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## ANALYSIS OF SHADOW ECONOMY IN SLOVAKIA: COMPARISON TO OTHER EU COUNTRIES

*The aim of this article is to present the existence of shadow economy as a phenomenon in every country, and to analyze it in its historic and economic development in Slovak Republic as compared to other EU states.*

*Keywords: shadow economy; illegal work; Slovakia; the EU.*

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## АНАЛІЗ РОЗВИТКУ ТІНЬОВОЇ ЕКОНОМІКИ У СЛОВАЧЧИНІ В ПОРІВНЯННІ З ІНШИМИ КРАЇНАМИ ЄС

*У статті вказано на присутність тіньової економіки як феномену кожної країни, проаналізовано її історичний і економічний розвиток в умовах Словацької Республіки в порівнянні з іншими країнами ЄС.*

*Ключеві слова: тіньова економіка; нелегальна праця; Словаччина; ЄС.*

*Рис. 1. Табл. 1. Літ. 16.*

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## АНАЛИЗ РАЗВИТИЯ ТЕНЕВОЙ ЭКОНОМИКИ В СЛОВАКИИ В СРАВНЕНИИ С ДРУГИМИ СТРАНАМИ ЕС

*В статье доказано существование теневой экономики как феномена каждой страны и проведен анализ её исторического и экономического развития в Словацкой Республике по сравнению с другими странами ЕС.*

*Ключевые слова: теневая экономика; нелегальный труд; Словакия; ЕС.*

**Introduction.** Shadow economy, also called "illegal economy", is part of national economy. This sphere is entitled in various ways depending on a country, as black, grey, dual, unofficial, parallel, second or shadow economy. It is a phenomenon that appears within all types of economies in various standards. Professionals expect that certain shadow activities have already existed in ancient times, however, complex studies begin to appear in the last third of 20th century (Mojdis, 2007). History had a great number of restrictions and taxes that led to illegal activities and laid the "foundations" to the development of shadow economy. That included, for instance: high tax burden in the field of perfumes during the pharaohs reign in Egypt; coffee prohibition till death penalty during the reign of sultan Murad II in 15th century in the Usman empire; gabelle – French salt tax lasting from the beginning of 15th century till the revolution in 1789; prohibition era in the United States (1920–1933); or the prohibition in France in 1629, with a duty imposed on tobacco import. Drugs, such as opium and cocaine were prohibited at the beginning of 20th century, marijuana – in the mid of the same century. The war for drug consumers, producers and smugglers still continues nowadays. Illegal markets with alcohol are still getting well in many countries up to this day due to high consumption taxes and fees in countries' worldwide (Lemieux, 2007).

Most authors who try to measure and estimate shadow economy meet the difficulties with how to define it properly. One of the commonly used measurable defini-

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tions nowadays are all unregistered economic activities that contribute to official calculation of gross domestic product. P. Smith (1994) defines it as market production of goods and services, whether legal or illegal, that escapes the detection of official GDP assessments. D. Kaufmann and A. Kaliberda (1996) describe shadow economy as unregistered additional value of any deliberate violation of the rule to be reported by company or individual. Other definition characterizes it as all economic activities and profits from it, which elude government systems, avoid taxation and are not evidenced.

It is obvious that there is no unique definition of shadow economy, because it is always developing in time, adapting to tax changes, debts recovery and social norms. We incline to rather extensive, but still very efficient definition of Czech author M. Fassmann (2007: 25) who describes it as profits and activities with the primary priorities to be hidden, moreover informal activities or transactions that do not cover payments and those that save purchases, and otherwise, activities leading to official profits in its end result, but their source, or the way of purchase, is against laws.

The nature of shadow economy is unclear and it has many diverse approaches to its definition, measurement and analysis of its scopes and determinants.

**Used methods and resources.** As there are many different definitions of shadow economy, it is not possible to find one method generally used for measuring its size. Analyzing the development of shadow economy in Slovakia, we focused on indirect methods, particularly monetary methods<sup>2</sup> that currently can be identified as the most often used methods measuring shadow economy in developed countries. Within monetary methods, we used the method of monetary demand or Gutmann's method used for the first time by P. Gutmann for calculation of the size of shadow economy in the USA (Hudec, Sisakova et al., 2011). We have chosen this method because of the availability of historical data and indicators that we need for its application.

In spite of profound theoretical ground of this method (it does not emphasize the amount and the difficultness of input data), it is hard to apply it. Nevertheless, the reason is the dependence of shadow economy on the year with low, or zero value as well as the reason of the fact that nowadays cashless payments are developing quickly thus reducing the ability of this method in giving us full and realistic view on the development of shadow economy. However, we are aware of the fact that construction and results of this method do not need to respond to real results achieved by more precise econometric methods, but we want to point out the distinctness of various methods use (that results from heterogeneousness of definitions) and find out whether and how much do these results vary?

Data and material necessary for the research are acquired from the databases of Eurostat, National Bank of Slovakia and regional statistics offices of Slovak Republic. The used data on Slovak Republic (calculated by the exchange rate of 30,126 SKK<sup>3</sup>

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<sup>2</sup> Monetary method is based on the assumption that transactions are realized predominantly by cash because of harder identification of shadow activities. Moreover, it's assumed that if cash volume increases in certain time over the long-time level, then we can predict the growth and the presence of shadow economy. The main principle here is that behavioral deviations of monetary variables are caused by shadow economy.

<sup>3</sup> Slovak koruna (abbreviation Sk, code ISO 4217 is SKK) is Slovak monetary unit in Slovakia. It has been established on February 8th 1993, replacing Czechoslovak koruna. It expired after Slovakia has joined Eurozone in January 1st 2009.

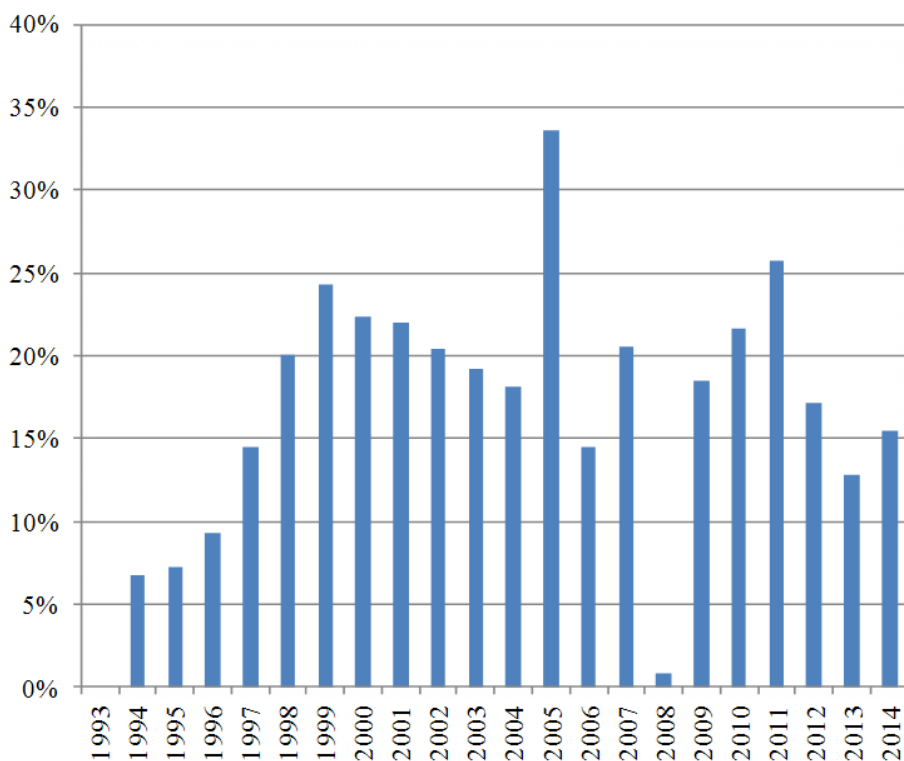
to EUR) were applied to the period of 1993–2014 to get a complex overview on the development of shadow economy. The main point in the method of monetary demand is to find or prove there is a certain year with low level of shadow economy. We have chosen the year of 1993 as our reference year, as we suppose that shadow economy was not much developed at that time, but on other hand, the split into Slovak and Czech Republic caused monetary separation too, both economies started the same zero level. Following the historic development of shadow economy in Slovakia, in comparison to the EU in 2003–2014 is the fundamental presumption of the impacts of shadow economy presence in Slovak economy.

**Analysis of shadow economy development in Slovakia.** Factors supporting shadow economy differ in every country. Tolerance to shadow activities results in low sanctions as well as public sector being inefficient. As we can see in Figure 1, according to the used method of monetary demand, the development of shadow economy in Slovakia differs in its nature and time.

Increasing trend of shadow economy has been set from the beginning of the analyzed period till 1999. This trend was the beginning of transformations that brought in new laws and regulations. After stabilization of this tendency and adjusting to financial markets, there was a decrease of shadow economy till 2004. This decrease was partially caused by the fact that Slovakia was preparing to join the EU and had to fill various criteria regarding economic indicators. Shadow economy showed the value of 18.12% of GDP in this period. There was a rapid increase of shadow economy after joining the EU that could be caused by opening borders and joining the single market. Aggregate M1 increased to almost 6 mln EUR at this time, however, that did not match the increase of non-terminated deposits that have increased just by 1.8 mln EUR. Therefore, great volumes of currency provided an ideal space for shadow activities. Leverage motive of individuals and even companies was gradually increasing rather than they could precisely and secretly elude the laws. Fortunately, the increase did not last long, although the registered value in 2005 was 33.57% of the capacity of shadow economy, and this is the highest point in the history of Slovakia. Adaptation to European laws and standards has been processed relatively fast and efficiently. It resulted in the fact that shadow economy has begun to decrease in 2006 and it has shown the lowest value of 0.87% of GDP in 2008. Great volumes of currency within the official economy almost equaled to the amount of currency in the overall economy being the evidence of "healthy" economy of the country. The year 2009, called the crisis year, led to the increase of shadow economy that lasted till 2011 showing the value of 25.72%. The following development during the period of 2012–2013 shows a slight decrease of shadow economy associated with the overall decrease of shadow activities in the EU. There was a slight increase in shadow economy with the value of 15.4% in 2014.

We have achieved an integrated review of shadow economy development from the very beginning of Slovak Republic up to the present day by application of the method of monetary demand. However, these results do not necessarily strictly respond to reality and mistakes in this method might be caused by the presumptions of the selected method. But we have the overall view on the development of particular values in relatively extensive time period and evaluated economic impacts on Slovak economy, as we excluded political aspects that also can be influential in shad-

ow economy development. To compare, the value of shadow economy shows 15.4% in 2014 by this method and around 15% according to the officially estimated statistics.



*Figure 1. Calculations of shadow economy in Slovakia by the method of monetary demand, own calculations following the data of NBS and Eurostat*

**Comparison of Slovakia with other EU countries.** We had a closer look on the historic development of shadow economy in the EU and compared it with the same development in Slovakia. We presented this development from 2003 (the year before Slovakia joined the EU) till 2014 in Table 1. The values of 2014 are the estimated values as accurate data for this year were not available at the time of processing. We assumed that the size of shadow economy strongly correlates with economic cycles. At the times of economic decline under growing unemployment, lower disposable incomes and doubts of citizens about the future, more individuals tend to conduct shadow activities and thus compensate for lacking income sources in some way. While at the time of economic growth shadow economy usually decreases as people are not forced by their financial problems to conduct shadow activities.

As we can see in Table 1, the abovementioned assumptions were right. Situation in Europe in 2003–2008 was really positive. The EU was expanding, countries achieved the top of their production and the unemployment was rapidly decreasing. Shadow economy has been developing accordingly both in the EU and as in Slovakia. But a year after the economic crisis that started in 2008, the change is confirmed. The

whole year of 2009 is identified as the first most critical year of the crisis. Shadow economy in this year rapidly decreased averagely in 0.6% to the ratio of GDP in EU. There was a growth of 0.8% recorded in Slovakia. Although this growth should not be massive, the fact is it broke a stable long-term development tendency. Fortunately, this development trend did not last long and it has been succeeded to set a decreasing tendency of shadow economy due to improved economic conditions from 2010. In 2011, shadow economy was approximately at the before crisis level and is still decreasing. Ten-year minimum of the ratio of the capacity of shadow economy to GDP has been brought in 2013. Currently, its value within EU is estimated at 18.5% and around 15% for Slovakia.

Table 1. **Development of shadow economy in the EU and Slovakia, 2003–2014**, %, self-modification based on (Schneider, 2013)

	Year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
EU	22.3	21.9	21.5	20.8	19.9	19.2	19.8	19.6	19.2	18.9	18.79	18.5
SK	18.4	18.2	17.6	17.3	16.8	16	16.8	16.4	16	15.5	15	15

**Conclusion and discussion.** As we learned from theoretical knowledge and the performed analyses, shadow economy depends on money (non-terminated deposits, monetary aggregate M1) and thus, we can state that it can be also called "cash economy". Almost all operations within shadow economy use cash as the most important means of payment.

Connection between technological development and constant need for money in any economy increases the need for electronic banking system development. Extending the use of electronic payments brings in greater transparency and limits individuals involvement in shadow economy (Schneider, 2013). Factors supporting shadow economy are different in every country. Such factors within Slovakia could be the tolerance to shadow activities, low sanctions for it as well as initial perception of public sector as being ineffective. The capacity of shadow economy in Slovakia is currently around 15% of GDP. This value is comparable to the EU countries (27/28) and is definitely lower than the average of Eastern European countries, where Slovakia is located.

The problem of shadow economy is an all-European one and every country strives to fight against it. Thanks to consist support from the EU, "Strategy on the fight against shadow economy and illegal work" has been prepared by European Economic and Social Committee. This document shows the significance of the fight against shadow economy and the necessity to eliminate it. The proposed measurements for the elimination of shadow economy include:

- to reduce and mitigate the compliance of regulations of companies by their reformation and simplification of administrative and tax practices;
- to increase the risk of disclosure by reinforcement of controls and increasing the effectiveness and efficiency of the existing disciplinary actions;
- to stimulate the growth of small and medium businesses and to activate industrial policies to support manufacturing industries with high share of qualified work force;

- to reduce the attractiveness of illegal work under targeted support of income and more explicit interconnectedness between social benefits and allowances;
- to legally modify new forms of work not to be the subject to imposition, to adjust mutually the needs of companies and workers;
- to monitor the regularity of tax payments through the indicators of adequacy of the costs for workforce;
- to reduce the social acceptance of shadow economy and make the public aware of tax ethics by activities and efforts to achieve greater equality in tax load and also by increasing the trust in public administration and politics;
- to monitor regularly the dynamics and the efficiency of actions taken in this field;
- to reinforce cooperation between member countries focused on multinational companies through appropriate institutional agencies or structures (Palmieri, 2014).

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