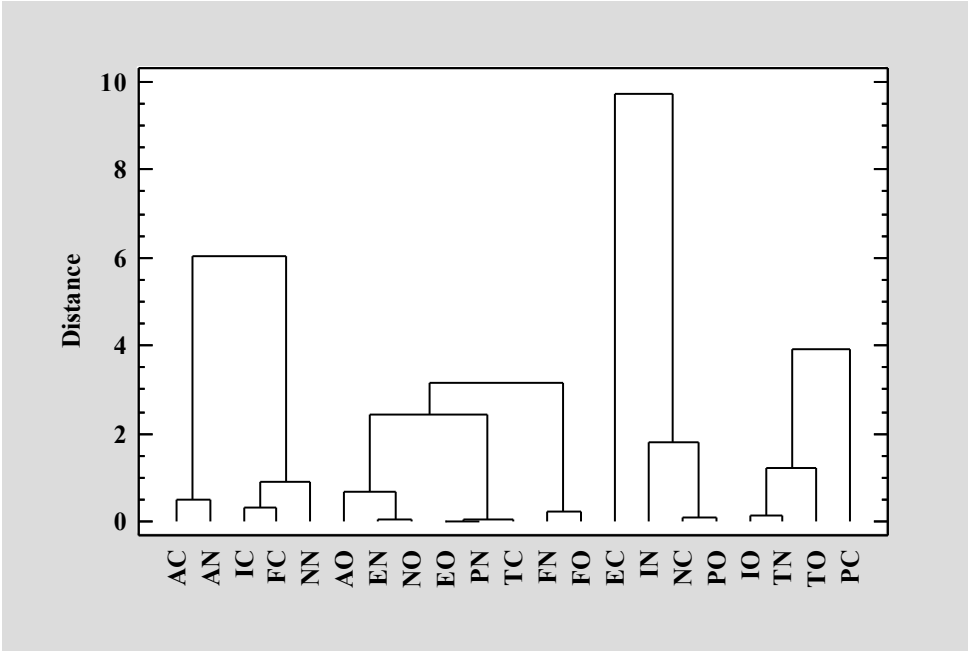
Group	TECH			PECH			SECH		
Contrast	Sig.	Difference	+/- Limits	Sig.	Difference	+/- Limits	Sig.	Difference	+/- Limits
C - N	*	0.034422	0.01912	*	-0.05653	0.052338		0.063431	0.06461
C - O		0.032952	0.036918	*	-0.06471	0.042283	*	0.072267	0.071872
N - O		-0.00147	0.034231		-0.00818	0.051469		0.008836	0.078706

***** denotes a statistically significant difference
Source: Prepared by the authors (2020)

Making a comparison of the trends in performance and its components across industries is also difficult, because the DMUs cannot be considered homogeneous – they operate in different markets, are of different sizes, work with different inputs and produce different outputs. A statistical cluster analysis provides a certain amount of insight. This is a multivariate statistical method that seeks to create natural clusters that are as homogeneous as possible internally and as different as possible from each other.

Figure 1 shows a dendrogram of groups of companies that was created based on clustering according to two variables, *EFFCH* and *TECH*. At clustering level 9, four larger clusters of objects can be identified in the figure. The scatterplot in Figure 2 shows the position of each group of companies according to the *EFFCH* and *TECH* indicators. At the same time, it divides the groups of companies into four statistical clusters of groups. To facilitate interpretation, average characteristics were determined for each statistical cluster according to the magnitude of the *MI*, *EFFCH* and *TECH*, see Table 7.

Figure 1 Dendrogram of groups of companies

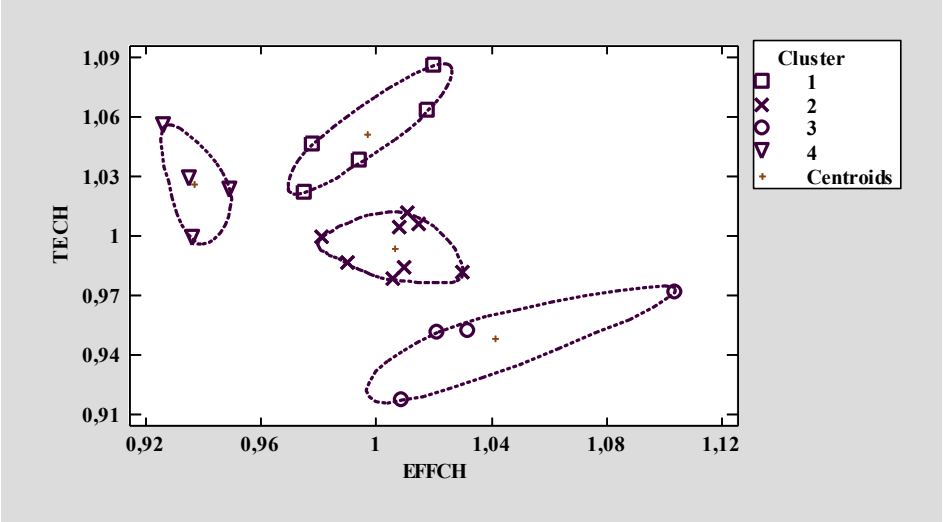


Source: Prepared by the authors (2020)

The first statistical cluster consists of groups of companies AC, AN, FC, IC, NN. It contains three cluster organisations and two natural clusters. It can be characterised as being oriented towards innovation and technological progress, with a rather constant level of internal technical efficiency.

The second and largest statistical cluster includes eight groups of companies (AO, EN, EO, FN, FO, NO, PN, TC). It includes only one cluster organisation, three natural clusters and four industries that are not spatially localised. It can be described as being stable, with no significant changes in internal work organisation or innovation.

Figure 2 Cluster Scatterplot



Source: Prepared by the authors (2020)

The third statistical cluster contains four groups of companies (EC, IN, NC, PO), i.e. two cluster organisations, one natural cluster and one industry that is not spatially concentrated. This cluster is characterised by an increase in internal technical efficiency and a negative technological change. It can be characterised as being oriented towards internal managerial measures to improve efficiency.

The fourth statistical cluster also comprises four groups of companies (IO, PC, TN, TO). It contains one cluster organisation, one natural industry grouping and two other industries that are spatially fragmented. On average, this cluster shows the largest decline in internal technical efficiency but, on the other hand, it shows a positive technological shift. It can therefore be described as being oriented towards change in technology.

Table 7 Average values of the MI, EFFCH and TECH in statistical clusters

Cluster No.	MI	EFFCH	TECH
1	104.76 %	99.68 %	105.10 %
2	100.00 %	100.65 %	99.35 %
3	98.65 %	104.09 %	94.78 %
4	96.11 %	93.65 %	102.62 %

Source: Prepared by the authors (2020)

V. Conclusions

The objective of the research was to find out whether cluster initiatives that aim to provide targeted support for the establishment and development of cluster organisations bring any economic benefits to companies. The research that was carried out did not generally confirm the above assumption. In none of the industries was it found that member companies of a cluster organisation experienced faster growth in overall performance over the entire 2009–2016 period.

In terms of the type of cluster of a company's membership, it was not confirmed that the change in overall performance differed for all monitored industries over the period under examination. Therefore, it cannot be concluded that industry clusters generally have a positive effect on the financial performance of companies. In terms of internal technical efficiency change, no significant difference was found between cluster members and non-members. The group of

cluster organisations even showed a stagnation of pure technical efficiency, while other groups of companies experienced improvement. However, cluster organisations were found to have a positive impact on the shift of the efficient frontier, which is usually attributed to the effects of innovation within the specific industry. The group of companies in cluster organisations achieved a significantly faster pace of technological progress in comparison to non-member companies. Cluster organisations were also found to have a positive effect on scale efficiency change as compared to other companies. Overall, however, these partial positive effects of clustering were not strong enough to suggest that the group of clustered companies experienced a significantly faster rate of financial performance growth.

From the perspective of the various industries, some benefits were identified in four industries in the component expressing technological shift. This applied to the automotive, furniture, packaging and IT industries, where the group of companies in cluster organisations showed faster growth in the efficient frontier in comparison to companies that are not members of a cluster organisation (furniture, packaging, IT), or in comparison to other companies outside the region (automotive, furniture, packaging). This suggests that cluster organisations have a positive effect on innovation within each industry. When forming cluster organisations, an additional benefit could also be expected in the area of economies of scale, e.g. due to the joint organisation of the procurement of raw materials and other materials, joint usage of research infrastructure, or the joint promotion of production. This effect was successfully demonstrated in the case of the engineering and textile industries.

Besides the targeted establishment of cluster organisations in the given regions, the natural business environment, research infrastructure, specialised schools, workers with specialised knowledge and skills leads natural knowledge spillover. These positive externalities have been found to contribute to performance growth in the automotive industry, including technological progress. A positive effect on innovation was also identified in the natural packaging industry grouping.

There was only one industry (nanotechnology) for which clustering was not found to have any effect on performance at all. This may be due to the specific nature of that industry. It is a new industry that is highly innovative and progressive in and of itself. Businesses in this industry are innovative regardless of whether or not they are clustered. In two industries (IT, engineering), companies operating outside locations with a high concentration of industry reported faster technological progress.

In summary, it can be concluded that in most industries (i.e. six), partial positive effects of clustering were demonstrated, yet they were not strong enough to significantly affect the overall performance of the companies under review. These positive effects mainly concerned the area of innovation. This finding is in line with existing knowledge published in literature, which sees the main role of clusters as being the support of innovation (Delgado, Porter, & Stern, 2014). Somewhat surprisingly, clustering was found to have a weaker impact on improving internal technical efficiency. At least a partial effect on scale efficiency was identified in only two industries (engineering, textile). It can thus be concluded that cluster organisations do not have a significant impact on the internal functioning of their members.

The research results confirm the rather sceptical views contained in literature that the existence of clusters has only a minor impact on company performance (Kukalis, 2010; Krželj Čolović, Milić Beran, & Vrdoljak Raguž, 2016; Ruland, 2013). However, the finding that the clustering of companies has a positive impact of the shift of the efficient frontier in some industries suggest that, in the long term, clusters might prove to have a positive effect on overall company performance. Some foreign studies (Branco & Lopes, 2018) found that the clusters' positive effect on performance was not felt until 20 years later. From this point of view, Czech clusters

are still too young, and therefore it will be desirable to monitor trends in the performance of companies in clusters in future periods.

Even though the research was conducted on a sample of seven industries and involved more than 1,100 companies, the limitations of the research should be noted. These mainly concern micro and small businesses for which accounting data cannot be obtained. From this perspective, the research focused mainly on medium-sized and larger businesses, which were much more represented in the group of members of cluster organisations. Therefore, the research provides information on the impact of clusters mainly on the performance of this category of companies.

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DEMOGRAPHIC DEVELOPMENT IN THE SOCIO-ECONOMIC CONTEXT

Michaela Tichá[1]

Abstract

The aim of this paper is to investigate consequences between demographic structure, population development and income per capita through cross-sectional analysis. The countries of the world were divided into 4 quartiles according to GDP per capita. The results show that namely in the first two (or sometimes three) quartiles increasing in income causes an increase in life expectancy (including healthy life expectancy), mean age of population and higher number of dependents per population in productive age. In the fourth quartile of the richest countries is not significant. The curve of relationship has inverted J-shape. Relationship between GDP per capita and fertility: with increasing income, the fertility rapid falls in the first two quartiles of the least developed countries. In the richest countries, there is fertility below replacement level and there is no correlation between income and fertility. Relationship between fertility and educational level is similar: in the first three quartile of the countries with lower educational level, fertility decreases with increasing levels of education, in the fourth quartile it is not so significant.

Keywords

Demographic Change, Demographic Transition, Economic Growth, Income Per Capita, Fertility

I. Introduction

The relationship between economic development and demographic changes including population growth is the focus of many economic analysts and demographers. The discussion on this topic was started by the pessimistic economist Malthus, who assumed that disproportionate population growth is a hindrance to the further development of society due to the lack of food resources (see e.g. Kelley, 2001; Weil and Wilde, 2010).

The aim of this paper is to investigate consequences between demographic structure, population development and income per capita through cross-sectional analysis.

Population growth was also an important factor in later models of economic growth. Firstly, Solow showed that population growth and rate of savings as exogenous variables determine the steady-state level of income per capita. While growth in savings shifts to a steady state and countries become rich, population growth without sufficient physical capital accumulation causes a decline in economic level (income per capita). The Solow model was later extended by Mankiw, Romer and Weil (1992) who included accumulation of human capital as well as physical capital. They added a proxy for human capital accumulations as an additional explanatory variable in cross-country regressions. According to Mankiw, Romer and Weil (1992), differences in savings, education, and population growth should explain most of cross-country differences in income per capita. Consequences between economic development, population growth, and demographic changes and their short- and long-run impacts were investigated also by Robert Barro (e.g. Barro and Becker, 1989), who emphasized namely the role of education (Barro, 2001).

Most analysts of relationship between population changes and economic development focus on the impact of population growth and human capital on economic growth because they find out

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causes of different economic level of the countries. But it is clear, that causality is also in the opposite direction. At least according to empirical studies, it is evident that long-term economic growth and related economic conditions influence population behavior and demographic changes. According to Galor and Weil (2000) or Doepke (2004), economic growth has a negative effect on fertility.

Economic point of view on family behavior is known namely by Gerry Becker who applied economic analysis to such areas as discrimination, marriage, family relations, and education (Becker, 1960; Becker, 1993). Main thoughts of Becker deal with returns to education and the cost of child-rearing, and women's economic activities becoming less compatible with raising children, which shaped understanding of the demographic transition (Becker, 1981). Similarly, Schultz (1973) declared that growth of family income increases the opportunity costs of children raising. Parents with higher income do not want to sacrifice their lost wages, job opportunities and social network and status, and therefore their demand for children is decreasing.

Becker formulated his approach to understanding fertility as rational choice and other similar topics namely during the 1960s till the early 1990s, which was the period of the population explosion in the developing countries, and on the other hand, the period of gradual decline in fertility and large changes in demographic structure of the Western and Northern Europe towards demographic aging. Demographers and economists formulated economic-demographic paradox which described relationship between an economically advanced society with a rising standard of living and declining fertility: the higher society welfare and richer standard of living, the lower number of children per woman (total fertility rate). Already in the mid-60s, the developing nations put forward the slogan that *Development is the best contraceptive* (Lee, 2015).

But invention of the contraceptive pill was not the only factor of demographic changes during second half of the 20th century. Improving living conditions, increases in educational level of women and other social and economic development in Europe had been accompanied by considerable declines in fertility (e.g. Myrskylä, Kohler, and Billari 2009). These changes in population development are typical for the last stages of demographic transition (e.g. Sobotka 2008). The speed and timing of the changes during the second half of the 20th century were not the same in all parts of Europe. In contrast to the Western and Northern Europe, demographic changes in Eastern Europe were delayed due to communist regimes which prevented changes in population behavior. Slower growth of economic performance, worse standards of living, related to enclosure to external influences, and namely lower educational level of women, in comparison with Western countries, caused rigid population behavior. But after the fall of communist regimes in 1989, the changes were very rapid. While population changes in Western countries occurred during the 1960s and 1970s, post-communist countries have undergone a change in demographic structure and population behavior within 10 years of the 1990s.

II. Data and Methodology

Whereas many economic analyzes deal with the effects of demographic change on economic growth, this paper focuses mainly on the influence of the economic level on demographic change through cross-sectional analyses. In addition to standard research methods of deduction, analysis or synthesis, there is used correlation analysis which examines the existence of the relationship between two variables and the tightness of this relationship.

The used data are from database of UNDP (United Nations Development Programme), every indictor is related to 2018. Economic level is expressed by *GDP per capita (in constant process 2011, PPP)* and this indicator is perceived as the result of long-term economic development.

Demographic structure is described by age structure, specifically, *mean age* and *old-age dependency ratio (*ratio of the population ages 65 and older to the population ages 15–64, expressed as the number of dependents per 100 people of working age (ages 15–64*)*. Age structure of population relates to *life expectancy at birth* (number of years a newborn infant could expect to live and healthy life expectancy at birth) and *healthy life expectancy at birth* (average number of years that a person can expect to live in full health by taking into account years lived in less than full health because of disease and injury).

Educational level is expressed by two indicators: *mean years of schooling* and *expected years of schooling*. The first one means average number of years of education received by people ages 25 and older, converted from educational attainment levels using official durations of each level; the second one means number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child's life. Measuring educational level is a bit debatable, for example Mankiw, Romer and Weil (1992) measure educational level as percentage of the working-age population that is in secondary school. But this way is difficult in the case of many countries with incompatible education system.

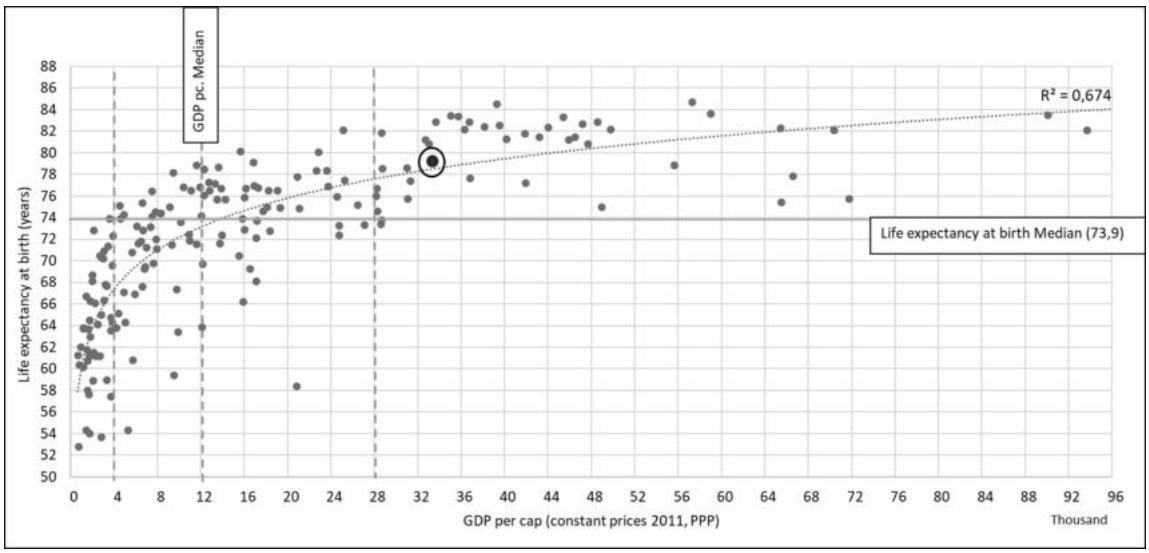
Population development is expressed by *total fertility rate* (number of children who would be born to a woman if she were to live to the end of her child-bearing years and bear children at each age in accordance with prevailing age-specific fertility rates), and *adult mortality rate* (probability that a 15-year-old will die before reaching age 60, expressed per 1,000 people).

III. Results

Relationship between GDP per capita and demographic structure

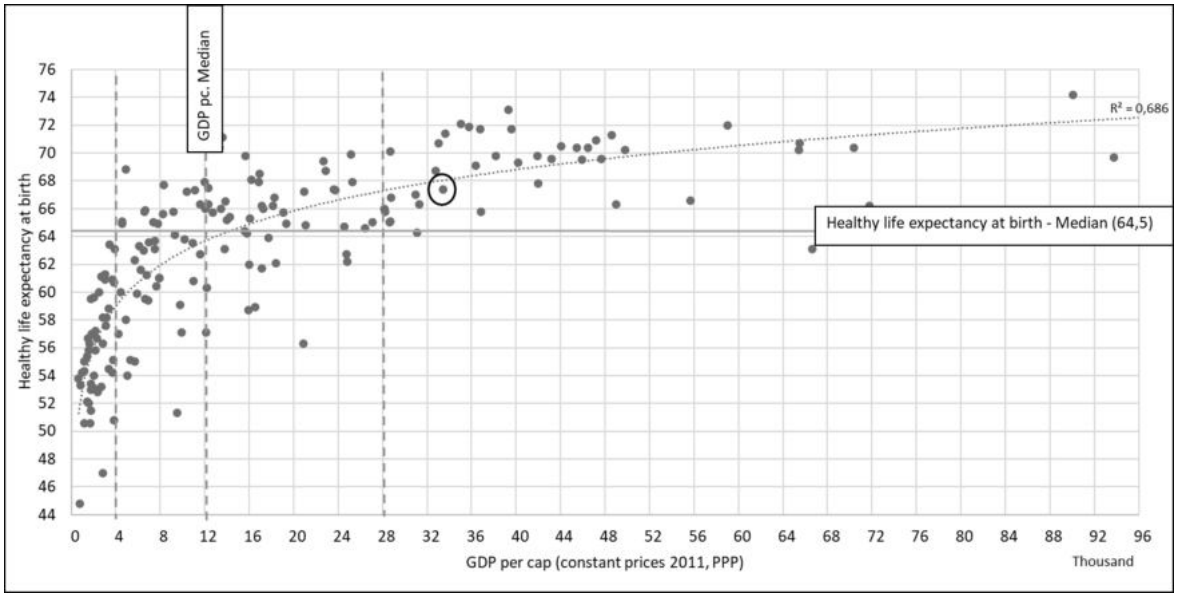
Based on GDP per capita, the countries are divided into 4 quartiles. In the first two quartiles, there is a strong positive relationship between GDP/pc and life expectancy, similar to a healthy life expectancy. With one or two exceptions, all the fourth quartile countries (with the highest level of GDP) have life expectancy under median level (73,9 years), resp. healthy life expectancy (64,5); see Figure 1 and 2.

Figure 1 GDP p.c. and Life expectancy (2018)



Source: UNDP (2020), own processing (Czechia is in the circle)

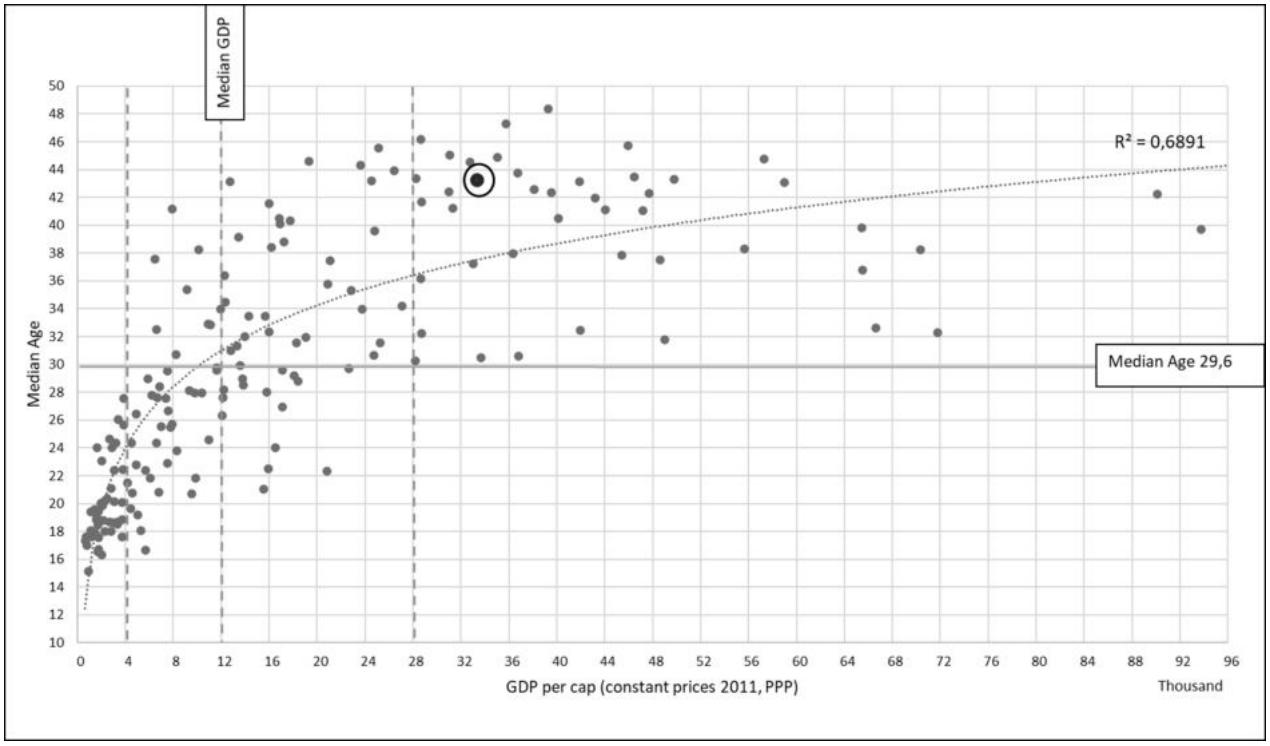
Figure 2 GDP p.c. and Healthy life expectancy at birth (2018)



Source: UNDP (2020), own processing (Czechia is in the circle)

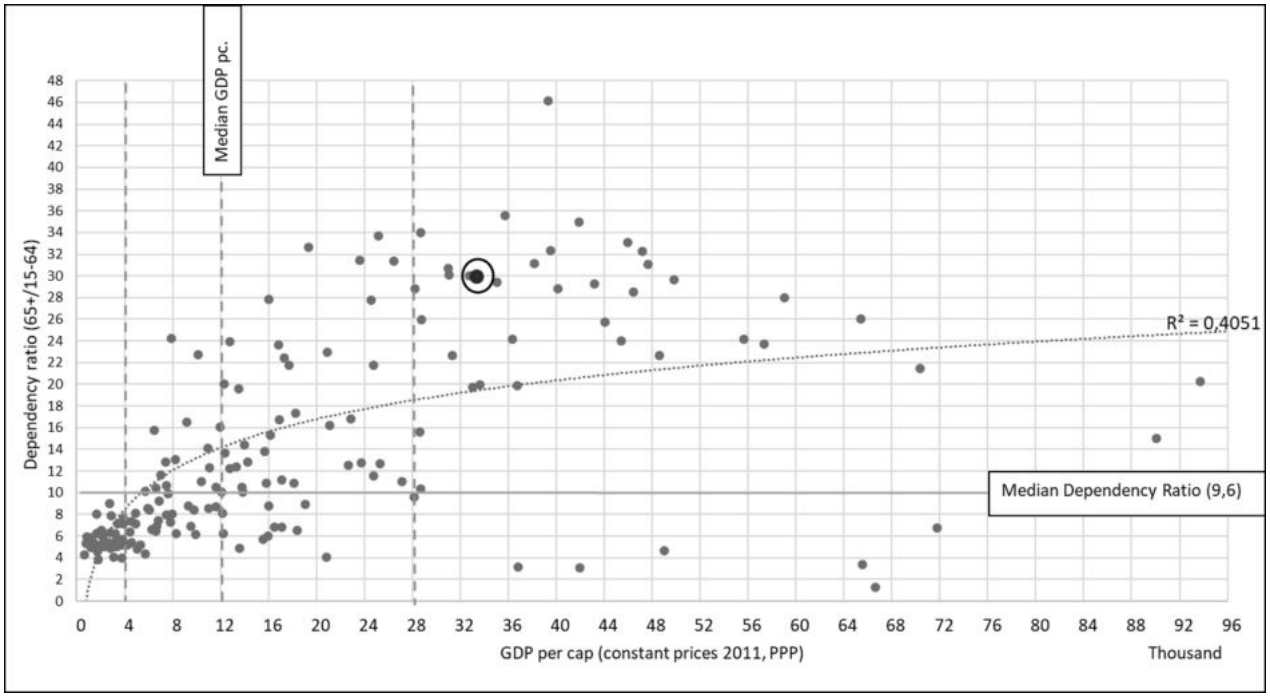
The age structure changes with increasing GDP level, namely in the case of countries below median level of GDP per capita, there is rapid growth of median age with increasing GDP. Every country in the fourth quartile GDP has median age under median level, e.g. in the Czechia, there is median age circa 43 years which is result of demographic aging. In the fourth quartile of GDP, there is very high old-age dependency ration, most of the counties have more than 20 people ages 65+ per 100 people of working age (Czechia: 30/100). (See Figure 3 and 4).

Figure 3 GDP p.c. and Median Age (2018)



Source: UNDP (2020), own processing (Czechia is in the circle)

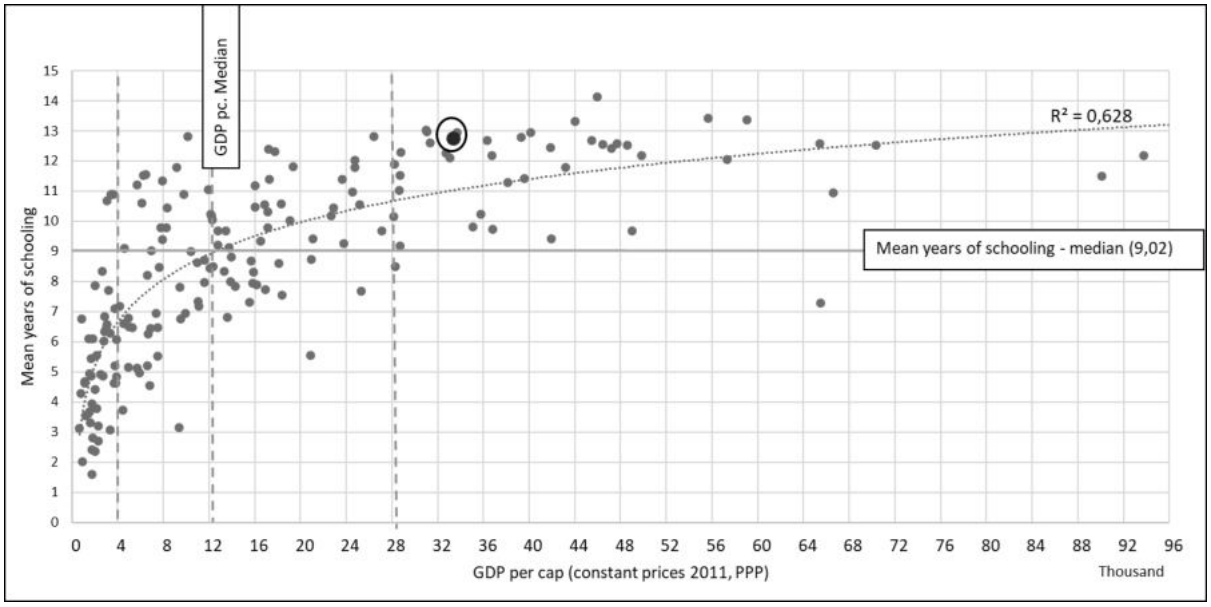
Figure 4 GDP p.c. and Old-age Dependency Ratio (2018)



Source: UNDP (2020), Old-age dependency ratio: Ratio of the population ages 65 and older to the population ages 15–64, expressed as the number of dependents per 100 people of working age (ages 15–64).

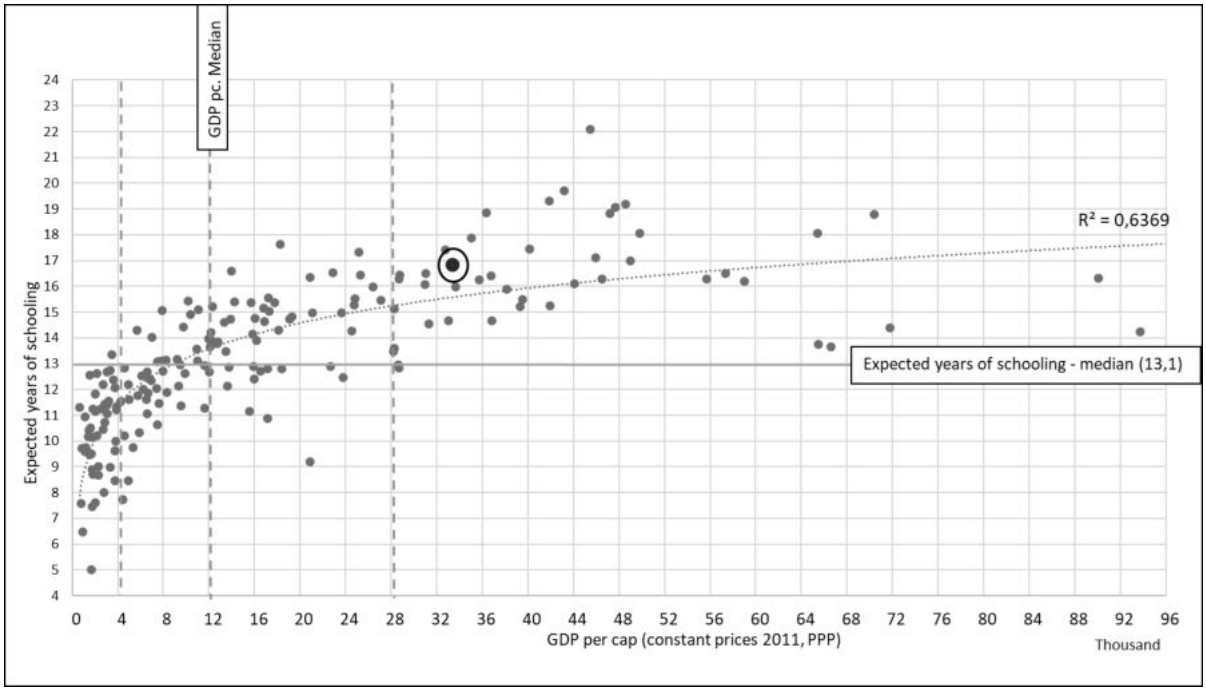
Relationship between educational level and GDP is also strong and positive correlated, namely in the first three quartiles (see Figure 5 and 6). The curve has J-shape because in the countries with GDP/pc below median level, we can observe very rapid growth of educational level with growth of GDP/pc.

Figure 5 GDP p.c. and Educational Level (2018)



Source: UNDP (2020), own processing (Czechia is in the circle);
Mean years of schooling: Average number of years of education received by people ages 25 and older, converted from educational attainment levels using official durations of each level.

Figure 6 GDP p.c. and Educational Level (2018)



Source: UNDP (2020), own processing (Czechia is in the circle);
Expected years of schooling: Number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child's life.

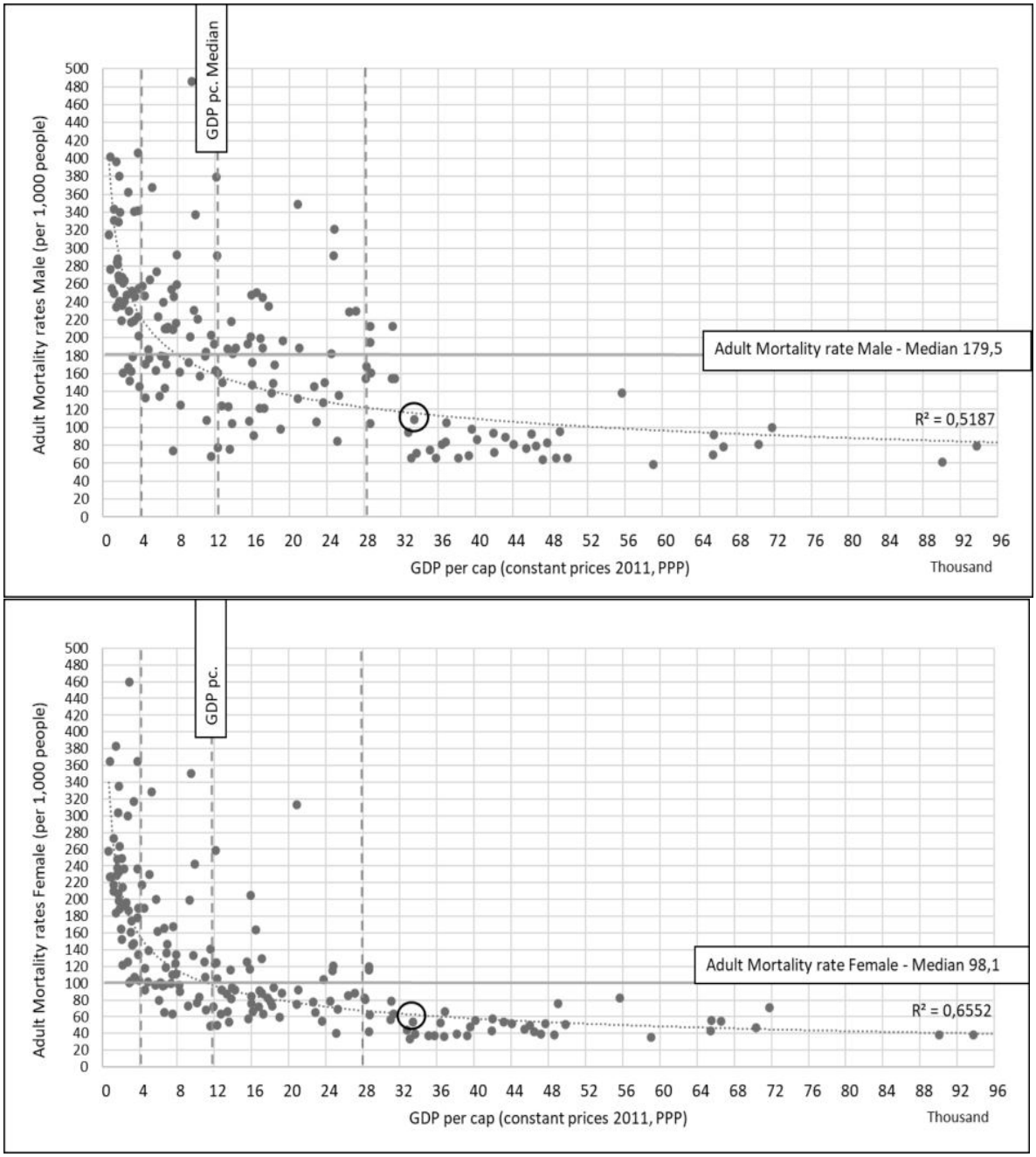
Relationship between GDP per capita and population development

Population development is characterized primarily by rate of mortality and fertility. Figure 7 describes relationship between adult mortality rate and GDP/pc, which is negative correlated, as expected. Due to higher life expectancy of women, they have lower adult mortality rate. It means that for example in Czechia, 53 women ages 15 years and older probably die before reaching age 60, expressed per 1,000 people. Compare to men: it is 109 men per 1,000 p. It is interesting that also in the developing countries with very low economic development, there are lower female total mortality rate than male despite poor maternity care and high fertility and maternal mortality. Even in the least developed countries, women live on average 4 years longer than men.

Figure 8 expresses demographic-economic paradox because higher GDP per capita relates to lower fertility rate. This negative relationship is strong namely in the first two quartiles. After reaching a high standard of living (GDP per capita in the fourth quartile), fertility is no longer strongly correlated with income. With a few exceptions, all countries of the richest quartile have total fertility rate below median level (2,27 children per woman), even below replacement fertility rate (2,1); average total fertility rate for countries of the fourth quartile is 1,7. Only four countries with the highest GDP/pc have fertility under 2,1 level: they are oil powers (Kuwait, Saudi Arabia, and Oman) and, maybe surprisingly, Israel. The group of oil exporters is characterized by different social status of women and their unequal access to education and the labor market.

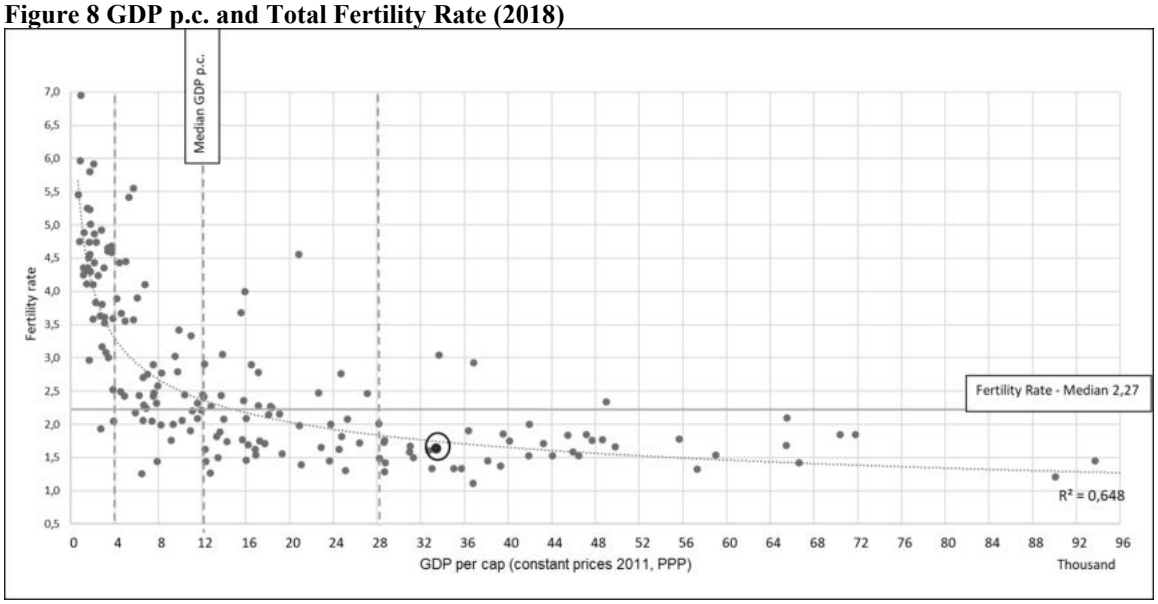
Situation in the Figure 9 is similar, but the curve expressing relationship between fertility and Human Development Index (HDI) is not in typical J-shape. It is because HDI includes not only income per capita but also other components as educational level and life expectancy at birth.

Figure 7 GDP p.c. and Adult Mortality Rates – Male and Female (2018)



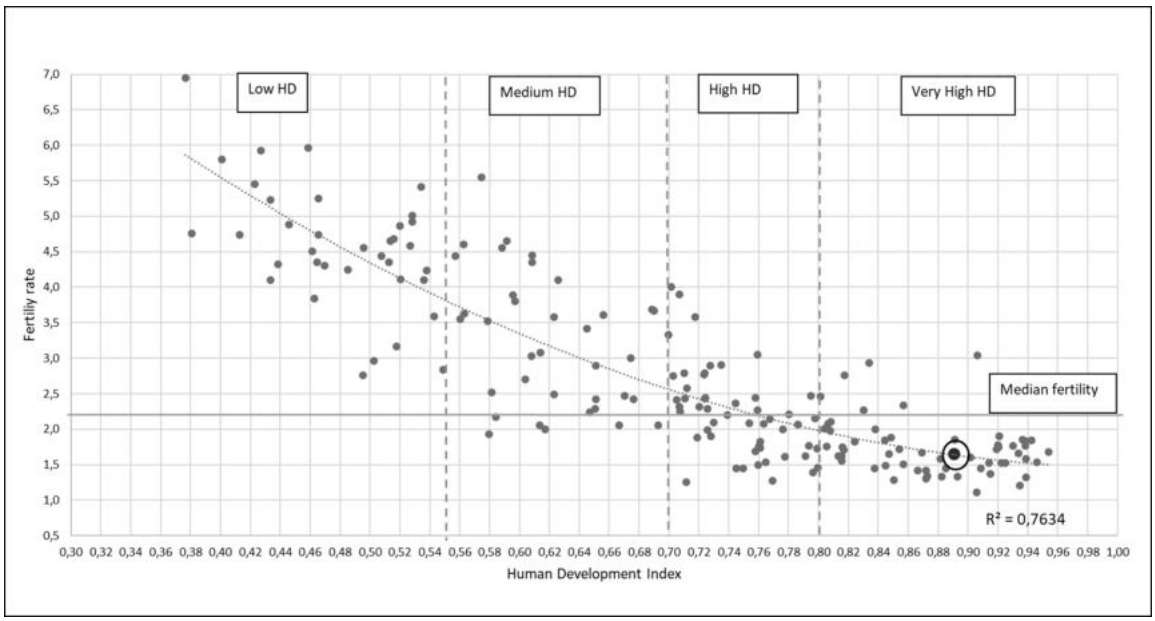
*Source: UNDP (2020), own processing (Czechia is in the circle); Adult mortality rate: Probability that a 15-year-old will die before reach*ing age 60, expressed per 1,000 people.

Figure 8 GDP p.c. and Total Fertility Rate (2018)



Source: UNDP (2020), own processing (Czechia is in the circle)

Figure 9 Human Development Index and Total Fertility Rate (2018)



Source: UNDP (2020), own processing (Czechia is in the circle)

Relationship between fertility and educational level

Figure 10 describes correlation between educational level, expressed by *mean years of schooling* and *expected years of schooling*, and total fertility rate. Mean years of schooling expresses educational level of the whole population ages 15 years and older, i.e. including older group of population. In contrast, indicator expected years of schooling expresses situation in the young population, so that there is higher number of years for each country. In the first three quartiles of educational levels, we can observe strong negative correlation: fertility decreases rapidly with increasing levels of education. Only the fourth quartile (Figure 11) of the countries with the highest expected years of schooling is different, there is not any correlation between these variables. It is similar as in the case of relationship between fertility and GDP per capita.

Figure 10 Female Educational Level and Total Fertility Rate (2018)

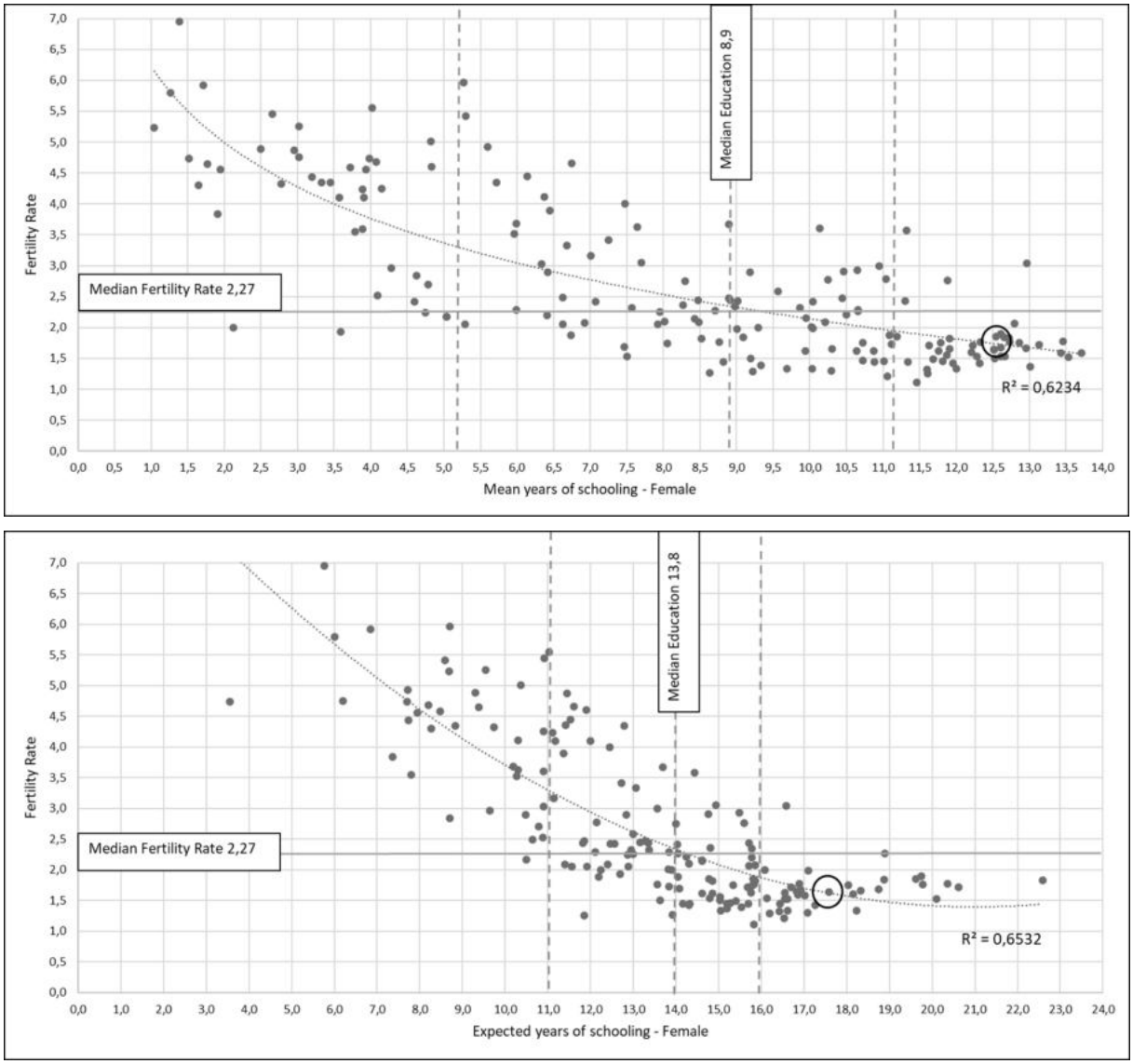
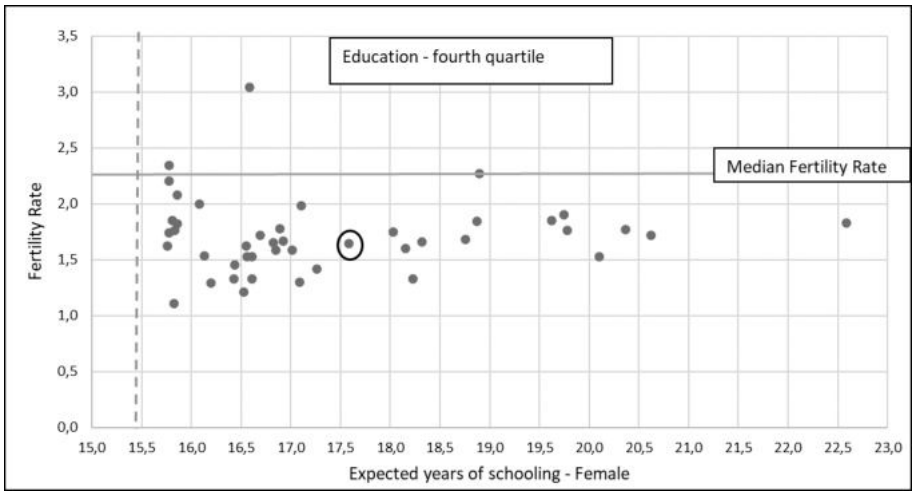


Figure 11 Female Educational Level and Total Fertility Rate – fourth quartile (the highest educational level)



Source: UNDP (2020), own processing (Czechia is in the circle)

IV. Conclusion

The discussion on the topic of the consequences between economic development and demographic change was started by Malthus, who was rather pessimistic. He did not assume future large progress of technologies as well as human capital. This imperfection was later corrected by authors of modern economic growth models. Most of them investigate the impact of population and human capital on economic growth. The goal of this paper is more different: to investigate consequences between demographic structure, population development and income per capita through cross-sectional analysis with emphasis on the impact of economic development on demographic change. For analysis, the countries of the world were divided into 4 quartiles according to GDP per capita. The results of correlation analyses show that namely in the first two (or sometimes three) quartiles increasing in income causes an increase in life expectancy (including healthy life expectancy), mean age of population and higher number of dependents per population in productive age. In the fourth quartile of the richest countries is the situation a bit different, correlation is not so strong. The curve of relationship has inverted J-shape. The same result is for relationship between GDP per capita and mortality, just the correlation is negative, as expected. Regarding relationship between GDP per capita and fertility, the results correspond to the stages of demographic transition. With increasing income, the fertility rapid falls in the first two quartiles of the least developed countries. Then the decrease in fertility is not so fast, and in the richest countries, there is fertility below replacement level and correlation between income and fertility is not significant. The same conclusion applies to the relationship between fertility and educational level. The curve has J-shape because in the first three quartile of the countries with lower educational level, fertility decreases with increasing levels of education, whereas in the fourth quartile it is not so significant.

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AUSTRIAN AND CZECH TAX POLICIES

Jaroslav Vostatek[1]

Abstract

The comparison of Austrian and Czech tax policies is motivated by parallel criticisms of the tax structures on the part of the OECD. The aim of the paper is to show, whether and to what extent it is justified to replace the "harmful" taxation of earnings with the taxation of consumption. The OECD has not yet rid itself of the one-sided approach of the "optimal tax theory", which uses the influence of taxation on long-term economic growth as its sole criterion. The more realistic "sustainability-oriented tax policy" respects economic, social and environmental objectives. From this perspective, it is not possible to simply shove any social security contributions into the taxation of labour and to require Czechia and Austria to reduce them. The key to resolving the problem of the amount of the social security contributions lies in the relationship between the insurance premiums and the benefits in the main branches of social security. In practice, the solution may come up against the interests of the stakeholders (for example the health insurance funds) and this is currently the greatest problem in the Czech tax policy. The irony is that the conflict of personal interests may also be "overcome" by the transition to a comprehensive business income tax.

Keywords

Tax Theory, Tax Structure, Social Security Contributions, Personal Income Tax, Corporate Income Tax, Self-employed Taxation

I. Introduction

Tax systems are usually the result of the long-term development of taxation in individual countries. Tax policies endeavour to introduce smaller or greater tax reform in the given country, ideally within the context of the government's overall economic and social policy. For example, the Czech government stated in its program declaration of 28 June 2018 that it would implement "a proposal for the new conceptual regulation of income taxation which would regulate taxation and the system of insurance levies on income with the objective of simplifying taxation and eliminating any tax distortions. We will conclude the process of recodifying income taxes by preparing an integrated system of tax and insurance levy administration which will enable the payment of these legal obligations in one place" (Babiš et al., 2018b).

The need for the "systematisation" of income tax and social security contributions has been readily apparent over the last decade, because the comprehensive neoliberal tax reform of the previous governments led by ODS was not implemented; this reform commenced with the transition to the calculation of the wage tax (tax on dependent activity) based on the so-called super-gross wage; this was supposed to be followed by a one-off increase in gross wages to include the employer social security contributions, whereby all of the social security contributions should have then been paid by the employees only. The reform included a transition to the payment of social security contributions from after-tax earnings; in the neoliberal system, the privatised social security is paid for by the insureds themselves. The partial or complete privatisation of the public health and pension insurances was essentially "on the agenda" in that time. The aim of our paper is to analyse the basic similarities and differences in the Czech and Austrian tax policies from the point of view of the modern tax theories in order to help the Czech Administration to realize its proclaimed tax policy.

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II. Neoliberal and sustainable tax policies

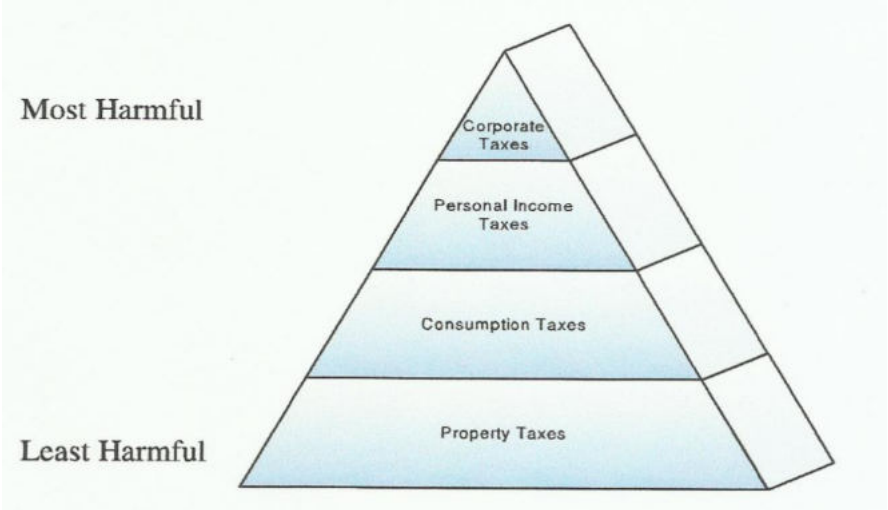
The neoliberal optimum tax is a direct taxation of consumption (expenditure) of the population, an alternative solution is the universal value added tax; the neoliberals have never been able to realise these ideals. The "second best solution" under these conditions was a substantially reformed personal income tax: all investments, capital gains, inheritance and so on had to be exempted from taxation here – so that this essentially involved the taxation of consumption (expenditure). This reformed personal income (consumption) tax may be supplemented with the universal value added tax.

In the United Kingdom the neoliberal "second best solution" was recommended by the Meade Tax Committee (Meade et al., 1978). „The central theme of the Meade Report was a preference for consumption over income taxation. Soon after the Report was published, a thoughtful commentator said to me 'you will never get the name expenditure tax, but you will get everything else'. Since 1978, the most important developments in the UK tax structure have been

- a rise in the relative significance of general consumption taxes (VAT) and payroll tax (national insurance) relative to income tax
- the introduction of savings and pension accounts, neutral as between asset categories, providing both TEE and EET reliefs
- a substantial reduction in the number of income tax rates which established an approximately linear structure above an exemption level" (Kay, 2008).

A group known as Americans for Fair Taxation developed the Fair Tax Plan of 2003: „it is a sales tax proposal to replace the current U.S. income tax structure. It abolishes all federal personal and corporate income taxes, and ends all taxes on gifts, estates, capital gains, alternative minimums, Social Security, Medicare, and self-employment. The plan replaces them with a federal retail sales tax of 23% to be administered by state sales tax authorities. … To make it … progressive, the Fair Tax Act proposes that all Americans receive a monthly "prebate", which would be equal to the … cost of living at the poverty level" (Amadeo, 2019). Fair Tax Plan has had an important support up to now, many proposals of this kind have been submitted, the nowadays recommended sales tax rate is at the level of 30 per cent.

Figure 1: OECD hierarchy of taxes (2008)



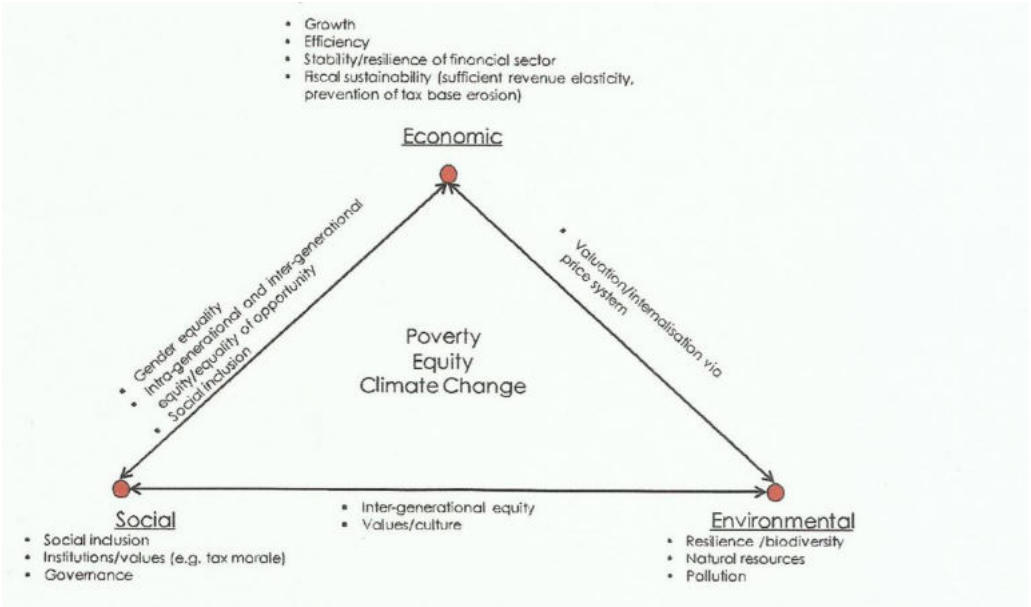
Source: Business Tax Team (2012)

Neoliberal tax policy was supported to a significant extent by the development of the so-called optimal tax theory from the 1970s. This theory generally reached the following conclusions::

1) Optimal marginal tax rate schedules depend on the distribution of ability; 2) The optimal marginal tax schedule could decline at high incomes; 3) A flat tax, with a universal lump-sum transfer, could be close to optimal; 4) The optimal extent of redistribution rises with wage inequality; 5) Taxes should depend on personal characteristics as well as income; 6) Only final goods ought to be taxed, and typically they ought to be taxed uniformly; 7) Capital income ought to be untaxed, at least in expectation“ (Mankiv et al., 2009). Based on the optimal tax theory the OECD economists have „established a hierarchy of which taxes are most and least harmful for long-term economic growth. They determined that the corporate income tax is the most harmful for long-term economic growth, followed by high personal income taxes. Consumption taxes and property taxes were found to be less harmful to economic growth relative to taxes on capital and income“ (Johansson et al., 2008) – see Figure 1.

In 2016, the OECD announced the reform of its tax “policy” in a Working Paper cunningly entitled Tax Design for Inclusive Economic Growth (Brys et al., 2016). „In the context of the OECD’s New Approaches to Economic Challenges (NAEC) initiative, this paper seeks to re-assess the policy recommendations stemming from the 2008 Tax and Economic Growth report, which focused on the impact of taxes on economic growth from an efficiency perspective, to more explicitly take account of equity considerations. Drawing on recent developments in the academic literature and in countries’ tax policies, the paper examines how the basic design aspects of each tax can be improved to better achieve inclusive growth“ (Brys et al., 2016). … „it’s a pleasant surprise when OECD produces a paper calling for Governments to use tax policy to drive forward economic agendas that seek to boost growth while sharing the benefits more evenly within society.“ And it also says, “with fiscal consolidation, there is scope for tax policy to play a bigger role in income redistribution” (Sweeney, 2016). Figure 2 presents elaborated economic, social and environmental objectives of the new „sustainable“ tax policy.

Figure 2: Objectives of a sustainability-oriented tax policy



Source: Schratzenstaller (2016)

Tax policies at the level of the European Union define five tax priorities, used in the Commission’s country-specific analysis in the context of the European Semester):

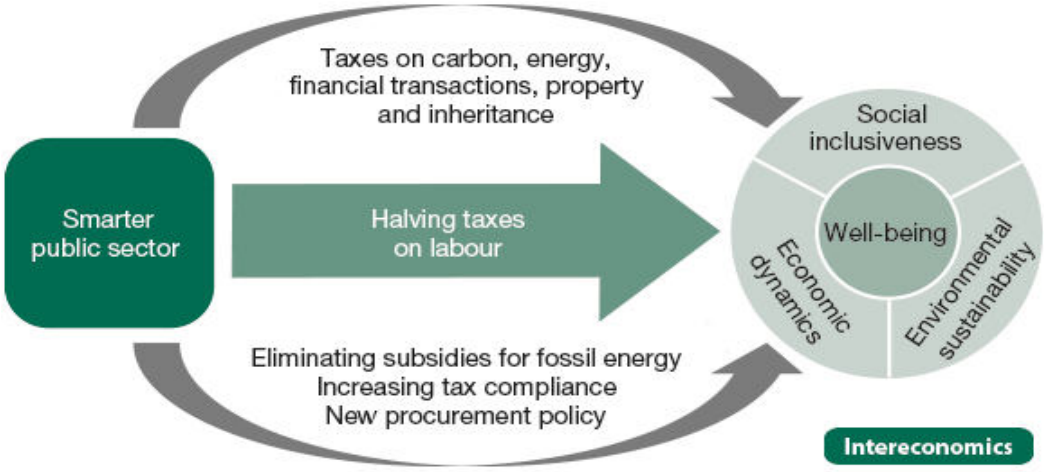
- stimulating investment and addressing positive and negative externalities,
- improving tax administration and tax certainty,
- boosting employment,

- reducing inequalities,
- ensuring tax compliance (European Commission, 2020).

„There has been no major shift in terms of tax reforms implemented in Member States between June 2018 and June 2019. While, on average, all categories of tax revenue in the EU are increasing, headline corporate income tax (CIT) rates continued their downward trend in 2019. Member States continued to adopt measures to stimulate investment at home and attract it from abroad. While the entry into force of a number of provisions of EU directives and some national measures will contribute to fighting tax abuse, this remains an important issue“ (European Commission, 2020). The coronavirus crisis may simplify tax reforms. Figure 3 indicates the possible direction of the “new” tax policy. WWWforEurope has drawn up an ambitious tax restructuring proposal for the EU, under which the level of labour taxes should be reduced from the current 20% to just 10 per cent of GDP and this reduction should be compensated for with the following ambitious measures:

- improving tax compliance for value added taxes and corporate income tax on the profits of multinationals would yield additional tax revenues of 1.6% of GDP,
- introducing a financial transaction tax – a tax rate of 0.05% on all financial transactions in a scenario of high tax avoidance and high elasticity of the tax base would yield tax revenues of 0.9% of GDP,
- increasing revenues from taxes on tobacco and alcohol consumption to the level of the three member states with the highest revenues from these taxes would yield additional tax revenues of 1.3% of GDP,
- doubling current environmental taxes would yield additional tax revenues of 2.4% of GDP,
- introducing a carbon tax – a tax rate of €100 per tonne of CO2 would yield tax revenues of 2.0% of GDP,
- eliminating tax exemptions for fossil fuels would yield additional tax revenues of 0.2% of GDP,
- increasing revenues from real estate taxes to the level of the three member states with the highest revenues from these taxes would yield additional tax revenues of 1.1% of GDP,
- moderately increasing inheritance and gift taxes, thereby generating additional tax revenues of 0.1% of GDP,
- introducing a very moderate tax on net wealth, thereby generating tax revenues of 0.4% of GDP.

Figure 3: A sustainability-oriented tax shift



Source: Aiginger and Schratzenstaller (2016)

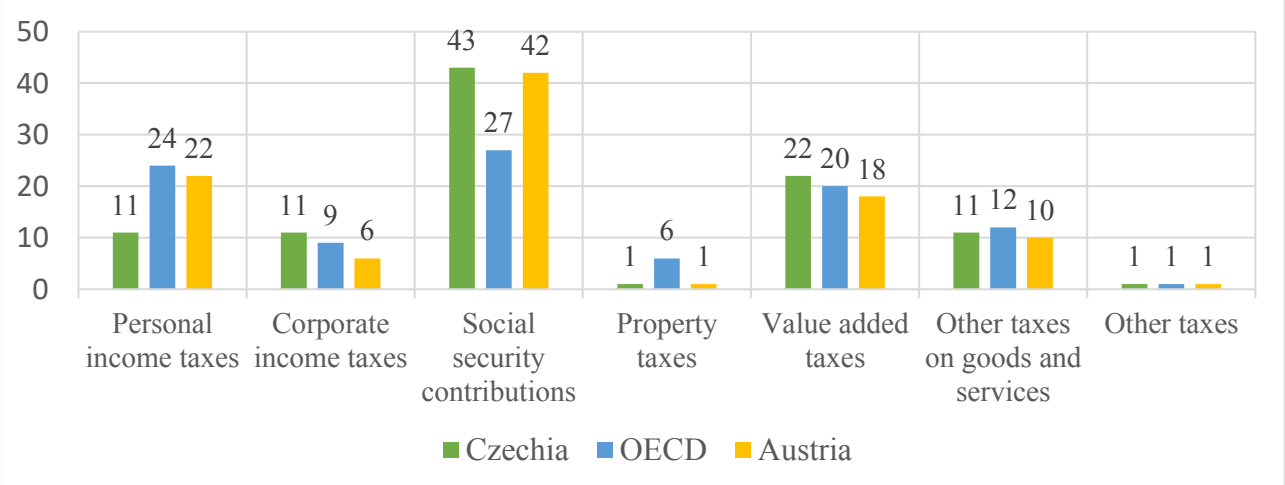
A less ambitious, more moderate approach, which could be implemented in the short run based on less supranational tax coordination, would be to reduce labour taxes by around a third, from 20% to 13.3% of GDP“ (Aiginger and Schratzenstaller, 2016).

It can be expected that internationally acknowledged taxation theory and policy will be based on the stated illustrative conclusions of the WWWforEurope project, but the “simple” neoliberal recommendations may yet long remain in politics. We will now focus on the fundamental shifts in Czech taxation policy to date and compare them with Austrian taxation policy which the OECD has evaluated as being similar to the Czech model using the former neoliberal “metrics”.

III. Austrian tax structure and policy

Austrian tax structure (according to the OECD methodology) is substantially different from the average in OECD countries in two types of fiscal receipts: Austria has a very high share of social security contributions and a very low share of property taxation – see Figure 4. Ten years ago, the OECD’s tax consultancy oriented itself according to the theory of optimal taxation: „Despite some recent improvements, the tax structure continues to be biased towards distortive taxes on labour and entrepreneurship, while the share of growth-friendly taxes on immoveable property and consumption is lower than in other countries ... While average tax rates are high for almost all workers, marginal tax rates are particularly high at low income levels, due to the interaction of social security contributions, personal income tax and the benefit system. This reduces incentives for transition from inactivity to employment and from part to full-time employment. Priority should therefore be given to lowering the fiscal burden on low-skilled workers, who are most likely to respond to stronger work incentives. *This group of workers could be best helped by reducing social security contributions or introducing in-work benefits that top up wages… Valuations of real estate and land should be brought to market values…* International practice differs greatly, but *the reinstatement of inheritance and gift taxes should be considered, within the wider context of a review of capital taxation in general”* (OECD, 2011).

Figure 4: Austrian and Czech tax structures (in %) in comparison with the OECD average in 2017



Source: Author, data: OECD (2019a)

A comprehensive tax reform came into force from 2016. „The stated aim of the tax reform was to noticeably reduce personal income taxation. The reform package included an increase in the number of brackets in the personal income tax system from four to seven, an increase in the amounts of several allowances and tax credits, and an increased reimbursement of social security contributions for low-income earners“ (Ivaškaitė-Tamošiūnė et al., 2017). Part of this

tax reform included, amongst other things, increased tax rates on capital gains (with the exception of the personal savings) from 25% to 27.5% and from 25% to 30% in the case of the taxation of capital gains from the sale of assets. The tax reform was significant, but the tax wedge remained high.

The ÖVP and FPÖ right-wing coalition included the objective of reducing the composite tax quota "towards 40%" in its government program in 2017 with the justification that Austria's quota was the sixth highest in the world and moreover that the tax system remunerates performance in very low regard. An extensive Austrian study into the Austrian tax structure in comparison with the EU and into its influence on growth and inequality points in this regard the results of OECD survey, according to which 73% of the people in Austria wanted the government to take more care of economic and social security. At the same time, over 70% of the recipients felt that the rich should face more taxation in order to enable the support of the the poor (Banabak a Gerhartinger, 2019).

Last year the OECD expressed this opinion: „The current tax system is not employment friendly and plays a very limited role in income and wealth re-distribution… The tax reform could reduce further labour taxes (including social security contributions) for lower income households, widen the consumption tax base and raise environmental taxes. The authorities should also consider increasing recurrent property taxes and re-introducing inheritance taxes. Widespread VAT reductions should be replaced with direct transfers to low-income households – at lower fiscal costs… The corporate tax system is biased towards debt-financing and Austrian firms have one of the highest average debt-to-equity rations among OECD countries" (OECD, 2019b).

The ÖVP and FPÖ coalition government enacted a wide-ranging parametric tax reform from 2020 (spread out until 2022) which was mainly motivated by the reduction of the tax burden. Austria is a country with structured rates of personal income tax; it has had 7 rates and bands of this tax since 2016, the first band has a zero rate. The tax base involves the individual incomes after the deduction of social security contributions which are overly complex and correspond to the Christian-Democratic concept of social insurance. At the same time, almost all sickness insurance funds were merged into a single Austrian Health Insurance Fund from 2020. The overall basic amount of the social insurance contributions for blue-collar workers/employees currently amounts to 39.35%, of which the insured pay 18.12%. The greatest entry in these contributions is accounted for by pension insurance, where the employer pays 12.55% and the employee 10.25%. The second-biggest entry is sickness insurance with rates of 3.78% (employer) and 3.87% (employee). Social insurance contributions were not part of the tax reform, as they are not part of the tax system in Austria (as is also the case in Germany); they are, however, taken into account when considering the overall "tax" burden. A component of the tax reform from 2020 is the introduction of a social insurance bonus (negative tax, tax bonus) in the amount of 50% of the social sickness insurance premium in the case of a zero income tax base, up to a maximum of €400 per annum. This is taken as a significant support for those employees (and pensioners) with such low income (under ca €1260 gross income per month) that they pay no income tax.

Austrian social insurance continues to have a substantial nature of "genuine" social insurance based on the principle of equivalence; an exception in this regard involves – to a substantial extent – sickness insurance because the universal healthcare is its benefit in kind. In a broader sense, the social insurance premium also includes the contributions paid to the Family Policy Fund (3.9%, paid by the employer). On the other hand, pension insurance essentially has the full characteristics of social insurance; pensions are fully earnings-related; the state subsidises the childcare credits only.

"Small entrepreneurs" in Austria are exempt from paying the value added tax and they can use lump-sum expenses. The limit for these entrepreneurs was raised from 30,000 to 35,000 € per annum as part of the tax reform from 2020. The lump-sum expenses have 2 rates: 20% on the income from services and 45% on the income from trade and production.

Table 1 Income taxation of small entrepreneurs in Austria from 2020: an example (€ per annum)

Turnover	**30,000**
Lump-sum expenses 45%	-13,500
Social insurance contributions	-3,991
Profit	12,509
Basic deduction	1,626
Assessment base for income tax	10,883
Income tax	0

Source: WKO (2020)

The Austrian personal income tax or wage tax table has 6 non-zero rates; as part of the tax reform, the marginal rate of 25% will be reduced to 20% from 2021 and the other two rates of 35% and 42% will be reduced to 30% and 40% respectively from 2022 – see Table 2. The given income bands are before the deduction of social security contributions from the tax base.

Dividends in Austria are taxed by a "capital gains tax" (Kapitalertragssteuer) at a rate of 27.5%; this will remain unchanged. The tax reform will lead to a reduction in the rate of corporate income tax from the current 25% to 23% from 2022 and to 21% from 2023. The overall tax burden in the case of the full allocation of profit to dividends is due to fall from the current 45.625% to 42.725% in 2023.

Table 2 Personal income tax (wage tax) in Austria (€ per annum)

Income over	Income to	2020 marginal rate	New rate
0	11,000	0 %	
11,000	18,000	25 %	20 % from 2021
18,000	31,000	35 %	30 % from 2022
31,000	60,000	42 %	40 % from 2022
60,000	90,000	48 %	
90,000	1,000,000	50 %	
1,000,000		55 %	

Source: WKO (2020)

The Austrian tax reform also includes an entire range of further parametric changes; for example, increased employee lump-sum expenses. Or the new Family Bonus Plus (Familienbonus Plus), which replaced the deduction from the tax base since the tax settlement for 2019; it is a non-refundable tax credit of 1,500 € per child per annum, provided there is an entitlement to the child benefit.

The tax reform includes also increases in some taxes, such as the tax on cigarettes. The reform also involves the introduction of a digital tax with a 5% rate on the advertising turnover of international digital concerns from 2020.

An extensive WISO study into the Austrian tax structure in relation to the EU and its influence on growth and inequality points to the erroneousness of the OECD's mechanical comparison of the tax burden on labour, which concerns social insurance contributions. In Austria, these

insurance contributions serve for transparent financing of the individual branches of social insurance. It is possible to view the thus-conceived insurance contributions as part of the wage. Every reduction in social insurance contributions would directly endanger this insurance and would lead to pressure on the citizens to finance the social security system from their own pockets. The introduction of the social insurance bonus is a suitable tool for reducing the tax burden (see above). At the same time, it is also necessary to view corporate taxation in a wider context, especially with regard to the fall in the share of wages in GDP in Austria in recent decades. The study reached the conclusion that corporate income taxation in Austria is significantly below average; the flat-rate reduction of the corporate tax rate emerged as the worst variant. The study pitched the option of introducing a general property tax on assets in excess of 1 million € at a 1% rate in connection with the low property taxation. It also states that inheritance and gift tax has been cancelled in Austria, even though 40% of property inequalities in Austria can be explained by inheritance and gifts (Banabak and Gerhartinger, 2019).

The new Austrian government consisting of the ÖVP and the Greens has decided to carry out the tax reforms in 2021 and 2022, which would lead to a reduction of taxation on low and middle-income families and companies. The Family Bonus Plus is to be increased. The tax system should also undergo a process of "ecologization".

IV. Czech tax structure and policy

The Czech tax structure is significantly different from the average of the OECD countries – for three public revenues: we apply a very low taxation for personal incomes and property and, on contrary, we have a high share of social security contributions – see Figure 4.

OECD notes that „imbalances in the [Czech] structure of government revenues contribute to relatively high cost of labour. The tax wedge is the 6th highest across the OECD and the average rate of employers' social contributions is the second highest… Up to now, this has not been detrimental to labour market performance, in particular to employment, only because the average wage is low compared to other EU countries. Indeed, the Czech Republic has built its comparative advantage by holding wages low to attract foreign direct investment, in particular in the manufacturing industries. … However, as wage convergence towards OECD and EU averages is continuing and given the recent acceleration of wage growth, the high level of wage taxation could become burdensome. To maintain wage competitiveness, the government should consider shifting part of the financing of social protection from wages towards taxes on goods and services or on all kinds of income (e.g. capital and property income) and environmental taxes. …, indirect taxes are less harmful for growth than taxes on wages" (OECD, 2018).

More specifically, OECD recommends us to reduce the overall rate of employer social security contributions from 34% to 31% and to increase the value-added tax rates (4 scenarios, from which we can choose). To support the argument for reducing the rate of employer social security contributions, OECD attached a chart showing the rates of these contributions in the OECD countries. The argument for less harmful effect of indirect taxes comes from the neoliberal front. The current above-average Czech standard VAT rate within OECD as well as lower VAT rates in the three neighbouring countries are being ignored by the OECD. In the recent years, the standard VAT rates have stabilized at a historically high level; the average standard rate was 19.3% in 2019 (OECD, 2019c). For these reasons, it is not possible to agree with the recommendation to increase the Czech standard VAT rate, moreover by some 3 percentage points.

"It is a paradox that the entire political spectrum agrees about the overly high price of labour in Czechia – without any exceptions. Yet nothing is done" … "The price of labour is truly high in our country and we would like for more money to stay in employees' pockets in the future",

said Prime Minister Babiš. And his words have [allegedly – the author] been supported by the leader of the Czech Social Democrats, Mr Hamáček: "There is no reason why an Austrian or German employee should receive many times more than his colleague in the Czech Republic for the same work". … The leader of the Pirates, Mr Bartoš stated that: "The state should guarantee that the wage is sufficient to cover basic household needs, which can be achieved by reducing the taxation of labour, which is among the highest in Europe, so that people do not have to borrow money for common things." According to a survey undertaken by MF DNES, the Civic Democratic Party, the Christian Democrats, the Freedom and Direct Democracy Party, the Communists and the TOP 09 party are in complete accord with these ideas. However, there is no concrete proposal on the table and the electoral term is slowly drawing to an end (Janouš and Kvasnička, 2020).

The 2018 keynote address of the Czech government promises "to abolish the super-gross wage construct for personal income tax and propose a new reduced rate at 19% of the gross wage. The existing solidarity levy will be retained by introducing a 23 % rate from the gross wage. … In relation to employees, the systemic changes must result in a tax burden decrease by 1 percentage point. … We respect the principle of tax neutrality. We will ensure that tax exemptions are revised and merged, and we will prevent the introduction of any new ones, which will create scope for decreasing the tax burden across the board. We will promote a new draft design-oriented statutory adjustment in the income tax, which will introduce new provisions governing taxation and the system of insurance contributions paid from such income, to simplify taxes and eliminate tax distortions. The process of income tax recodification will be completed with the preparation of an integrated tax and compulsory insurance contribution administration system, which will provide for a one-stop scheme for the payment of these statutory obligations" (Babiš et al., 2018). The aim of the transition to the 19 % rate of the gross wage was simple: the effective personal income tax rate was 20.1 % of the gross wage (equivalent to the existing 15 % rate from the super-gross wage) and the employees would pay less by 1.1 % of gross wage. It is a simple political marketing.

The personal income tax reform scheduled by the government is simple and clear; it is about the elimination of the concept of the super-gross wage taxation (which ought to be finalized by the augmentation of the gross wage to the full labour costs supplemented by the takeover of employer social security contributions by the employees). The Finance Minister Schillerová submitted the respective tax bill yet in 2018, it was fully in consistence with the government keynote address: a shift to a standard rate of 19 % of the gross salary, together with the introduction of an increased rate of 23 % instead of the existing solidarity surcharge, which is set at 7 % of the gross salary exceeding 400 % of the national average earnings. But the Prime Minister Babiš rejected the proposal of the Finance Minister, he argued that he was not able to win political support for the proposal; in fact the proposal had not been presented in detail even to the general public. More recently, the Minister of Finance explained the problematic nature of this proposal by saying that "the interdepartmental commenting procedure … showed that there would be certain groups of taxpayers, for whom this measure would imply a tax increase from 15 % to 19 %, and that is something we simply do not wish to happen" (Schillerová, 2020). From an expert point of view, however, this increase is in accordance with the principle of equal taxation. We can imagine that the reason of the Prime Minister veto was the increase of the dividend income tax rate from 15 % to 19 %. (In Austria he would pay 27.5 %.)

In the beginning of 2019 the Ministry of Finance made a second attempt to realize the government tax reform programme: the idea was to decrease the personal income tax to 1 5% of the gross wage and to increase the employee health insurance premium from 4.5 % to 8.2 % of the gross wage, with a simultaneous abolition of the insurance premiums paid by the state for the "state insureds". The rate of the personal income tax would thus effectively decrease by 5.1 % of the gross wage, so the employees would gain 1.4 % of their wage from this tax reform

(Pergler and Ťopek, 2019). The capital income tax rate would thus remain at 15 %. This second proposal for a personal income tax reform escaped from the expert discussions between the Ministry of Finance and Ministry of Health at the end of February 2019. The reform proposal was opposed by "health care experts" (mainly lobbyists): they consider the periodical increases of the low state payments to the "dedicated account for public health insurance" to be a more advantageous way of promoting growing expenditure for health care than pursuing an increase in the premium rate. Later, the proposal of the Ministry of Finance was also opposed by the Prime Minister, obviously due to the media campaign of the lobbyists. This marked the end of the plan for a "major tax reform comprising lower taxes and higher health insurance contributions".

Until June 2019 the employer social security contributions amounted to 34 % of the gross wages. Since mid-2019, the sickness contribution rate paid by employers was reduced by 0.2 % of the gross wage in connection with the abolition of the waiting period in the sickness insurance scheme, which slightly influenced also the assessment base of the tax paid by employees; the effective nominal personal income tax rate now amounts to 15 * 1.338 = 20.07 percent of the gross wage.

The Czech self-employed are exempt from paying the value added tax upon achieving a turnover of 1 million CZK per annum. Lump-sum expenses have four rates: 80 % (agriculture, forestry, water management and craft production), 60 % (other craftsmen), 40 % (independent professions, experts, interpreters, authors) and 30 % (individuals with incomes from renting). The turnover limit, from which the maximum expenses are calculated, amounts to 2 million CZK from 2020 which is the level applied until 2018. This threshold has been repeatedly the subject of political and marketing games. The Czech threshold is more than double the Austrian threshold of 35,000 € (using the exchange rate from the beginning of July 2020). The Czech rates for lump-sum expenses are also substantially more advantageous. This also applies as far as social security contributions of self-employed are concerned. According to an older international comparison, only the Isle of Man and Russia have more favourable self-employed taxation (AGN, 2017).

Czech social security contributions have no comprehensive concept: the structure of the insurance contributions for pension insurance and the contribution to the state employment policy give rise to the impression of an insurance system, with the specifics of self-employed (voluntary sickness insurance and optional extent of the pension insurance and of the "state employment policy"). On the other hand, the health insurance contributions appear to be an unjust health tax at first glance. The insurance premiums for the mandatory employer liability insurance for work injuries and occupational illnesses would be better suited – according to their name – to mandatory private insurance; in terms of their contents, however, this naturally involves supplementary social accident insurance. At the same time, it would be optimum, if the entire Czech social security system were based on a single welfare regime. In this regard, it is characteristic for the consultancy of the OECD and the EU that they do not concern themselves with the actual concept of Czech social security at all – they merely think that social security contributions should be reduced on the basis of the tax structure (tax mix). This is a simple reflection of the fact that they have included the insurance premiums among taxes and they anticipate that they can manipulate the (entire) rate of the social security contributions according to the general considerations of the so-called theory of optimal taxation. However, we consider it essential to first analyse the justification of the very existence of the contributions for the individual branches of social security.

The social security contributions should, in principle, correspond to the design of the different social protection branches, they should not substitute taxation of income or consumption, as is the case primarily with the Czech health insurance premiums which constitute unfair income

taxation. The efforts to privatise public health care financing were cut off by the 100 % redistribution of the insurance premiums and the Reimbursement Decree of the Ministry of Health, which provides for the financing of the different health care segments. The pension insurance premium with the rate of 28 % of the gross salary is justified for roughly 30 % only because the flat-rate old-age pension is predominant in Czechia and should, similarly to general health care, be financed from general taxes – not from insurance premiums. Under these circumstances, the primary solution lies in integrating the employee insurance premiums into the personal income tax and in integrating the employer social and health insurance premiums and the premium for the employer statutory liability insurance for work injuries and illnesses into a single comprehensive social security contribution to be paid to the state budget via a single collection point. The reduced overhead expenses would also cover the deficit from the abolishment of the existing health insurance premium paid by the "persons with no taxable income".

The low level of the Czech personal income tax can be increased by integrating the (fully redundant) employee insurance premiums into this tax, with a total rate of 20.0 7% + 11 % = 31.07 % from the gross wage. The (basic) flat rate of the Czech income tax need not be necessarily abolished because the progressivity of the flat-rate income taxation depends also on the basic tax credit, which is low in Czechia due to its non-indexation from the 2008 tax reform. I am not aware of any politician having ever requested an increase in the basic tax credit per taxpayer prior to 2019. (This year a group of MPs learned the fact and prepared a simple bill requesting (only) a one-off increase of the tax credit.) In 2008, the progressivity of the overall income taxation (including the social security contributions) in Czechia was average, but now it is clearly below average (index 127 in 2018). We measure progressivity in the same way as the OECD: using the relation (index) of the taxation of a single, childless employee with a wage at the amount of 167 % of the national average wage (NAE) and the taxation of the same taxpayer with a wage at the amount of 67 % of NAE. In Austria, this index was 140 in 2018, while the average for OECD countries was 146. Using the example of Austria, we can see the actual progressive boundary rates for income taxation may give rise to the impression of a distinctive progressive tariff, but the deduction of employee insurance contributions from the income tax base, including the ceiling for the assessment base for the insurance contributions which is usually at the level of 150 % of the NAE, plays a significant role.

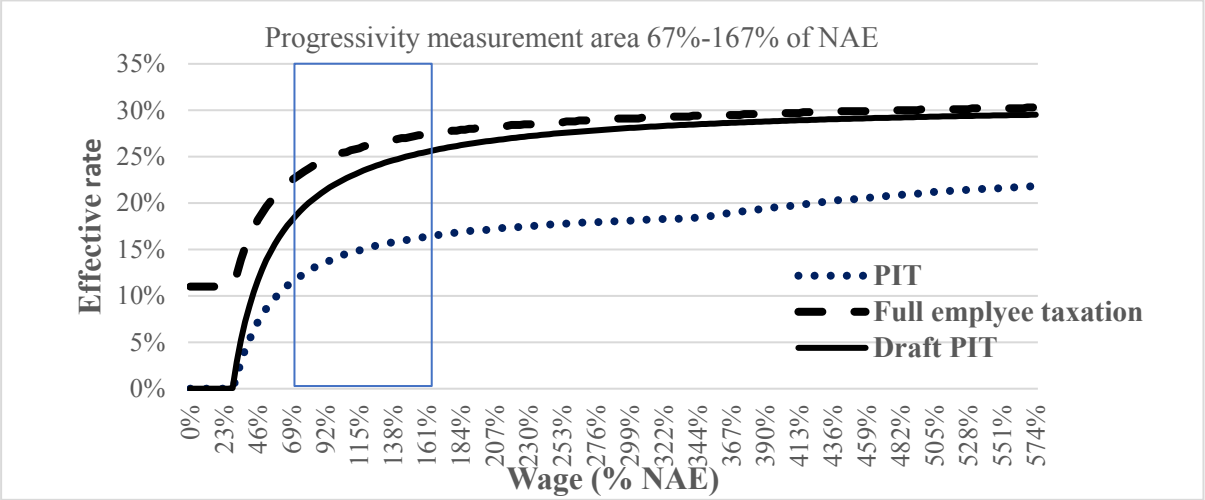
When including Czech employee insurance contributions into personal income taxation, the so-called solidarity surcharge in the income taxation of natural persons with a rate of 7 % of the gross wage above 400 % of NAE and a concurrently existing earnings ceiling of 400 % of NAE for pension insurance contributions with a rate of 6.5% fall away; after all these instruments involve about 1 % of taxpayers only. When the insurance contributions are integrated into the personal income tax, the experienced problem of the collection of insurance contributions from even very low wages in Austria, which they have resolved in the form of a social insurance bonus, also falls away.

The entire personal income taxation in Czechia needs to be adjusted to the integration of the employee insurance premiums into the income tax. First, it is essential to revise all tax expenditures; the common Western practice of tax expenditure reporting should be implemented at the same time, preferably as part of the draft bill on national budget and national closing account. In this regard, Czechia needs to eliminate, in particular, the fiscal costs of supplementary pension savings scheme and private life insurance scheme which are (already at present) extremely high (the largest item is the exemption of the employer contributions from the payment of insurance contributions and the personal income tax), as well as the state contribution for the building savings (which is also drawn for the so-called bridging loans!) and the tax deductibility of interest on mortgage loans and building savings loans. We may confirm that "pressure groups (lobbies, etc) and politicians had discovered that the income tax was an

ideal tool for permanently promoting certain preferred activities, through the use of "tax expenditures" rather than through public spending that need legislative approval each year. "Tax expenditures were justified on grounds that they improved equity and promoted some worthwhile objectives. This made income taxes progressively more complex and, horizontally and perhaps vertically, less equitable" (Tanzi, 2010). Here "the political economy of revenue-neutral income tax reforms aims at cutting back these expenditures in exchange for lower tax rates: "tax-cut-cum-base-broadening" (Barbaroa and Suedekumb, 2016). That is the best tax policy for Czechia as well.

The second-best policy or even the alternative best tax policy is the switch of the (unfair and unconstitutional) Czech state support of the financial products referred to above for specific individual savings accounts (ISA), e.g. the Canadian tax-free savings accounts (TFSA). Their basic behavioural trick is that the client is limited in an annual or lifetime deposit/investment (in our conditions for example CZK 30,000 per year) and time and amount of savings withdrawal is unlimited. That is why TFSA is said to be best used as a pension savings instrument (Kasper, 2019). The tax regime for these products is TEE (savings from after-tax income, no further taxation): the only regime that can possibly be recommended for Czechia. These products are provided by common financial institutions.

Figure 5: Effective Czech personal income tax rates (PIT) and full employee taxation rates (PIT + employee social security contributions) in 2020 and the draft PIT with indexed basic tax credit (8.9% of NAE, 2020)



Source: Author

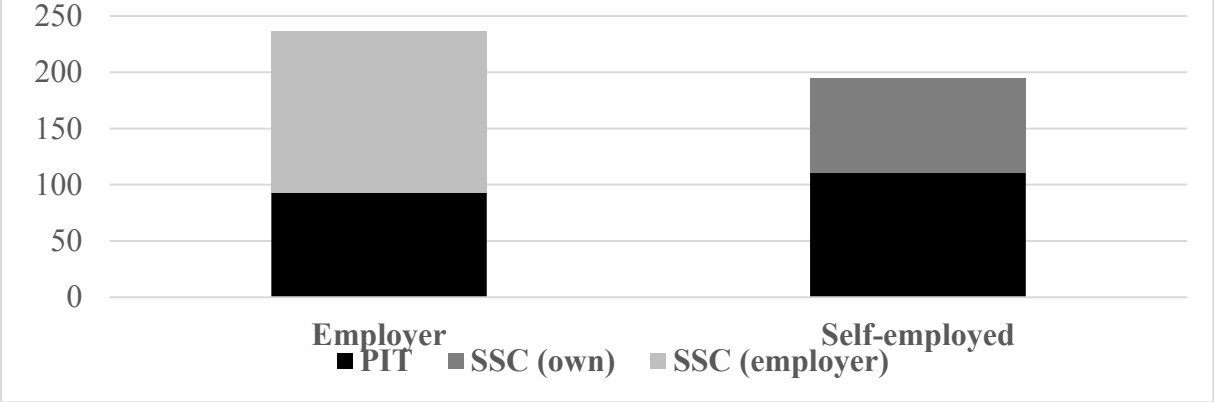
When carrying out tax reform consisting in the inclusion of employee insurance contributions into the personal income tax, it is expedient to eliminate the "cold regression" in income taxation which has accumulated since 2008 or rather to set the progressivity of the new tax with a flat rate of 31.0 7% (politicians will surely round this rate) at the average of the OECD (or Austria). One solution is to increase the basic tax exemption of 2,070 CZK per taxpayer per month to 8.9 % of NAE, which would amount to 3,100 CZK per month under 2020 conditions. This would reduce the effective tax rate for employees with NAE to 22.2 %. The political effect is also important; in relation to the existing recipients of state support for financial products, amongst other things. Figure 5 shows the impact of personal income tax reform on the existing income tax for natural persons and employee insurance contributions – the dependency of the average effective rates on the amount of the wage expressed as a percentage of NAE.

The existing employee insurance contributions consist of pension premium (6.5 %) and health premium (4.5 %); the total health insurance contribution rate is 13.5 % of the gross wage. The entire health premium is unnecessary from a systemic point of view, so we can preferentially

include it in the employee insurance contribution (11 %), which we will integrate into the personal income tax. We transfer the remainder of the health premium (2.5 %) and the employee pension premium to the insurance contribution paid by the employer. We also include here the accident insurance premium (employer mandatory liability insurance for work injuries and occupational diseases), the separate collection of which also does not make any sense; at the same time, we can unify its rate, for example, at 0.45 %, according to the Austrian or Slovak model. Employers would thus now pay insurance contributions of 34.25 % of the gross wage; these contributions predominantly would have the character of a (payroll) tax. Given this situation, the variant involving the fully integrated collection of these social security contributions into the state budget is optimal with the possible inclusion into law on the budgetary designation of taxes. The social security contributions used in Sweden could be taken as the model, for example.

It would also be expedient and fair to apply the stated concept/construction of the social security contributions to the self-employed. Here too, the current social and health insurance contributions should be replaced with a single social security contribution, the rate of which takes into account the lower scope of social security for the self-employed and the calculation of the contribution as a deduction from the assessment base (the corporations pay a surcharge to the assessment base). In this way, we arrive at a social security contribution rate for self-employed at the level of ca 15 % of the excess of receipts above expenses. We add this contribution to expenses/costs and arrive at the personal income tax base used to assess this tax with a general rate of 31.07 %. Figure 6 illustrates the comparison with employees at NAE designated by the Ministry of Labour and Social Affairs for the purposes of pension insurance for 2020.

Figure 6: Social security contributions and personal income tax: employee with NAE and self-employed with comparable income in thousands of CZK (draft)



Source: Author

In 2018, the government undertook, amongst other things, to prepare an integrated tax and insurance premium administration system which will enable the payment of these mandatory contributions all in one place. In this regard, pending legislation on the "flat-rate" taxation for self-employed individuals with an annual turnover of up to 800,000 CZK has been prepared and it should come into effect from 2021. This "flat tax" should amount to 5,740 CZK a month (68,880 CZK per annum) in 2021 and it should consist of 3 components: health insurance premium (2,514 CZK per month), social insurance premium (3,126 CZK per month) and income tax (100 CZK per month). The new "flat tax" is an optional alternative for the self-employed; when choosing this option, it will not be possible to apply any tax deductions or credits (not even for children). Judging by the examples in the newspapers, this "merely" involves a tax optimisation tool for a narrow group of the self-employed, which will increase

the costs of the state administration. I am not aware of anything similar existing abroad. From a systematic point of view, the "flat tax" for a couple of the self-employed is a total nonsense at the first glance.

In Czechia, dividends are taxed by a withholding income tax with a 15 % rate "derived" from the flat income tax rate. With regard to the current taxation of wages, the corresponding rate for taxing income from dividends should be at least 20 %. The OECD (2018) recommends that we introduce the payment of health insurance premium from all income, i.e. collect insurance contributions (13.5 %) from dividends: this would be in addition to the current 15 % rate, resulting in overall taxation of 28.5 %, which would be slightly more than in Austria (27.5 %). Low capital taxation is typical for post-communist countries. However, we should abandon the tax policy of pandering to western capital.

The classic corporate income tax system is based on the so-called material ability to pay of the companies (Engliš, 1929): corporate profits should be taxed regardless of the personal income taxation, including dividend incomes. This system is still used in Austria (25 % rate) and in Czechia (19 %). Neither of the countries have displayed any tendencies to change this system. A number of countries in the world has several combined systems. Under Czech conditions, where the aggregate taxation of corporate and personal income is the 6th lowest one of the 36 OECD countries, we recommend to apply the comprehensive business income tax (CBIT) with a rate of 31.15 % (= the overall rate of the existing combined taxation of corporations and personal income from dividends), which involves a system of taxing corporate profits and the interest on corporate bonds without any further subsequent taxation of capital incomes. The objective is to tax these incomes in the country of its origin; this should be significantly advantageous for Czechia. „The current regimes give rise to various instate and interstate spillovers, which violate the basic tenets – neutrality and subsidiarity – of the single market. The trade-offs between the implications of these tenets – harmonization and diversity, respectively – can be reconciled by a bottom-up strategy of strengthening source-based taxation and narrowing differences in tax rates. The strategy starts with dual income taxation, proceeds with final source withholding taxes and rate coordination, and is made complete by comprehensive business income taxation. Common base and cash flow taxation are not favored" (Cnossen, 2018).

Two comments on property taxes: Czechia has no road tax for motor vehicles owned by citizens. Austria has an insurance tax based on engine size (motorbezogene Versicherungssteuer) which was called a motor vehicle tax until 1993; this tax is collected by insurance companies along with the motor liability insurance. The Czech government initiated lately the cancellation of the tax on the acquisition of a real estate (4 % rate) with the justification that it is highly unfair. Austria has a real estate acquisition tax at a rate of 3.5 % (registration in the Land Register costs another 1.1 %).

V. Conclusion

The Austrian and Czech tax structures display a high tax burden on labour and low property taxation, both in comparison with other OECD countries. Modern social and tax theory is not satisfied with the mechanical comparison of tax structures and does not infer from them the automatic need to restructure the tax systems according to the supposed harmful nature of the individual tax channels. This is clearly visible in the example of Austria and Czechia: even through both countries have above average rates of social security contributions, they have also a substantial difference in the dependence of the insurance benefits on earnings. Austria is still patterned on the Christian-Democratic model of financing social security, but the universalisation of the social systems for individual layers of society has also become apparent, for example in the merger of almost all the sickness insurance funds into a national-wide

Austrian health insurance fund. On the other hand, the post-communist Czechia has slipped in the direction of the neo-liberal model of several health insurance funds and their lobby has so far successfully deflected any attempts at the even partial rationalisation of health insurance premiums in association with the promised reform of personal income tax and social security contributions.

The latest Austrian governments have systematically endeavoured to modernise taxes, including regarding ecological objectives. The room to reduce the social security contributions is, however, relatively small, because public pensions are relatively high and they are a highly earnings-related system; the reduction of the insurance premium rate (22.8 %) would result in significant pressure on the reduction of Austrian pensions. On the other hand, less than one third of average Czech public pension is earnings-related, so the insurance contribution rate of 28 % can be substantially reduced commensurate to that. The Czech government has not developed any initiatives in this regard. The entire Czech political spectrum agrees that the price of labour is overly high, but no adequate proposal is on the table yet. The reason for this may be the high degree of segmentation in the political spectrum and the apparently associated emphasis on marketing politics.

Even the programme declaration of Babiš' government on the reform of income tax and insurance contributions appears to be merely a marketing ploy: the Prime Minister vetoed the abolishment of the super-gross wage with the transition to the taxation of the gross wage at a marketing rate of 19 % (described in the government declaration) because of his conflict of interest. The basic solution of the disproportions in the labour taxation involves the inclusion of the entire employee insurance contribution into the personal income tax (and the increase of the basic tax credit). Moreover, it is possible to reform the capital income taxation by integrating it into a "comprehensive business income tax" (with a rate of 31.15 %), which taxes corporate profits and interest costs, but abandons the double taxation of dividends, meaning that the aforementioned conflict of interest would fall away. Knowledge of the modern tax theory would be of help to the Czech tax policy.

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PROBLEMS OF OPERATION OF AUTONOMOUS VEHICLES WITH REGARD TO LIABILITY FOR DAMAGE

Radim Kalabis[1]

Abstract

The progression of society is moving towards a fundamental milestone that will mean a fundamental change in our lives. This is the advent of Industry 4.0 and the associated automation and robotics in the industry itself, but also in other areas such as medicine, administration, or transportation. This article focuses on transport, noting the general development in the field of autonomous vehicles and key issues, without which the operation of these vehicles in the Czech Republic will probably not be possible, namely issues of liability for damage caused by the operation of such an autonomous system. I am focusing, on the one hand, about the current legislation and, on the other hand, whether we necessarily need a completely new concept of liability for damage for the operation of currently developed and used self-driving vehicles.

Keywords

Industry 4.0, Autonomous Systems, Self-Driving Vehicles, Liability for Damage

I. Základní vymezení

Automatizace, robotizace, autonomní systémy, jakož i další s tím související pojmy jsou charakteristické pro nadcházející etapu vývoje ekonomiky, která ovlivní velmi zásadním způsobem chod celé společnosti. Hovořím zde o průmyslu 4.0, se kterým se budeme setkávat nejen v samotných výrobních odvětvích, ale také v dalších oblastech. Jednou z takových je také silniční přeprava zboží a osob.

Průmysl 4.0 se jeví jako prosté označení určitého způsobu výroby, nicméně, jak již bylo naznačeno shora, bude se za situace jeho plné realizace jednat o tak zásadní a radikální změny, které jsou plně srovnatelné s průmyslovou revolucí 19. století.

Samotný pojem „průmysl“ je v daném kontextu poněkud zavádějící, protože spolu s klasickou průmyslovou výrobou (zavádění robotizace a automatizace do výroby, nahrazování lidského faktoru stroji či plně autonomní továrny) a spolu s dalšími, nevýrobními odvětvími, jako jsou např. poštovní služby, prodej, jednoduché administrativní služby apod., se bude muset změnit, a to velmi podstatným způsobem, také samotná společnost a její pravidla fungování, včetně pravidel právních.

Legislativní změny, ke kterým bude muset v souvislosti s přechodem na tzv. průmysl 4.0 dojít, budou tak rozsáhlé, že lze směle taktéž hovořit o malé revoluci.

Změny nutně postihnou taková legislativní odvětví, jako je právo sociálního zabezpečení, občanské právo, správní právo, s postupným rozvojem umělé inteligence a prohlubováním její ingerence do života společnosti bude zapotřebí patrně změnit také samotné základy, na nichž současné právo stojí.

Jedním z klíčových pojmů, které budou v souvislosti s rozšířením průmyslu 4.0 a autonomních technologií skloňovány, bude bezpochyby pojem odpovědnosti.

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Ať se již podíváme na jakoukoliv oblast, kde přichází v úvahu nasazení autonomních systémů, všude se s tímto pojmem setkáme. Všude bude zapotřebí vyřešit otázku, kdo ponese odpovědnost za případnou škodu, způsobenou autonomním systémem. Bude to vlastník systému, bude se odpovědnost dělit dle toho, která součást systému škodu způsobila a podle toho bude odpovědný buď výrobce hardware či software nebo bude odpovědný tento systém sám, pokud bude natolik sofistikovaný, že se bude autonomně rozhodovat dle aktuální situace a svým způsobem se učit nebo bude odpovědný kupříkladu subdodavatel vadného systému? Tato otázka se již nyní objevuje v právních debatách a úvahách o budoucím vývoji práva.

V rámci Evropské unie se vedou rozsáhlé odborné debaty, dotýkající se průmyslu 4.0, fenoménu autonomních systémů apod. Tyto diskuse a současně také ruku v ruce s tím jdoucí legislativní změny, probíhají také v samotných členských státech EU. Připomeňme si, že například Spolková republika Německo má vypracovánu jednak základní metodiku, která se týká podmínek pro provoz autonomních vozidel z hlediska jejich bezpečnosti, kdy autonomní vozidlo musí za všech okolností šetřit lidské životy apod. Od roku 2017 má také upravenu legislativu pro provoz a testování samořiditelných vozidel[2]. V podobném duchu se rozvíjí také legislativa v některých státech USA, kde se autonomní vozidla zkouší v ostrém provozu již několik let.

Tento stručný článek se zaměří na otázku, nakolik je Evropa připravena na plně autonomní vozidla a jak je na tom Česká republika v oblasti potřebných legislativních změn, umožňujících provoz takových vozidel. Dále si všimne také problematiky odpovědnosti za škodu v oblast autonomní dopravy, jakož i s tím souvisejících právních otázek, na které doposud z mého pohledu není společnost nejen česká, ale ani zahraniční zdaleka připravena.

II. Samořiditelná vozidla – základní členění

Jako samořiditelné vozidlo můžeme zjednodušeně označit ze takové, které je schopno provozu bez zásahu lidského faktoru.

Pokud se podíváme na tuto záležitost podrobněji, potom zjistíme například ze strategie EU pro mobilitu budoucnosti[3], že se předpokládá postupný přechod od tzv. asistovaných systémů až po ty plně autonomní v horizontu cca 30 následujících let. Vozidla jsou členěna do 6 kategorií od 0 do 5. Kategorie 0 představuje vozidla současnosti, tedy ta, která jsou plně ovládána člověkem. Jakousi přechodovou úrovní je potom kategorie 3, která v sobě zahrnuje vozidla, schopná samostatného provozu, aniž by byl nutný zásah lidského faktoru. Podmínkou ovšem je, aby byl člověk schopen převzít na výzvu systému řízení ve stanoveném limitu a vyřešit případnou krizovou situaci.

Právě o této kategorii vozidel jsem hovořil již výše v úvodu článku, kdy jsem ji zmiňoval jako tu, na kterou je již v současné době uzpůsobena německá legislativa. V SRN je již provoz a testování této kategorie vozidel možný od roku 2017.

Postupně se počítá s tím, že role lidského faktoru bude vzrůstat až na úroveň 5, kde je systém plně autonomní, řídí se sám a není potřeba jakéhokoliv zásahu řidiče. Takovýto automobil již nebude vybaven ani volantem a jinými ovládacími prvky.

Pro tuzemské silnice se prozatím jedná o hudbu velmi vzdálené budoucnosti, jelikož stále není dostatečně upraven ani provoz vozidel kategorie 3, byť je již od roku 2018 předložena do Poslanecké sněmovny novela zákona o provozu na pozemních komunikacích, která se

[2] Reuters (2017).
[3] Evropská komise (2018).

inspirovala v úpravě německé a měla by právě možnost provozu částečně autonomních vozidel na české silnice přinést[4].

Do doby, než se stane případná novela účinná, lze autonomní dopravní systémy testovat toliko na polygonech.

Již ze stručné charakteristiky samořiditelných vozidel musí být jasné, že z dnešního pohledu bude jejich začlenění do běžného provozu patrně velmi obtížné a Evropskou unií předpokládaná časová osa do roku 2050, kdy by silnice měly brázdit vozidla kategorie 5 – tedy bez ovládacích prvků, je spíše přehnaně optimistická.

U vozidel kategorie 5 se bude jednat o plně autonomní dopravní prostředky, či spíše dopravní systémy, které budou tvořit jednotu autonomně se rozhodujícího software a hardware, tedy vozidla samotného. Systém bude vyhodnocovat průběžně provoz, překážky, možná rizika apod. Takovýto systém již nepředpokládá možnost dodatečného zásahu lidského faktoru, tedy zde nebudou instalovány prvky, jako je volant či brzdy.

Není pochopitelně reálné, aby takovýto složitý a komplexní systém obsahoval například jakéhosi dispečera, který bude průběžně sledovat jízdu a v případě krizové situace zasáhne.

Takovéto systémy bez volantu a řidiče se prozatím zkoušejí experimentálně na polygonech, v reálném provozu prozatím jen ve velmi omezeném měřítku.

V rámci vývoje je možno očekávat, že vedle autonomních osobních automobilů se na silnicích objeví také autonomní nákladní vozy, případně autonomní hromadná přeprava osob. V dané souvislosti bude zapotřebí vyřešit mnoho problematických otázek, mimo jiné například otázku odpovědnosti za škodu, způsobenou provozem dopravního prostředku, otázku koexistence autonomních systémů s ostatními účastníky provozu (cyklisté, chodci, řidiči neautonomních vozidel aj.), otázky etické, zejména, jak se bude vozidlo chovat v případě dopravní nehody, resp. v těsném okamžiku před ní, kdy bude zřejmé, že již kolizi není možno zabránit.

Příchod plně samořiditelných vozidel, pokud někdy nastane, s sebou ponese natolik významné změny práva, které budou zasahovat napříč mnoha odvětvími.

III. Vybrané právní problémy zavedení autonomních vozidel

Na úvod této kapitoly se musím zaměřit na problematiku, kterou bude muset právní řád v případě schválení provozu autonomních vozidel, byť prozatím kategorie 3 (řidič nemusí vozidlo soustavně kontrolovat, ale musí být připraven na výzvu elektronického systému převzít kontrolu nad vozidlem), řešit jako jednu z prvních, a tou je odpovědnost za škodu.

Otázkou je, zda při současném stavu legislativy a judikatury, týkající se dopravy, budeme nutně potřebovat v souvislosti s případným schválením připravované novely zákona o silničním provozu, zavádějícím možnost provozovat autonomní vozidla kategorie 3, komplexní přehodnocení odpovědnosti za škodu, která je v současnosti koncipována jako tzv. objektivní, či její zásadní doplnění.

V této souvislosti chci připomenout rozhodnutí Nejvyššího soudu ČR č.j. 25 Cdo 3485/2016 ze dne 31. 8. 2017, který uvádí následující: *„Závada na elektroinstalaci automobilu zaparkovaného v garáži, která vedla ke vznícení vozu a následnému požáru objektu, zakládá objektivní odpovědnost provozovatele vozidla za škodu způsobenou zvláštní povahou provozu motorového vozidla.“*[5]

[4] Sůra (2018).

[5] Rozsudek Nejvyššího soudu ČR 25 Cdo 3485/2016 [R 149/2018 civ.].

Ustanovení § 2927 zákona č. 89/2012 Sb., občanský zákoník ve znění pozdějších předpisů upravuje dle mého názoru poměrně dostatečně odpovědnost za škodu, způsobenou zvláštní povahou provozu, spolu s liberačními důvody v odstavci 2. citovaného ustanovení.

Byť mezi odbornou veřejností nepanuje v tomto ohledu shoda, já se domnívám, že současná občanskoprávní úprava odpovědnosti za škodu pro počátky autonomní mobility ve svém základu postačuje a doplnit by ji bylo vhodné o případnou odpovědnost výrobce autonomního vozidla pro případ špatného nastavení systému řízení. Mohlo by se tak učinit v odstavci druhém ustanovení § 2927 a doplnit tak stávající liberační důvody výslovným zmíněním odpovědnosti výrobce.

Ve všech ostatních případech bude možno zachovat objektivní odpovědnost provozovatele, která je dána zvláštní povahou provozu dopravy.

Pokud jsem zmínil odpovědnost výrobce, potom je nutné se podívat na situaci, za které by tak mohla nastat.

Autonomní vozidlo, byť se jedná prozatím o případnou kategorii 3, je vybaveno řídícím algoritmem, který umožňuje vozidlu jízdu bez zásahu řidiče s výjimkou situací, které nebude schopen systém zvládnout. Pro tyto případy zde bude možnost výzvy vozidla směrem k člověku, aby převzal řízení.

Řídící algoritmus vozidla je schopen sledovat provoz a situaci před i za vozidlem, je schopen vyhodnocovat rizika a přizpůsobovat jízdu. V této úrovni ještě nepůjde o plně autonomní, učící se algoritmus, byť k této úrovni vývoj směřuje, resp. má směřovat.

Z tohoto důvodu se domnívám, že pro vozidla této úrovně samořízení plně postačí současná právní úprava, případně doplněná o shora uvedený liberační důvod.

Otázkou je následný vývoj a rostoucí míra automatizace. S úrovní 4 a 5, pokud k nim někdy vývoj dospěje, bude zapotřebí nutně právo v oblasti odpovědnosti za škodu, jakož i v dalších oblastech podstatně doplnit a změnit.

Jak bude takový autonomní systém fungovat v praxi? Dnes to je asi velmi obtížně představitelná záležitost, nicméně je jen otázkou času, kdy tato situace nastane. Samořídící vozidlo, vybavené samoučícím se algoritmem, který přes počáteční nastavení systému bude tento nadále doplňovat a zdokonalovat.

Kdo bude potom odpovědný za dopravní nehodu? Bude jím i nadále provozovatel vozidla, i když nebude mít sebemenší možnost zabránit nehodě? Tato úprava by odporovala dobrým mravům, ale i obecné koncepci liberačních důvodů u objektivní odpovědnosti. Bude odpovědný výrobce vozidla či dodavatel algoritmu? Ano, ale pouze za situace, kdy k nehodě dojde vinou chybného základního nastavení. Pokud bude příčina nehody spočívat v chybném procesu učení tohoto autonomního systému, potom i výrobce bude těžko odpovědný za způsobenou nehodu.

Připomínám – byť se nejedná o oblast samořiditelných vozidel, jak dopadl projekt tzv. chatbotu Tay[6], který byl spuštěn před cca 4 lety a musel být krátce po uvedení do provozu vypnut. Robot se stal rasistickým a útočným v diskusích, kde urážel a napadal své lidské partnery. K této situaci došlo pod vlivem špatného učení. Robot, který je zcela prost jakýchkoliv emocí a morálních zábran, doslova nasál veškerá negativní vyjádření z prostředí internetového chatu a díky četnosti výskytu jistých témat a postojů je přijal jako většinový a správný názor. Podle toho se začal chovat.

Není vyloučeno, že tak může dopadnout i projekt samořiditelného vozidla, které bude vybaveno učícím se a plně autonomním algoritmem. Pokud by se dostalo vozidlo, resp. jeho systém do

[6] The Guardian (2016).

prostředí, kde se běžně porušují pravidla silničního provozu, robot by si to mohl vyhodnotit jako obecně platné, přijímané a správné chování.

Pokud někdy technický vývoj dospěje až do tohoto bodu, potom bude zapotřebí rozvinout odbornou debatu, kterou je možno nalézt už nyní, a to na téma přiznání subjektivity umělé inteligenci.

Otázkou je, v jaké podobě a do jaké míry bude případně tato subjektivita přiznána a právem pojímána. Bude to pochopitelně záležet převážně na tom, nakolik budou tyto autonomní systémy na člověku nezávislé a rozhodující se tak, že toto rozhodnutí nebude vycházet z jejich předchozího naprogramování, ale z výsledků vlastní, autonomní volní činnosti, závislé na předchozím samostatném učení a vyhodnocení aktuální situace.

V současné době je možné se setkat s názorem, že umělé inteligenci by se kupříkladu mohla přiznat jistá míra subjektivity, srovnatelná se současnými právnickými osobami. Tyto právnické osoby ovšem ne zcela vystihují podstatu autonomního systému.

Když se podíváme blíže na obchodní korporaci, potom se jedná o subjekt, který je člověkem vytvořen a člověkem ovládán. Právnickou osobou – tedy samostatným subjektem práva, se obchodní korporace nestala proto, že by byla schopna sama ze sebe existovat a rozhodovat se. Jak na to správně poukazuje například Pavel Čech ve svém článku „Umělá inteligence, jako třetí subjekt práva?“[7], právnické osoby v podobě obchodních korporací mají tuto subjektivitu přiznánu za účelem ochrany majetkových zájmů fyzických osob, které jejich prostřednictvím realizují své podnikatelské aktivity.

Pokud bychom tedy pojali také autonomní systémy v podobném duchu, potom si lze představit, že na jedné straně společenské poptávky bude stát požadavek na automatizaci, zefektivnění výroby, či v našem případě dopravy, k čemuž se použije tento plně autonomní systém a na straně druhé současně požadavek na minimalizaci rizik, vycházejících z případné odpovědnosti za škodu, způsobenou provozem autonomního vozidla či jakéhokoliv jiného systému.

Nesmíme zapomínat na fakt, že jak autonomní vozidlo, tak jakýkoliv plně autonomní systém zde nebude existovat sám ze sebe a pro sebe, ale bude zde existovat opět jen jako prostředek člověka, který bude sloužit k uspokojení jeho potřeb a majetkových zájmů.

Z uvedeného důvodu tedy bude dle mého názoru vhodnější, aplikovat na umělou inteligenci spíše režim subjektivity, odpovídající dnešním obchodním korporacím než subjektivitu, která by se blížila subjektivitě (právní osobnosti) fyzické osoby.

Pokud bychom totiž přiznali umělé inteligenci plnou subjektivitu a postavili ji do jedné řady s člověkem, museli bychom dle mého názoru řešit v daný okamžik mnohem více právních otázek než jen případnou odpovědnost za škodu, kterou by způsobilo vozidlo, ovládané autonomní umělou inteligencí.

Jedna z nich, položená však ryze spekulativně, by mohla znít tak, zda si v případě vozidla s umělou inteligencí (které byla právem přiznána plná subjektivita, rovnající se subjektivitě fyzické osoby), kupujeme opravdu věc a ne inteligentní, myslící a emocemi nadanou bytost, která bude autonomní také vůči naší vůli a bude plně oprávněná nám například odmítnout splnit naše zadání.

Již z položené otázky je patrné, že se jedná o velmi vzdálenou budoucnost, ke které možná nikdy nedojde, nicméně názory, že by se subjektivita autonomního systému mohla řešit právě tak, že by byla podobná subjektivitě fyzické osoby, zaznívají již dnes, byť si i sami autoři těchto úvah rovněž uvědomují hloubku dosahu takto pojaté úpravy.

[7] Čech (2019).

Pro potřeby umělé inteligence a jejího začlenění do našich životů nejen v rámci autonomních vozidel, ale i v rámci průmyslu 4.0 obecně, postačí, když bude buď doplněna současná právní úprava v otázkách odpovědnosti za škodu, způsobenou provozem autonomního systému – pokud zůstaneme v této rovině – případně ji bude přiznána subjektivita na úrovni právnické osoby a odpovědnost bude upravena analogicky.

Tento režim by ovšem nebyl nutně použitelný pro veškeré oblasti života, kde se umělá inteligence nabízí k použití. Je například obtížně představitelné, že si koupí osobního vozu kupuji současně právní subjekt se všemi důsledky.

Pokud se podíváme na právní úpravu obchodních korporací, potom si musíme všimnout několika podstatných skutečností. Obchodí korporace jako subjekt vzniká zápisem do rejstříku, jedná za ni statutární orgán, obchodní korporaci je přičítáno jednání statutárního orgánu v případě trestní odpovědnosti apod. V případě umělé inteligence je těžko myslitelné, že se bude vozidlo zapisovat krom evidence vozidel např. do zvláštního rejstříku, že bude určena odpovědná osoba, která za něj jedná apod. Neslo by to s sebou mnohem více komplikací než užitku, nehledě na to, že by to podstatnou měrou znesnadňovalo vlastnictví osobního automobilu pro běžného uživatele.

Položme si po stručném přehledu možností, jak pojmout umělou inteligenci opět stejnou otázku, jako na úvod článku. Přinese nebo nepřinese nástup umělé inteligence revoluci v právu, zejména co se týče odpovědnosti za škodu?

Je zjevné, že si lze jen velmi obtížně představit, že by za škodu byla odpovědna přímo umělá inteligence. Nejen z důvodu etických – postavili bychom ji na roveň člověku, ale také z důvodů praktických, jak bylo naznačeno výše v případě omezené subjektivity dle vzoru právnických osob.

Samotná odpovědnost s sebou nese povinnost k náhradě škody. Za situace, kdy bychom umělé inteligenci přiznali subjektivitu, a to jak plnou, tak omezenou, stále nemáme vyřešenu podstatnou otázku – kdo nakonec zaplatí škodu, i když bude uznána vinnou tato umělá inteligence.

Je těžko představitelné, že by umělá inteligence vlastnila nějaký majetek. I kdyby tedy měla nést odpovědnost za škodu, je evidentní, že ona tuto škodu hradit nebude). Je tak vysoce pravděpodobné, že by povinnost k náhradě škody opět zůstala na straně provozovatele vozidla.

Zajímavý je z tohoto pohledu názor z Německa, že pro pojišťovny se fakticky nic podstatného v oblasti plnění z pojistky v případě nehody nemění ani za situace, kdy se bude jednat o nehodu plně řiditelného vozidla kategorie 5.[8] Z pohledu pojišťoven bude vždy existovat subjekt provozovatele (majitele) vozidla, který bude za toto vozidlo odpovědný. Bude i nadále existovat povinnost mít takové vozidlo pojištěno a z daného pohledu tedy bude zcela lhostejné, kdo způsobí dopravní nehodu.

Pokud ještě zůstaneme u našich západních sousedů, potom stojí za povšimnutí také to, že s příchodem možnosti provozovat autonomní vozidla kategorie 3 – tedy se zachováním možnosti převzít kontrolu nad vozidlem ze strany člověka, se zvýšily zákonné limity pro odpovědnost za nehodu, která bude způsobena vozidly s autonomním řízením, kdy je nově újma na zdraví zvýšena z původních 5 milionů EUR na 10 milionů a v případě škody na majetku je tato zvýšena na 2 miliony EUR.[9] Současně byl také vznesen požadavek pojišťoven, aby nebylo možno ze strany výrobce vozidel s autonomním řízením, zpětně zasahovat do tzv. černých

[8] Gomoll (2019).
[9] Süddeutsche Zeitung (2018).

skříněk vozidla, aby bylo možno zcela jednoznačně po nehodě určit, kdo za tuto nehodu mohl – zda lidský faktor - řidič nebo autonomní systém – tedy výrobce.

Domnívám se, že by se i tuzemská právní úprava měla inspirovat tou zahraniční, zachovat jednak současnou koncepci odpovědnosti za škodu, způsobenou provozem vozidla s tím, že pro provozovatele zde bude jaksi přidán liberační důvod, kdy bude viníkem výrobce autonomního vozidla, a ten bude odpovědný vždy, kdy bude vozidlo ovládáno umělou inteligencí a nikoliv řidičem.

Diskuse, které směřují k přiznání subjektivity umělé inteligenci, či pokládající teoretické otázky, kdo bude odpovědný za autonomní vozidlo vyšší kategorie automatizace (např. kategorie 5 – bez ovládacích prvků v kabině vozu), když se bude jednat o samořídící algoritmus, mohou přivést právo i vývoj samořídících vozidel do slepé uličky. Pokud nebude jednoznačným způsobem definováno, kdo je odpovědný za nehodu a způsobenou škodu v případě autonomního vozidla, nebude možné tuto škodu ani efektivně vymáhat a může to představovat zásadní překážku pro zavedení těchto vozidel do provozu.

Přiznejme si, že problematika se netýká v konečném důsledku jen samořiditelných autonomních vozidel, ale jakéhokoliv funkčního celku, který bude řízen umělou inteligencí. Odpovědnost za škodu bude zapotřebí definovat stejně tak u autonomního vozidla, jako u autonomní továrny, či jiného provozu.

Pokud by se výrobci těchto systémů chtěli zprostit odpovědnosti a tuto přenést plně na provozovatele, z ekonomického hlediska by takovýto produkt přestal být prodejný. Těžko lze očekávat, že si běžný uživatel pro potřeby osobní či pro potřeby podnikání pořídí autonomní systém řízený umělou inteligencí, za jehož vady a chyby bude odpovědný v plném rozsahu on sám, aniž by se mohl z této odpovědnosti vyvinit. Stejně tak je obtížné si představit, že by se rozvinuly nabídky pojišťoven, které by měly krýt odpovědnost za škodu, která bude způsobena systémem, do jehož rozhodování nemůže provozovatel jakkoliv zasáhnout a není ani často zřejmé, či nebude zřejmé, proč se umělá inteligence v daný okamžik rozhodla zrovna daným konkrétním způsobem – problematika tzv. black box (běžný uživatel nevidí do procesu rozhodování umělé inteligence a není ani schopen jej k určitému okamžiku popsat, ani ovlivnit.)[10].

IV. Závěr

Autonomní systémy včetně autonomní dopravy, jsou a budou bezpochyby přelomové pro další vývoj společnosti, která se na jejich příchod bude muset adaptovat. Je pochopitelně jen otázkou času, kdy se na umělou inteligenci, ovládající naše životy v mnoha oblastech, přizpůsobí také právo. Jak je patrné i ze stručných dílčích závěrů článku, pro úpravu práva bude klíčovou otázkou, jakou roli společnost autonomním systémům, řízeným umělou inteligencí, přisoudí. Zda společenská diskuse dospěje až tak daleko, že bude připravena přiznat umělé inteligenci plnou či omezenou právní subjektivitu nebo zda setrvá na současné úrovni vnímání umělé inteligence, jako sice velmi sofistikovaného, ale stále stroje, který je určen potřebám člověka.

Článek se soustředil primárně na problematiku dopravy a otázku případné odpovědnosti za škodu. Z hlediska práva je v rámci tuzemské legislativy na pořadu dne pouze připravovaná novela zákona o provozu na pozemních komunikacích, která má umožnit přístup autonomních vozidel kategorie 3 na české silnice tím, že doplní stávající ustanovení § 2 písm. d) zákona č. 361/2000 Sb. tak, že řidičem je i ten, kdo aktivuje vysoce nebo plně automatizovanou funkci řízení a používá ji pro řízení vozidla, i když vozidlo sám neřídí. Příslušné úvodní ustanovení

[10] Čížek (2017).

pak předkladatelé navrhují doplnit o další změny, které definují jednak samotné autonomní vozidlo, jakož i jeho funkce a přípustnost použití v provozu.

Jak již bylo řečeno, tento návrh je od roku 2018 v Poslanecké sněmovně, doposud nebyl schválen a pokud se tak stane, přinese možnost provozu autonomních vozidel jak pro testování na silnicích, tak pro běžné použití. Patrně pro doposud nevyjasněné otázky v oblasti případné odpovědnosti za škodu, způsobenou provozem však v České republice samořiditelná vozidla mimo uzavřené testovací polygony stále jezdit nesmějí.

Když si položíme otázku, zda by bylo možno tato vozidla za současného stavu vývoje tzv. pustit do ostrého provozu a co bychom k tomu potřebovali, potom se domnívám, že množství nutných legislativních změn by nebylo tak rozsáhlé, jak by se mohlo na první pohled zdát.

Pro provoz samotný je nezbytná novela zákona o provozu na pozemních komunikacích, která jej právně umožní. Vedle toho by bylo zapotřebí novelizovat občanských zákoník v části ustanovení § 2927 odst. 2, kde by dle mého názoru měl za účelem provozu autonomních vozidel přibýt liberační důvod pro provozovatele vozidla, který by případně výslovně doplnil, že odpovědnosti se provozovatel zprostí tehdy, pokud prokáže, že nemohl zabránit nehodě vozidla, ve kterém byla uvedena do provozu plně automatizovaná funkce řízení vozidla. Pozornost by v této souvislosti měla být věnována přítomnosti tzv. černé skříňky ve vozidle, aby bylo možno prokázat, kdy řídil vozidlo člověk a kdy umělá inteligence. V dané souvislosti se nabízí, upravit povinnost výbavy černou skříňkou přímo v zákoně o provozu na pozemních komunikacích.

Za předpokladu, že by byla provedena toliko novela zákona o provozu na pozemních komunikacích, jsem přesvědčen, že odpovědnost za nehodu a způsobenou škodu by se dala řešit i dle současné občanskoprávní úpravy. Provozovatel vozidla musí být za všech okolností ze zákona pojištěn. Bylo by pak případně na pojišťovnách, jak a zda by upravily pojištění samořiditelných autonomních vozidel ve svých pojistných podmínkách z hlediska rozsahu a ceny pojištění.

Doposud jsme se věnovali toliko civilní rovině odpovědnosti za škodu, přičemž je nepochybné, že by autonomní vozidla měla svůj dopad také na rovinu trestněprávní a přestupkovou.

V rovně trestněprávní by bylo zapotřebí nejprve vyřešit debatu, zda nehoda autonomního vozidla, které bude v okamžiku nehody řízeno umělou inteligencí, bude přičítána výrobci nebo uživateli. Z hlediska zavinění je však obtížné si představit, že by jeden či druhý subjekt mohl být trestně odpovědný za situace, kdy výrobce nastaví veškeré potřebné parametry, které jsou za současného stavu poznání realizovatelné a uživatel bude tento systém řádně udržovat tak, aby mohl plnit své funkce.

Pokud umělá inteligence chybně vyhodnotí situaci v provozu a způsobí nehodu s vážným zraněním či smrtí, bude na místě prokazovat, zda provozovatel nezanedbal pozornost a včas zareagoval na pokyny autonomního systému k případnému převzetí kontroly nad vozidlem (zde bude nutné nastavit časový limit pro takovéto převzetí) a nedopustil se tak minimálně nedbalostního trestného činu, dále pak bude na místě prokazovat případné zavinění výrobce, zda nedošlo k chybě při nastavení systému.

Trestněprávní odpovědnost za provoz autonomního dopravního prostředku je však sama o sobě natolik obsáhlou otázkou, že by stála za samostatné zpracování, proto ji zde zmiňuji toliko okrajově.

Z mého pohledu je možno schválit a povolit provoz autonomního dopravního prostředku kategorie 3 tak, jak byla definována také například ve sdělení Komise Evropskému parlamentu, Evropské radě, Evropskému hospodářskému a sociálnímu výboru a Výboru regionů pod názvem „Na cestě k automatizované mobilitě: strategie EU pro mobilitu budoucnosti“ – tedy

plně automatizovaný systém s podmínkou, že řidič musí být připraven vždy převzít kontrolu nad vozidlem – je z hlediska občanskoprávní odpovědnosti za škodu možný i za stávající právní úpravy, kdy je definována objektivní odpovědnost provozovatele s liberačními důvody, které jsou vymezeny tak, že i případná škoda, způsobená umělou inteligencí v dopravě by byla za současného stavu řešitelná a podřaditelná pod ustanovení § 2927 a násl. občanského zákoníku. Výkladová pravidla by s sebou mohla přinést rozhodovací praxe soudů a judikatura, která by přednostně musela vyřešit otázku, k jakému okamžiku je možno přičítat ovládání vozidla umělou inteligencí – tedy k jakému okamžiku provozovatel objektivně ztratil možnost jakkoliv zabránit případné nehodě.

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