

Chosen aspects of the shadow economy in the world and in Slovakia

Katarina Kramarova*, Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, 01026 Zilina, Slovakia.

Lubica Gajanova, Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, 01026 Zilina, Slovakia.

Elena Gregova, Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, 01026 Zilina, Slovakia.

Suggested Citation:

Kramarova K., Gajanova L. & Gregova E. (2016). Chosen aspects of the shadow economy in Slovakia. *Global Journal of Business, Economics and Management. Current Issues. 6(2)*, 86-96.

Received July 16, 2016; revised September 03, 2016 ; accepted November 17, 2016;

Selection and peer review under responsibility of Prof. Dr. Andreea Iluzia IACOB, Bucharest Academy of Economic Studies, Romania.

©2016 SciencePark Research, Organization & Counseling. All rights reserved.

Abstract

The presented paper deals with chosen aspects of the shadow economy in the world and in Slovakia. The shadow economy is a worldwide phenomenon and shadow-economic activities may generate different effects and problems. It is generally known that it involves legal or illegal economic activities of any economic entity, which are performed outside the reach and control of government authorities. The aim of the article is to present chosen information on the shadow economy from the global aspect, subsequently to describe and analyse shadow-economic activities that are typical for the Slovak economy. In the context of the paper's aim, the authors divided the paper in two main parts. The introduction part is devoted to the theoretical aspects of the discussed issue with emphasize on defining of the shadow economy and determining main aspects that are analysed in connection with the shadow economy. In the second part, the authors mainly deal with the issue of measuring of the shadow economy. In this part, inter alia, the authors present chosen information on the shadow economy from the global perspective by summarizing already existing findings. An important part of this section constitutes findings of different analyses of the shadow economy and shadow-economic activities in Slovakia. The authors present findings from already existing analyses as well as their own findings to get a comprehensive view on the discussed issue. Based on the findings, in the last part, authors will present proposals how to solve and fight against shadow-economic activities.

Keywords: causes of the shadow economy, definition of the shadow economy, shadow economy, size of the shadow economy, Slovakia

* ADDRESS FOR CORRESPONDENCE: **Katarina Kramarova**, Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, 010 26 Zilina, Slovakia.
E-mail address: katarina.kramarova@fpedas.uniza.sk / Tel.: +421-41-513-3050

1. Introduction

The shadow economy is a widespread phenomenon that has probably been existing since ancient past. However, it has become the focus of the research in the last few decades, mainly due to change of perception of the shadow economy in the context of the national economy. The shadow economy and shadow economic activities are currently considered as a demonstration of a failure of the official (formal) economic system particularly in connection with failures of the process of allocation of social resources (considering legal and semi-legal market based monetary or non-monetary transactions; excluding crime activities). Enste (2000) emphasizes the need for paying attention to the shadow economy due to three main reasons: dramatically rising unemployment public deficits (incomes from activities within the shadow economy do not “pass through” the official system of taxation), and rising vexation and disappointment with economic and social policies. In the most cases, as he says, shadow-economic activities represent a kind of reactions of entities who feel overburdened by the state and who prefer “exit option” rather than “vote option”. Regarding the analyses on the shadow economy, scientists focus primarily on the taxonomy of the shadow economy, identification of its causes and entities that are active in the shadow economy, estimating of the size of shadow-economic activities, and identification of its consequences on the official economy. Not least, despite some discussed positive impacts, the scientists also recommend it ways of tackling and measures to reduce shadow economy have clearly negative impacts since its existence. A common feature of current studies is to get a holistic view on the issue of the shadow economy. A starting point of almost all studies is the debate about the definitions of the term “shadow economy” and adequate explanations of their contents or other more or less identical terms.

1.1. Approaches to defining the shadow economy

The issue of the shadow economy is addressed under many different names that more or less have the same contents.¹ However, there is no exact knowledge what these different names might mean, what kinds of economic activities include, in what context they are used etc., unless the definition will not be strictly specified by the author. Except other, the specification of activities, which are considered as a part of the shadow economy determines the methodology of a measurement of the size of the shadow economy. By having a clear definition, a number of ambiguities and controversies can be avoided, though some important shadow economic activity will be omitted. (Schneider & Williams, 2013) On the other hand, to make a “fixed” definition of the shadow economy does not seem to be a good idea, because the shadow economy develops all the time and entities that are active in this system adopt their behaviour to changing conditions and new circumstances of economic, social, technological, and moral natural in the formal economic system. From the theoretical-practical point of view, based on Vilhelm (2013), the existing definitions of the shadow economy include four main criteria for classification – statistical criterion, legality criterion, classical criterion, and criterion of integrated system evidence.

¹ Note: For instance *Van Eck* (1987) identified almost 30 different synonymous for the shadow economy, namely alternate, autonomous, black, cash, clandestine, concealed, counter, dual, grey, hidden, invisible, irregular, marginal, moonlight, occult, other, parallel, peripheral, secondary, submerged, subterranean, twilight, unexposed, unofficial, untaxed, underwater, underground. It could be added other, e. g. informal, non-observed, system D, algorism, leisure etc.

At the beginning, the concept of the shadow economy the scientists and political authorities discussed mainly in connection with the illegal work. As the first, who scientifically pointed at the existence of the shadow economy in this connection might be considered *Lewis* (1955). In his work, he used the term “informal sector” as the opposite to the formal one within the economic development model. Among the pioneers of this concept belongs also *Hart* (1973), the British economic anthropologist. He developed the theory of the urban informal economy in connection with the low-income section of the Ghanaian workforce.

The following definitions are more general and emphasize the “hiddenness” of shadow activities before the state authorities. E.g. *Feige* (1979) (preferring the term “irregular economy”) describes the shadow economy more generally as those activities that go unreported or are unmeasured by the society’s current techniques for monitoring activity. *Smith* (1994) defines it as market-based production of goods and services, whether legal or illegal, that escapes any detection in the official estimates of the GDP. The parameter of informality of shadow-economic activities emphasizes also *Belev* (2002). Informality, in general meaning, he defines as an attribute of any phenomenon that has fallen beyond the scope of the government control or regulation. Then in connection with the shadow economy, informality as its main feature is typical for such kind of economic activities, which are not fully taken into account by the national statistics, taxed by the government, sanctioned, regulated or protected by the state. Along the same lines as previous authors, *Mroz* (2002) applies the term “shadow economy” to unregistered activities aimed at yielding tangible benefits, in either natural or in monetary form, generating given consequences of value crating and/or distribution character. *Schneider* has offered several definitions of the shadow economy in his publications. In broader meaning, *Schneider & Williams* (2013) define the shadow economy as unreported income from the production of legal goods and services, either from monetary or barter transactions – and so the shadow economy includes all productive economic activities that would generally be taxable if they were reported to the state (tax) authorities. In the definitions, *Schneider* strictly isolates illegal and crime activities, embezzlement and production of households for own-final use (“household enterprises” that do not have to register with government) from the shadow economy. In contrast to other, e.g. *Eilat & Zinnes* (2002), *Schneider* does not associate black economy with the shadow economy. Activities that he considers as a part of the shadow economy, generally divides in two main categories: undeclared work and underreporting. More detailed classification he presents together with *Williams*. (*Schneider & Williams*, 2013) They consider:

- legal activities that are deliberately concealed from the public authorities to avoid payment of income, value added or other taxes,
- legal activities that are deliberately concealed from the public authorities to avoid payment of social security contribution,
- legal activities that are deliberately concealed from the public authorities to avoid having to meet certain legal labour market standards, such as minimum wages, maximum working hours, safety standards, etc.
- legal activities that are deliberately concealed from the public authorities to avoid complying with certain administrative obligations.

Fassman (2007) offers a holistic view on the shadow economy. Base on his definition, the shadow economy comprises:

- grey economy (activities are inherently legal, but because of the tax avoidance, avoidance of the rules and regulations are not reported or underreported to the state, e.g. tax evasion, tax avoidance, informal jobs, barters, sale of goods without a permit, payments in cash etc.),

- black economy (all illegal activities, e.g. production and drug trafficking, smuggling, counterfeit production of notes, prostitution, theft, fraud etc.; all activities are characterized by pursuit of the illegal income),
- production of households (legal actions that are carried out on the basis of barter or free transactions; they are not considered as market-oriented and are intended to save purchases of the household).

The shadow activities account for a significant portion of the total employment and income generation, but due to their statistically officially unrecorded monetary value they are not reflected in the official economic indicators such as GDP, consumption, unemployment, balance of payment, demand for money etc. Orviska (2004) states that the existence of the shadow economy misrepresents true economic status of the country's economy and leads to the undervaluing official data on the standard of living in the country. This in turn may lead (and leads) to the adoption of improper government decisions (that are critically depended on the official indicators) and to other improper reallocation of society's resources (both at national and international level, e.g. within the member countries of the EU). Therefore, it is important to "transfer" the monetary value of shadow-economic activities into the official indicators of the formal economic system (into the system of the national accounts). Huston (1987) states (based on own theoretical macro model) that effects of the shadow economy should be taken into account in setting tax and regulatory policies, but on the other hand he states that the existence of shadow-economic activities could lead to an overstatement of inflationary effects of fiscal or monetary measures. In this direction e.g. the OECD or the statistical office of the EU – Eurostat (in connection with the international standards for the compilation of national accounts – System of National Accounts „SNA“ and European System of Accounts „ESA“) have specified the concept and definitions of the non-observed economy. Although they do not define shadow activities explicitly, it is possible to identify them within the structure of non-observed economic activities, that based on the *OECD* (2002) and *Van de Ven* (2015) are divided into underground production, illegal production, informal sector production, and production of households for own-final use. The fifth category is the "statistical underground" that exists due to deficiencies in the official statistical system.

The production of all goods and services and the income generated by these activities can take different forms: market/non-market, observed/non-observed, legal/illegal etc. The concept of the SNA or ESA are based entirely on a simple premise – the GDP as a primary measurement tool that measures the economic activity makes no judgement on whether activities are seen as "good" or "bad". A measurement of non-observed activities commonly is also included; therefore, the GDP should not include only reported or legal transactions. The main aim of this gradual unification of the framework of the non-observed economy is more accurate measuring of the size of the non-observed activities. It means that the value added generated out of the formal economic system (in the underground, illegal or informal economy) is also measured or imputed within the system of the national accounts and to support a systematically evaluating of all potential sources of non-exhaustiveness.

1.2. Causes and consequences of existence of shadow economy

Many factors of economic, social or moral nature cause the existence of the shadow economy in the formal economic systems. They vary from country to country; they are not fixed and mainly are determined by "possibilities" offered by the formal economic system. From the general point of view, using the classification presented by *Enste* (2000) and adding own, following causes might be considered as fundamental:

- increase of the burden of taxes and social security contributions,

- increase in the density and intensity of regulations in the formal economy, especially in the business and labour legislation,
- high degree of the bureaucracy and corruption,
- long-term decline of the civic virtue and loyalty towards public institutions combined with a declining tax morale,
- quality and extent of public sector services,
- economic conditions (economic growth/decline, unemployment rate, inflation, purchasing power, external economic stability, access to financial capital etc.) together with the political stability of the formal economy.

The consequences of the existence of the shadow economy on the formal economy might vary, too. There are many analyses of these consequences, but there is a lack of comprehensive evidence. Most of studies analyse potential effects separately focusing mainly on the analysis of influences on the allocation of society's resources, tax losses from shadow-economic activities, functioning of the labour market etc. As the main effects, we consider:

- high share of the shadow economy on the economic system does not allow to maintain macroeconomic stability in the long term,
- activities within the shadow economy violate tax regulations, labour legislation, employment legislation, safety regulations, environmental protection and thereby they have a destructive impact on the framework of rights and duties of economic entities (both individual and institutional),
- in the shadow economy large and sophisticated investments that are a critical factor of the long-term economic growth cannot operate,
- large size of the shadow economy causes a loss of efficiency, wasting of resources, decline in the economic productivity, non-productivity payments, difficult access to the financial markets, decapitalization of assets, bribery etc.,
- monetary value of shadow-economic activities are not officially reported what creates a wide range of misleading information needed for the statistical reporting as a prerequisite for the development of skilled economy, support a creation of hidden inflation,
- shadow economy undermines the credibility of the government institutions, legal system, it contributes to the corruption, its growth usually discourages the entry of foreign capital, attracts the entry of cash and effects of mafia and organized crime, which can gradually develop into structures of the legal economy etc.

2. Selected information on the size of the shadow economy in the world

It is clear that the scope of the shadow economy, its structure, distribution within the various sectors of the national economy, character of involved entities etc. varies between single countries. Accordingly, the estimates on the size of the shadow economy in countries are different or possibly different in the same country mainly due to differences in the definition of the content of shadow activities, quality of input information and applied measuring method. Regardless of these facts, both practitioners and theorists consider it as the dynamically developing global problem, the second largest economy in the world, world's fastest growing economy and the largest employer at all. E.g. Schneider et al. (2015) estimates that the average size of the shadow economy within the members of the EU (28 countries) reached 18.6 per cent of officially reported GDP in 2014 with an expected reduction to 18.0 per cent in 2015.

Based on Schneider's estimations, if we consider that the GDP of the EU at current market prices reached EUR 13 958 billion in 2014, the monetary value of the shadow economy was app. EUR 2 596 billion in the same year. In 2015 the monetary value of the shadow economy reached EUR 2 632 billion, if we consider that the EU's GDP was app. EUR 14 625. In comparison to the level of the EU's deficit of public finance (EUR (-) 418.9 billion in 2014) the value of shadow economy would cover the deficit more than six times. In comparison to the total government debt (EUR 12 117.6 billion in 2014), the value of the shadow economy represented almost 21.5 per cent.²

The other "interesting" numbers that characterize the shadow economy is the total value of tax losses and number of workers employed in the shadow economy. Based on Schneider's estimate (Schneider, 2015b), total tax losses including social security contributions in the EU make up EUR 454.2 billion (app. 3.4 per cent of the EU's GDP, 8.6 per cent of the total EU's tax receipts) in 2013. Regarding the illegal (illicit, underground) work, Rabinowitz (2011) informs that the OECD concluded that almost 1.8 billion people were employed in the shadow economy in 2009 (almost 50% of all world's workers) and the Organization predicts that by 2020 the number of such kind workers could hit 2/3s of world's workers. *The Barometer survey* (2014) disclosed that app. 11 from 100 Europeans had acquired goods or services that had been produced by the illegal work in 2013, app. 4 from 100 Europeans had carried out undeclared paid work (the average value of the undeclared earnings was EUR 300), and besides that app. each thirtieth employee admitted that had been paid "under the table" – in cash. As the survey stated, the reasons for these activities were various – of economic, social and moral nature.

In February 2015 the OECD presented information on the GDP volume for 2010 after its revision in accordance to revised set of the international standards for the compilation of the national accounts – „SNA 2008“. The part of the recalculated GDP is transactions within the non-observed economy, too. The OECD has provided the specific information on the impact of illegal activities, however it did not "condemn" that the GDP could be also influenced by the share of countries' legal shadow economies. Based on the results, impact of illegal activities varies across countries. In average, the inclusion of the monetary value of estimated illegal activities resulted in an increase of the GDP for the OECD's countries by 0.2 percentage points. Just for instance – impact of illegal activities on the Slovak GDP, based on the OECD's report, was zero. The largest impact within the EU countries was observed in Poland (0.7 percentage points), Spain (0.9 percentage points), and in Italy (1.0 percentage points). (Merler & Hütt, 2015)

2.1. Shadow economy in Slovakia – brief analysis

As regards Slovakia, "official" expansion of the shadow economy (considering both semi-legal and illegal activities) dramatically occurred after 1993, when since 1989 the country entered into a liberalization process without any adequate regulation. Although on the other hand, we cannot argue that until this time, the shadow economy did not exist here. *Klinec* (1997) does not deny the existence of shadow-economic activities until 1989, too, but at the same time, he emphasizes the structural changes and changes of forms of the shadow economy that occurred after this year.

From the geopolitical point of view, Slovakia belongs to the Eastern Europe into so-called post-communist bloc. Until 1989, the Slovak economy had status of the centrally planned economy and only an admission that shadow economy existed, it was unacceptable in that time. Until 1989, there is no official analysis or official statistic data about the existence, size or causes of the shadow economy on the formal economic system in Slovakia. The only thing that is calculated retroactively is the size of the shadow economy of those times. A typical feature of the economy until 1989 was the market

² Note: Own calculation based on *Schneider* (2015) and official statistical data provided by the Eurostat and the Statistical Office of the Slovak Republic.

disequilibrium that had a form of excess of the market supply over the market demand. The disequilibrium occurred in the domestic internal market as well as in the external market. Within the domestic internal market the disequilibrium was a typical sign for both the consumer market and market of production factors and usually it had a form of the structure disequilibrium (shortages in certain commodities or factors of production on the one hand, on the other hand, growth in unsold inventories or factors of production). That situation forced economic entities to participate in shadow-economic activities – own needs satisfied in the shadow economy, but at higher prices. Generally, we can state (without a deeper analysis of the context), that the shadow economy worked as a specific balance recovery mechanism of the formal economic system at that time. In contemporary history of Slovakia, the issue of the shadow economy has become a spotlight of political interests mainly since 1998. At this level, the shadow economy is discussed, analysed, and solved principally in connection with the deficit of public finances, taxation, tax evasion, and illegal employment.

There exist several triggers of the shadow economy identified on the side of households and entrepreneurs. We consider them as permanent. E.g. based on own findings (questionnaire survey from 2015) the main causes of households to participate in shadow-economic activities (in the meaning of illegal work) was identified:

- insufficient economic/financial situation and possibility to improve it (48.2 per cent of respondents, from which 62.1 per cent had status “unemployed”, 28.5 per cent had status “employed”, the rest with status “student”, “retiree” or “other”),
- tax and social contribution burdens/possibility of higher earnings in comparison to declared work (29.6 per cent),
- any other possibility to get a job was not available (close to place of resident; 18.5 per cent),
- moral reasons and the other reasons, e.g. failure to provide adequate recompense in the form of public goods by the state (3.7 per cent).

Likewise, app. 68.9 per cent of all respondents (from the group “household”) owned up payments for goods and services without purchase receipt to get a better price at least once.

On the side of enterprises as the main reasons to be active in shadow-economic activities were identified tax and social contribution burdens (58.3 per cent); existing legislation (business, labour, tax) particularly as regards administrative complexity (32.5 per cent); overall quality of business environment (7.1 per cent); and moral and other motives (2.6 per cent). By the survey, the authors also confirmed their own assumption about the intensity of involvement of business entities in shadow-economic activities according to their size (the determinative criterion was the number of employees). The authors found out, that the business entities classified as “micro enterprise” (business entity up to 10 employees) and “small enterprise” (up to 50 employees) rather admitted their participation in the shadow economy than “medium” and “large” enterprises (up to 200 employees, more than 200 employees respectively).³

Bednarik (2014) in his survey primary focused on detecting the nature and extent of the undeclared work in Slovakia. He found out, that the main reasons of enterprises to be active in the undeclared employment were high social contribution, excessively high costs of labour relative to the productivity, high supply of undeclared work, tax burden, and administrative and legal constrains. An interesting feature of this survey was that the research samples were not enterprises, but practitioners and their

³ Note: The samples surveys was applied (micro approach to the measurement of the shadow economy). Data collection – field data collection (questionnaire survey) running since 25 January 2015 to 25 February 2015; the number of respondents within the sector “households” was 1,252, within the sector “business” was 406. In testing, the authors used Chi-square test and at the confidence level $\alpha = 0.05$ was confirmed the hypothesis about the dependence of observed data. The calculated strength of the relationship between the examined variables was identified as a moderate negative correlation between the intensity of the involvement of business entities in shadow-economic activities and their size (based on the Pearson’s correlation coefficient $r = -0.591$).

expert opinions on this issue. Its findings are identical in substance to the findings of the paper’s authors.

As to the size of the Slovak shadow economy, there are several studies trying to estimate its size by applying different measurement methodology. E.g. *Schneider (2015a)* using the multiple causes approach (MIMIC approach) has identified that the Slovak shadow economy could reach 14.1 per cent of the Slovak GDP in 2015, which means its slowdown by 3.4 per cent in comparison to 2014. The Schneider’s estimations of the size of the Slovak shadow economy since 2005 to 2015 are shown in the following figure. We have linked his estimations with the official information on the Slovak GDP to get information on the size of the shadow economy in absolute terms, too (in bill. EUR).

A kind of retrospective restatement of the size of the Slovak shadow economy was made by *Lichard, Hanousek and Filer (2013)*. Authors tried to quantify its size using microeconomic data, assumption of the consumption-income gap, and by using endogenous switching regression with unobserved separation. The theoretical model quantifies the size of shadow economy as a fraction of the economy’s officially reported income. By application of this model on data from 2008, they found out that the size of the Slovak shadow economy ranged between 25 and 35 per cent (depending on the consumption measure) of the reported GDP. It was substantially larger than the sizes obtained by applying other measurement methodologies (both macroeconomic and microeconomic ones), as well as in our case (see Fig. 1, year 2008).⁴

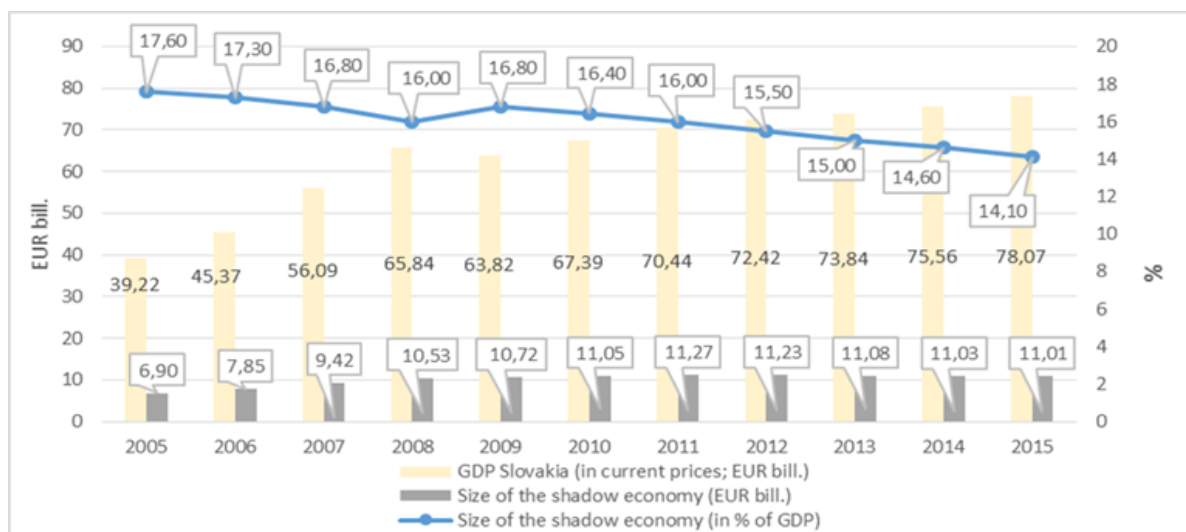


Fig. 1 Size and development of the Slovak shadow economy (2005 – 2015). Source: compiled by authors based on Schneider (2015) and data provided by the Eurostat and the Statistical Office of the Slovak Republic.

One of the interesting finding, which can be inferred from the observed trends in the GDP and size of the shadow economy (as relative number to the GDP), is a reciprocal development of both indicators. The economic growth of the Slovak economy indicates a decline in the extent of the shadow economy, and vice versa (which highlights linkage of the economic causes with existence and development of the informal economy). Globally, the development of the shadow economy in Slovakia we see as positive, since it has been declining. Its slowdown has been “supported” by several

⁴ Note: Other measurements have been performed in Slovakia by e.g. by Hajnovičová (1995), Hajnovičová and Olexa (1997, 1998, 1999), Ondruš (2001), Orviská (2005) etc.

measures at the government level in afford to decline tax evasion and tax fraud. In the light of these, we can arrange some examples like restriction on cash payments (transaction limit in case of B2B and B2C transaction is EUR 5000, in case of C2C EUR 15 000) (Act No. 394/2012); obligation to use a cash register or virtual cash register in case of business activities defined by the Slovak law (Act No. 289/2008, Decree No. 188/2016); stricter control on transactions made in cash; obligation of electronic communication and document transmissions of selected business entities with the state authorities (tax, customs, social and health insurance security; simplification of "cross" controls); "sale receipt" lottery (Act No. 135/2013 amending the Act No. 171/2005); increasing intensity of tax, customs and labour inspections, simplification of financial reporting; etc.

3. Conclusion

In this paper, we discussed the issue of the shadow economy. The discussion of the available literature and already existing researches on the shadow economy (from the global point of view) showed that the shadow economy was typical for development as well as developing countries, and it was rather seen as a negative element of the national economy with different consequences at its functioning. The causes of its existence also vary across countries, alternatively the intensity of their impacts across countries are different. In case of Slovakia (using own findings and findings from other surveys), as the main triggers of the shadow economy and reasons why the Slovak economic entities have participated in the shadow-economic activities, we identified (almost conventional) facts such as; tax and social contribution burden; unsatisfied economic situation together with the problem of unemployment; unsatisfied level of quality of public services; existing legislation together with administrative burden; quality of business environment; and moral aspects too (irresponsibility to the rest of the society). From the point of view of the Slovak government, the issue of shadow-economic activities is mainly discussed and solved in connection with the deficit of public finance (tax deficit), and evasion of social security contributions (illegal work). A separate, but no less relevant "chapter" plays the fight against criminal activities and organized crimes. The Slovak government has been trying to fight against the shadow-economic activities quite some times by applying different measures. Regardless of already existing measures, it is recommended that simplifying entrepreneurship (from the financial, administrative, tax/social contribution and technical side) and encouraging the quality of the Slovak business environment; reducing an attractiveness of the undeclared work for workers by income support and transparenting links between social contributions; reducing an attractiveness of the illegal employment and realization of tax evasion, and frauds of enterprises by introducing strict financial penalties and legal liability of business's representatives; regulating new forms of work that are not the subject of abuse, but allowing the compatibility of needs of businesses and workers; encouraging the increase of the standard of living and clarifying what the citizens receive as a recompensation in the form of public goods (in what extent, quality etc.); reducing the social acceptance of shadow-economic activities by increasing a tax morale, achieving a tax equality, reducing administrative bureaucracy and corruptions etc. By applying adequate political and legislative measures, the government authorities provide a good basis to insure that the society's resources would not be allocated in the informal but also in the formal economic system (any shadow activity would be carried out at higher marginal costs than in the in the official economic system that would indicate an irrational behaviour of shadow entity).

References

- Bednarik, R. (2014). *Rozsah nedeklarovanej prace na Slovensku (prieskum názorov a postojov pracovníkov verejnej správy)*. Retrieved from: http://www.ceit.sk/IVPR/images/IVPR/vyskum/2014/Bednarik/2170_bednarik.pdf
- Belev, B. (2002). *The Informal economy in the EU accession countries: Size, scope, trends and challenges in the process of EU enlargement*. Retrieved from: <http://www.csd.bg/artShowbg.php?id=12954>

- Eilat, Y., & Zinnes, C. (2002). The Shadow economy in transition countries: friend or foe? A Policy perspective. *World Development*, 30(7), 1233-1254. Retrieved from: <http://www.sciencedirect.com/science/article/pii/S0305750X02000360>
https://www.brainguide.de/upload/publication/52/jtvi/e78473d06cd3faf157061dc7e5b12e32_1311535210.pdf
- Eurobarometer (2014). *Special Eurobarometer report 402. Undeclared work in the EU*. Retrieved from: http://ec.europa.eu/public_opinion/archives/ebs/ebs_402_en.pdf
- Fassman, M. (2007). *Stinova ekonomika a prace na cerno*. Praha: SONDY.
- Feige, E. L. (1979). How big is the irregular economy? *Challenge*, 22(5). Retrieved from: http://www.jstor.org/stable/40719809?seq=1#page_scan_tab_contents
- Hart, K. W. (1973). Informal income opportunities and urban employment in Ghana. *Journal of Modern African Studies* 11(1). Retrieved from: <http://www.sv.uio.no/sai/english/research/projects/anthropos-and-the-material/Intranet/economic-practices/readinacg-group/texts/hart-informal-income-opportunities-and-urban-employment-in-ghana.pdf>
- Houston, J., F. (1987). *Estimating the size and implications of the underground economy*. Working paper 87/9. Jersey (Philadelphia): Federal Reserve of Philadelphia.
- Klinec, V. (1997). *Transformacia: budovanie kapitalizmu alebo prechod k informacnej spolocnosti?* Retrieved from: <http://www.akademickyrepozitar.sk/sk/repozitar/transformacia-budovanie-alebo-prechod.pdf>
- Lichard, T., Hanousek, J., & Filer, R. K. (2012). *Measuring the shadow economy: endogenous switching regression with unobserved separation*. Institute for the study of Labour. Research Paper Series no. 6901. Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2161238##
- Lewis, W. A. (1955). *Theory of economic growth*. Eastbourne: George Allen & Unwin Ltd.
- Merler, S., & Huttel, P. (2015). *Welcome to dark side: GDP revision on the non-observed economy*. Retrieved from: <http://www.zerohedge.com/news/2015-03-08/welcome-dark-side-gdp-non-observed-economy>
- Ministry of the Finance of the Slovak Republic, (2016). *Decree No. 188/2016 Coll. on laying down a number of issued cash receipts for the use of virtual cash register*.
- Mroz, B. (2002). *Gospodarka nieoficjalna w systemie economicznym*. Warszawa: Szkoła Główna Handlowa Oficyna Wydawnicza.
- National Council of the Slovak Republic (2008). *Act No. 289/2008 Coll. on the use of electronic cash registers and on amendments to Act No. 511/1992 Coll. On administration of taxes and fees and on changes in territorial financial authorities as amended*.
- National Council of the Slovak Republic (2012). *Act No. 394/2012 Coll. on the restrictions of the cash payments*.
- National Council of the Slovak Republic (2005). *Law No. 171/2005 Coll. on gambling as amended by the Act No. 135/2013 Coll. amending and supplementing the Act No. 199/2004 Coll. customs Act as amended*.
- OECD (2002). *Measuring the non-observed economy. A handbook*. Retrieved from: <https://www.oecd.org/std/na/1963116.pdf>
- Orviska, M. (2004). Makroekonomické a inštitucionálne aspekty tieňovej ekonomiky a daňových únikov. *Acta Facultatis Aeriae Publici*, 1(2), pp. 241 – 248.
- Rabinowitz, M. (2011). *Rise of the shadow economy: second largest economy in the world*. Retrieved from: <http://www.forbes.com/sites/benzingainsights/2011/11/07/rise-of-the-shadow-economy-second-largest-economy-in-the-world/#4c81c01d5d38>
- Schneider, F. (2015). *Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2015: Different Developments*. Retrieved from: <http://www.econ.jku.at/531/>
- Schneider, F. (2015). *Tax losses due to Shadow Economy Activities in OECD Countries from 2011 to 2013: A Preliminary Calculation*. CESifo Working Paper Series no. 5649. Retrieved from: <http://ssrn.com/abstract=2718882>
- Schneider, F., Raczkowski, K., & Mroz, B. (2015). Shadow economy and tax evasion in the EU. *Journal on Money Laundering Control*, 18(1), pp. 34-51. Retrieved from: <http://dx.doi.org/10.1108/JMLC-09-2014-0027>
- Schneider, F., & Williams, C. C. (2013). *The Shadow economy*. London: The Institute of Economic Affairs. Retrieved from: <http://www.iea.org.uk/sites/default/files/publications/files/IEA%20Shadow%20Economy%20web%20rev%207.6.13.pdf>
- Smith, P. (1994). *Assessing the Size of the Underground Economy: The Canadian Statistical Perspectives*, mStatistics Canada.
- Van Eck, R. (1987). *Secondary Activities and the National Accounts*. Working paper. Voorburg: Central Bureau of Statistics.

Kramarova K., Gajanova L. & Gregova E. (2016). Chosen aspects of the shadow economy in Slovakia. *Global Journal of Business, Economics and Management. Current Issues.* 6(2), 86-96.

Van de Ven, P. (2015). New standards for compiling national accounts: what's the impact on GDP and other macro-economic indicators? *OECD Statistics Brief*, 20. Retrieved from: <http://www.oecd.org/std/na/new-standards-for-compiling-national-accounts-SNA2008-OECD20.pdf>

Vilhelm, D. (2013). *Niektore pristupy k tienovej ekonomike*. Retrieved from: http://www.cutn.sk/Library/proceedings/mch_2013/editovane_prispevky/14.Vilhelm.pdf