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The Problem of an Excessive State Fiscal Policy – Fact or Illusion?

***Abstract.** This paper evaluates whether, and to what extent, the previously used indicators for the measurement of fiscal policy reveal its actual level. In addition to, whether one can indicate the borderline between rational and excessive fiscal policy based on those indicators. The conducted studies have shown that the measurement of fiscal policy by means of traditionally formulated indicators may lead to conflicting conclusions. The studies have been conducted based on literature and statistical data regarding selected EU countries published by Eurostat.*

***Keywords:** fiscal policy, shadow economy, non-observed economy, fiscal burden, the EU*

Introduction

The needs of the public sector, which is broadly defined by Stiglitz [2004] as the state¹, increasingly determine the amount of fiscal burden. At present, an average of approx. 30-40% of GDP flows through its channels. Although without public income, the main source of which are taxes, a modern state is not able to perform its functions; however, raising or imposing new public levies does not always lead to the obtainment of maximum income, and the additional loss of

¹ Economic sciences do not clearly define the concept of the public sector. Generally, the public sector can be defined as a part of the economy, which is financed from public funds in order to fulfill the functions of the state. According to Kleer, it is “the part of the economy, in which economic and political rules are mixed. This relationship cannot be ruled out completely” [Kleer 2005: 7].



prosperity resulting from the introduction of every tax increases faster than the tax rate. The question therefore is: where is the boundary between rational and excessive fiscal policy and whether there is a universal index, based on which the boundary can be determined?

According to Owsiak, one may speak about a rational level of fiscality when the scale of intervention of public authorities in the income of business entities makes it possible to satisfy reasonable needs of public authorities in terms of income and, at the same time, allows businesses to operate and develop, and households to meet consumer needs at an appropriate level, which in effect, on a macroeconomic scale, provides the basis for sustainable economic growth [Owsiak 2005: 366]. Excessive fiscal policy means “aggressive” interference of the state in the private sector’s income, which can lead to an economic slowdown. As a result of the attempts made by taxpayers to evade excessive burdens or avoid them, as well as, to limit legal businesses and transfer them in part or in whole to the shadow economy, a barrier is created from the growth of the tax burdens. The limit of fiscal capacities of the state is then exceeded, public revenues stop rising despite the increase in rates, while the size of shadow economy increases. Where does the boundary run today? Is excessive fiscal policy a fact, or rather, an illusion?

The main goal of this article is to evaluate whether and to what extent the previously used indexes for the measurement of fiscal policy are adequate, i.e. whether they reveal its actual level, and on the other hand, whether one can indicate the boundary between rational and excessive fiscality on their basis. The evaluation has been carried out based on a critical analysis of the traditional measures of fiscal policy, such as tax rates, the level of fiscal burden, or the scope of the public sector in the economy and based on the analysis of the phenomenon of the shadow economy. Verification of theoretical assumptions has been supplemented with an analysis of the state of fiscal policy between the years 1996-2014 in the Member States of the European Union. The article has been prepared based on literature studies and using elements of statistical analysis. The research has been conducted based on statistical data regarding selected EU countries published by Eurostat.

1. The Scope and Limits of Fiscal Policy in the Member States of the European Union

The definition of fiscal policy is not directly explained on the ground of economic sciences and financial sciences, but is commonly used for the description of the amount of tax burdens in Poland from the angle of their impact on the budget and taxpayers’ decisions. Such an understanding of fiscal policy has been confirmed in the *Dictionary of the Polish language* [1996: 209], according to which fiscal policy is the “tax policy of the state.” In the *Dictionary of words of*

foreign origin Kopaliński [2007: 190] clearly attributes a negative meaning to this phenomenon, describing it as “a tendency for over-taxation of the population, searching for more and more new sources of tax revenue and their ruthless enforcement.” In this sense, the concept is also used, among others, by the already quoted Owsiak. Verifying the thesis, according to which excessive fiscal policy is one of the fundamental problems of fiscal policy in Poland during the transformation period, he states that the issues of the tax system and the form of tax policy should be analyzed from the angle of the concept of a small budget [Owsiak 2005: 671-672]. On the other hand, Tarchalski refers fiscal policy to the expenditure side of the budget, describing it as a tendency to incur excessive public spending [Tarchalski 2009: 11].

While in the mentioned definitions it is difficult to be compliant in terms of attributing fiscal policy to the specific flows of the state budget, there is no doubt as to its consequences – excessive fiscal policy is regarded as one of the major factors hindering economic growth, reducing the competitiveness of economies, and hampering the solving of socio-economic problems that are growing in many countries [Dziemianowicz 2008: 138-139]. The so-presented problem comes therefore to the question of the optimal (or excessive) level of public revenue and spending, whereas the starting point to its solution is to establish the borderline of public revenue and spending, beyond which one may speak of an excessive fiscal policy.

The measurement of the borderline in literature is carried out indirectly, by international comparisons, using data from various economies in the analysis. The following measures are most often applied for comparisons:

- tax rates,
- the level of fiscal burden in relation to GDP,
- the scope of intervention of the public finance system in the GDP,
- the level of coverage of public spending with public revenue,
- building of tax brackets,
- the difference between the nominal and effective tax rate,
- the extent of the shadow economy [Dynus 2007: 35].

Tax rates are one of the simplest measures allowing a comparison of the level of fiscal policy. In recent years, one can observe a clear trend to reduce tax burdens and expand the tax base in the European Union. It is reflected in the gradual decline in the average marginal tax rates on personal and business income. The average marginal PIT tax rate in the EU Member States between the years 1996-2014 decreased by 14.2 percentage points, i.e. from 53.7% in 1996, to 39.5% in 2014. CIT rates were reduced in the same period from 37.8% to 22.8%, which means that, with respect to the base year, the decline was even higher and amounted to 39.8% (Table 1).

A more detailed analysis of tax rates in the EU countries brings attention to the unevenness of the reduction of rates in individual Member States. The level

of fiscal policy described by average rates of both taxes is significantly higher in the EU-15 countries. In 5 of the 15 countries, the average marginal PIT rate between the years 1996-2014 exceeded 50%, among others in countries like France, Belgium, and Finland, and even exceeded 60% in Denmark. At the same time, the authorities of 12 out of the 15 countries decided to reduce the rates, while the big-

Table 1. Marginal PIT and CIT rates in the European Union between the years 1996-2014

Country	Marginal PIT Rates						Marginal CIT Rates					
	1996	2000	2004	2008	2012	2014	1996	2000	2004	2008	2012	2014
Belgium	60.6	60.6	53.7	53.7	53.7	53.8	40.2	40.2	34.0	34.0	34.0	34.0
Bulgaria	50.0	40.0	29.0	10.0	10.0	10.0	40.0	32.5	19.5	10.0	10.0	10.0
Czech Republic	40.0	32.0	32.0	15.0	15.0	22.0	39.0	31.0	28.0	21.0	19.0	19.0
Denmark	64.7	62.3	62.3	62.3	55.4	55.6	34.0	32.0	30.0	25.0	25.0	24.5
Germany	57.0	53.8	47.5	47.5	47.5	47.5	56.7	51.6	38.3	30.2	30.2	30.2
Estonia	26.0	26.0	26.0	21.0	21.0	21.0	26.0	26.0	26.0	21.0	21.0	21.0
Ireland	48.0	44.0	42.0	41.0	48.0	48.0	33.0	24.0	12.5	12.5	12.5	12.5
Greece	45.0	45.0	40.0	40.0	49.0	46.0	40.0	40.0	35.0	35.0	20.0	26.0
Spain	56.0	48.0	45.0	43.0	52.0	52.0	35.0	35.0	35.0	30.0	30.0	30.0
France	59.6	59.0	53.4	45.4	50.3	50.3	36.7	37.8	35.4	34.4	36.1	33.0
Croatia	41.3	41.3	53.1	53.1	47.2	47.2	25.0	35.0	20.0	20.0	20.0	20.0
Italy	51.0	45.9	46.1	44.9	47.3	47.9	53.2	41.3	37.3	31.4	31.4	31.4
Cyprus	40.0	40.0	30.0	30.0	35.0	35.0	25.0	29.0	10.0	10.0	10.0	12.5
Latvia	25.0	25.0	25.0	25.0	25.0	24.0	25.0	25.0	15.0	15.0	15.0	15.0
Lithuania	33.0	33.0	33.0	24.0	15.0	15.0	29.0	24.0	15.0	15.0	15.0	15.0
Luxemburg	51.3	47.2	39.0	39.0	41.3	43.6	40.9	37.5	30.4	29.6	28.8	29.2
Hungary	44.0	44.0	38.0	40.0	20.3	16.0	19.6	19.6	17.6	21.3	20.6	20.6
Malta	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Netherlands	60.0	60.0	51.0	52.0	52.0	52.0	35.0	35.0	34.5	25.5	25.0	25.0
Austria	50.0	50.0	50.0	50.0	50.0	50.0	34.0	34.0	34.0	25.0	25.0	25.0
Poland	45.0	40.0	40.0	40.0	32.0	32.0	40.0	30.0	19.0	19.0	19.0	19.0
Portugal	40.0	40.0	40.0	42.0	49.0	56.5	39.6	35.2	27.5	26.5	31.5	31.5
Romania	40.0	40.0	40.0	16.0	16.0	16.0	38.0	25.0	25.0	16.0	16.0	16.0
Slovenia	50.0	50.0	50.0	41.0	41.0	50.0	25.0	25.0	25.0	22.0	18.0	17.0
Slovakia	42.0	42.0	19.0	19.0	19.0	25.0	40.0	29.0	19.0	19.0	19.0	22.0
Finland	61.2	54.0	52.1	50.1	49.0	51.5	28.0	29.0	29.0	26.0	24.5	20.0
Sweden	61.4	51.5	56.5	56.4	56.6	56.9	28.0	28.0	28.0	28.0	26.3	22.0
United Kingdom	40.0	40.0	40.0	40.0	50.0	45.0	33.0	30.0	30.0	30.0	24.0	21.0
UE Average ^a	53.7	50.8	41.9	37.9	38.3	39.5	37.8	35.4	27.2	24.0	23.0	22.8
EA Average ^b	—	50.6	46.7	43.6	43.5	43.8	—	36.7	31.9	27.1	25.4	25.0

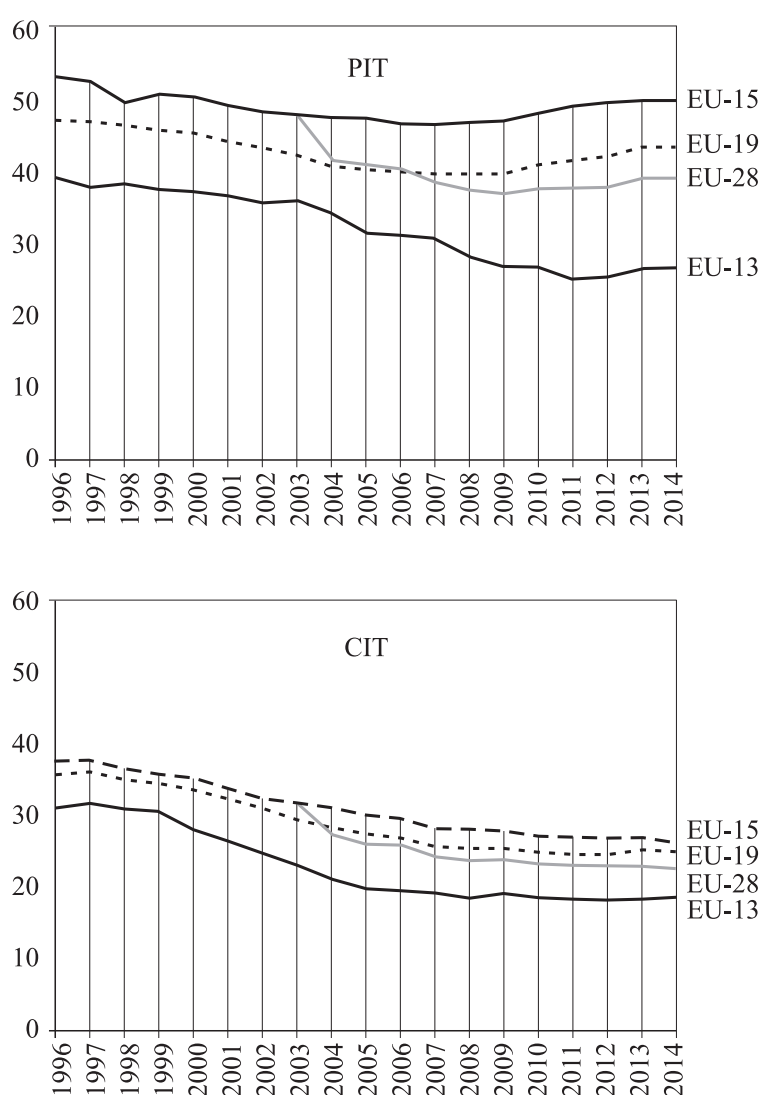
^{a, b} For calculation of the arithmetic averages, marginal tax rates of only those Member States which are actually included in the European communities in a given year were taken into account.

Source: Denis, Hemmelgarn & Sloan 2015: 142-145.

gest cuts were also carried out in the countries with the highest rates, and ranged from 4.5 percentage points in Sweden, to 9.7 percentage points in Finland. The highest CIT tax rates in both new and old Member States exceeds 30%, whereas in the vast majority of the old Member States (9 out of 15 countries), the average rates fluctuated between 30 and 40%, while in the new ones (8 out of 13 countries) between 20 and 30%.

In total, during the analyzed period between 1996-2014, the average marginal PIT and CIT tax rates in the old Member States were 49.4% and 31.2% respectively, and were higher than the rates in countries which joined the European Union

Chart 1. Average marginal PIT and CIT rates in the European Union in 1996-2014



Source: own elaboration based on Denis, Hemmelgarn & Sloan 2015.

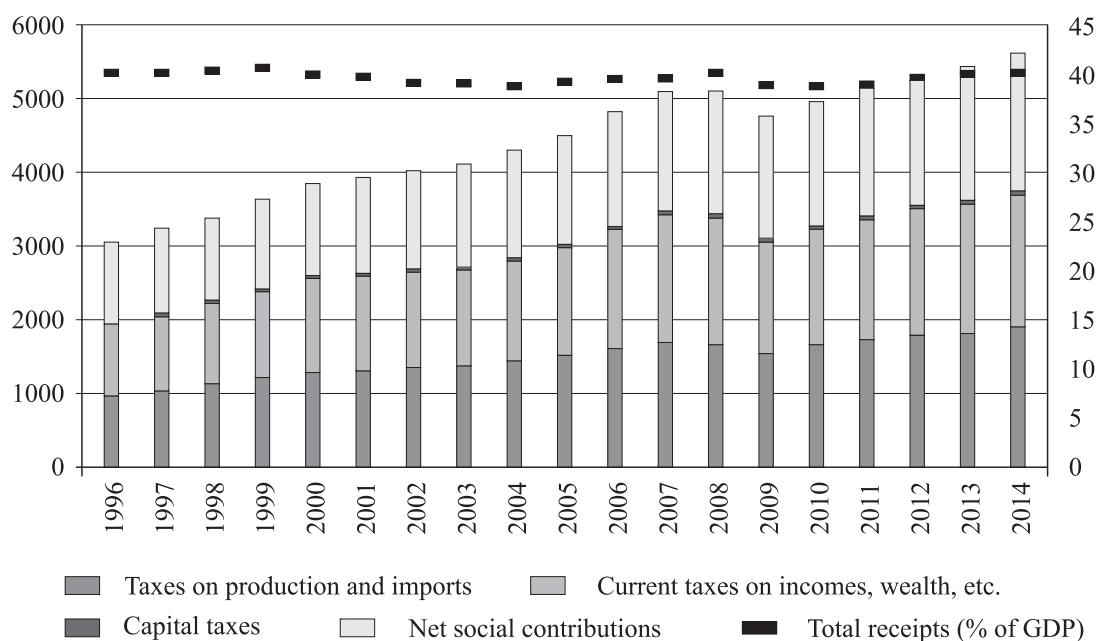
in and after 2004 by more than one third in the case of the PIT, and by more than a quarter in the case of the CIT² (Chart 1). Therefore, one can state that a clear relaxation of fiscal policy in the European Union (EU-28) presented earlier, is largely described not by the actual reduction in tax rates in the whole community, but by the addition of new Member States in and after 2004.

Another index of measuring the fiscal policy is the level of fiscal burden in relation to the GDP. Compared to the meter discussed above, this measure is more accurate because it informs about executed tax revenues, and therefore takes into account the effective rates of tax burden, that is the data that is difficult to access and often incomparable, especially over long time series. Essentially, the meter illustrates the total amount of public revenues collected in the form of direct and indirect taxation, taking into account the additional burdens significantly affecting its level, i.e. social security contributions. However, comparison of the total level of fiscal burdens between the countries can be difficult and confusing because their amount is significantly affected by legal solutions adopted in the given country. Since pension contributions are not collected in the public system in all countries, and despite not being formally rated among fiscal burdens, there is no doubt they exist as economic phenomenon and constitute a burden for the enterprises [Wernik 2008]. Therefore, in some countries, the official level of fiscal burdens in relation to the GDP may be lower, yet it will not actually mean a lower level of fiscal policy.

The downward trend in average tax rates in the European Union is not accompanied by a decrease in the amount of public revenues from taxes and social security contributions. Over the last 20 years, in the countries belonging to the EU, receipts from fiscal burdens in absolute terms almost doubled and in the year 2014 amounted to approx. 5.6 billion EUR (Chart 2). Such a dynamic growth is not confirmed by a relevant measurement index, i.e. the level of fiscal burden in relation to the GDP. In this perspective, tax revenues and revenues from social security contributions during the years 1996-2014 were stable (the annual average growth is 0.0 percentage points), adopting the highest value in 1999, i.e. 40.6%, while the lowest, 38.5% in 2009 and 2010. About two-thirds of the value of fiscal burden in the EU Member States in 2014, i.e. 27.4% of the GDP, was constituted by tax revenues, and 14.7% by social security contributions, while the share of the contributions in the total sum of the fiscal burden since 1996 has been steadily decreasing – between the years 1996 to 2014 it decreased by 3.2%, i.e. 1.3% of the GDP. The sum of receipts from taxes and social contributions in 1996-2001 doesn't include Croatia.

² The average marginal tax rates in the EA-19 and EU-13 were calculated for the time between the years 1996 to 2014, including all Member States as of 2014, regardless of the date of accession. The EU-28 index takes into account the Member States actually included in the EU in a given year.

Chart 2. The total sum of receipts from taxes and social contributions in the European Union Member States between the years 1996-2014 (in billions of EUR, and % of the GDP)



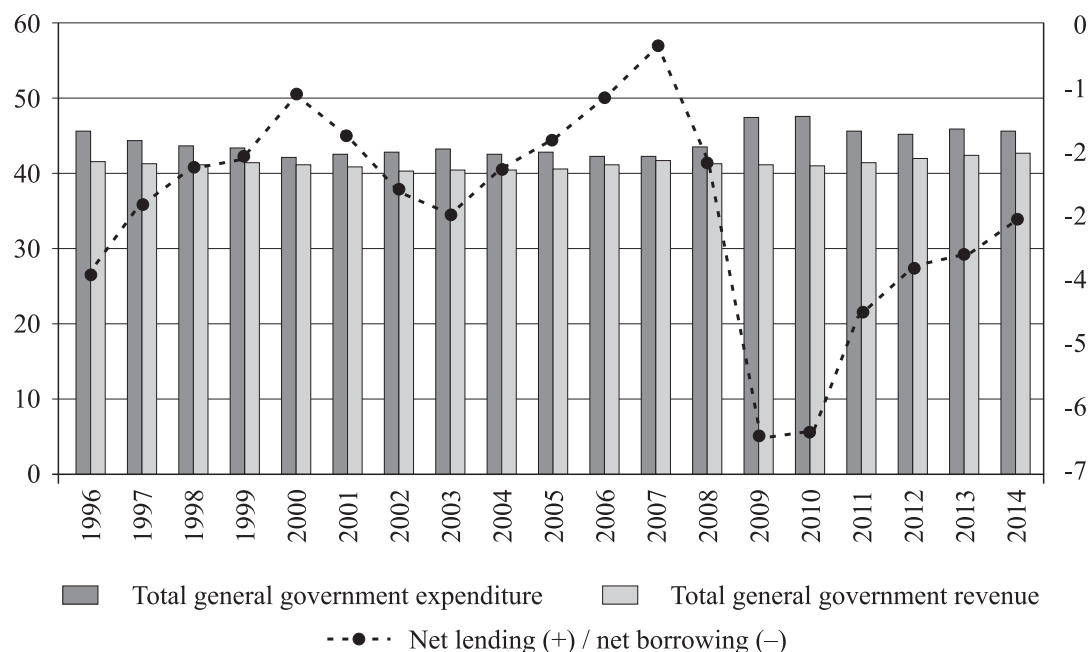
Source: *Main national accounts tax aggregates*, Eurostat, http://appsso.eurostat.ec.europa.eu/nuishow.do?dataset=gov_10a_taxag&lang=en [access: 21.07.2016].

Accession of new Member States in and after 2004 has not significantly changed the amount of total fiscal burden in relation to GDP, which has been observed in the case of tax rates, whereas the level of fiscal policy also varies between individual groups of countries. In the new Member States, the level of fiscal policy measured by cumulative fiscal burden in relation to GDP is relatively low: in 2014, it was the lowest in Romania and Bulgaria, amounting to 27.7% and 27.8% of the GDP respectively, while in other countries, with the exception of Hungary and Slovenia, it did not exceed 35% of the GDP. The highest fiscal burdens are recorded primarily in the Nordic countries, i.e. in Denmark, Finland, and Sweden (50.8%, 43.8%, and 44.0% of the GDP respectively), as well as, in Belgium and France where the fiscal burdens exceed 45%. In Slovakia, Sweden, Poland, and Ireland revenues from fiscal burdens in relation to the GDP have clearly decreased over the past 20 years (by 3.4% of GDP in Ireland and 7.5% in Slovakia). On the other hand, Cyprus, Malta, and Greece, where the level of total fiscal burden in relation to the GDP has increased by approx. 9.5 percentage points, are struggling with the increase of fiscality.

The broadest index of fiscality is the level of public revenue and expenditure in relation to the GDP. The total value of all public revenues and expenditure is determined by the scope of intervention of the public finance system in the economy.

The higher the level of revenues and expenditure in relation to GDP, the higher the share of the state in the economy and the larger, and usually less effective, the public sector and the smaller the private sector. Moreover, the coverage ratio of public expenditure with public revenues, i.e. the balance of the public finance sector, informs about the current level of national debt. A larger deficit may be the evidence of lower fiscality because in such a case, the country decides to increase liabilities instead of increasing the fiscal burden. On the other hand, lack of or a relatively low deficit is not always synonymous with a low level of tax burden. One should note that covering the difference between public expenditure and revenue requires additional sources of financing, which usually limit the capital needed for the development of the private sector or requires foreign borrowing, which in turn may have a significant impact on the rate of economic growth [Dziemianowicz 2008: 143-144].

Chart 3. The balance of the general government sector of the European Union between the years 1996-2014 (in % of GDP)



Source: *General government revenue, expenditure and main aggregates*, Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10a_taxag&lang=en [access: 21.07.2016].

In the EU countries, on average, a half of the GDP flows through the sector of public finances (Chart 3). In 2014, public revenues of the EU-28 accounted for 43.4% of the GDP, while expenditures accounted for 46.3%. In 2014, in 9 of the 28 Member States, public expenditure in relation to the GDP exceeded 50% of GDP, where the highest values were in Finland (58.1% of GDP), France (57.3% of GDP), and Denmark (56.0% of GDP). At the same time, public expenditures

in 8 out of the 13 new Member States took the lowest values on the EU-28 scale, led by Romania (at 34.3% of GDP), then Lithuania, Latvia, and Estonia (at 34.8%, 37.5%, and 38.0% of GDP, respectively).

It seems that a wide range of the public sector does not determine the balance of the public finance sector of the EU Member States. Among the countries that recorded a budget surplus in 2014, or had their public finance sector relatively balanced, there are countries in which the tax burden was high (e.g. Denmark at 1.5% of GDP, and Sweden at 1.6% of GDP), but also in countries having the smallest public sector in the EU-28, among others, Lithuania and Estonia (–0.7% and 0.8% of GDP, respectively). Irrespective of the current balance of public finances, some countries have made, over a long period of time, a significant reduction in the public finance sector - in relation to 1996, the public sector in Slovakia, measured by public spending, has been reduced by 11.2% of GDP, in Sweden by 9.7% of GDP, and in Poland by 8.8% of GDP. The opposite tendency was observed in Cyprus (an increase of 15.9% of GDP), in Portugal (an increase of 8.6% of GDP), and in the UK (an increase of 6.2% of GDP) and is accompanied by a relatively high public finance sector deficit (–8.9%, –7.2%, and –5.6% of GDP, respectively).

The analysis carried out above shows that an explicit assessment of the level of fiscality using the above indexes is not possible. The EU consists of countries with relatively small public sectors, through which only approx. 30% of the GDP flows, and countries in which public revenues and expenditure exceed 50% of the GDP. That means that in relation to specific economic structures, the limit of the state fiscal capacities can be determined at a different and inconsistent level. Therefore, is it possible to conclude that a wide range of the public sector (which usually goes hand in hand with a high fiscal burden and tax rates) translates into an excessive fiscal policy? One can speak about a reasonable level of fiscal policy when the scale of intervention of public authorities in business entities' revenues is not very aggressive so that it allows the business entities to operate and develop. In contrast, one can state that high taxes and excessive fiscal burden may lead to the phenomenon of tax avoidance or evasion, and thus, to the limitation of activity and often its transfer, in part or in whole, to the shadow economy. Due to such a defined concept of rational fiscalism, one of the key meters of its level, especially with regard to the negative impact on the economy, may be the index determining the extent of the shadow economy.

2. The Shadow Economy and Methods of its Measurement

Taxation almost always distorts economic decisions and results in the generation of costs, both for individuals, consumers and producers, as well as, the

society. As a result of levying a tax, consumers lose a part of consumption, whereas manufacturers reduce employment and sales, lowering the operating costs. They often attempt to evade the tax burdens imposed or avoid them, especially when they are excessive, and then transfer a part of their business to the shadow economy.

The shadow economy, also known as the “gray economy,” “black economy,” “underground economy,” “subterranean economy,” “second economy,” “informal, irregular, or parallel economy,” is a part of the economy and occurs with varying intensity in all its types. In literature, there is no uniform definition of this phenomenon, which in fact results directly from its non-uniform nature. At the same time, two different approaches can be noticed in the formulated definitions. Firstly, unregistered activity is regarded as activity in the informal sector. Secondly, definitions refer to the behavioral realm, primarily to the evasion of certain obligations imposed by the applicable law, under the registered business [Gołebiowski 2007].

Schneider defines the shadow economy as: “business activity and revenues from such activity that avoid or otherwise evade the provisions of taxation or observation” [Schneider, Marcinkowska & Cichocki 2008: 6]. Such a formulated definition combines the two above-mentioned approaches, which covers both the unregistered sale from a legal business and any activity that would be subject to taxation after declaration of, for example, revenues in the full amount. Difficult-to-measure activity of criminal nature is also ranked among the informal zone.

Raczkowski similarly defines the shadow economy, proposing to organize the conceptual apparatus relating to this issue. According to the author, the shadow economy is a part of the informal economy and takes a semi-legal form [Raczkowski 2013]. The informal economy includes unregistered activity of households, provision of services, and the production without notification, permission, concession, or license, and their declaration in a manner that is inconsistent with the reality. Raczkowski also includes the, so-called, black market, i.e. a completely illegal activity, in the informal economy. Both components of the informal economy (semi-legal and illegal) merge and complement each other, “offering different natural weight of the committed criminal offenses” [Raczkowski 2013: 353]. According to Raczkowski, it is very difficult to differentiate between the informal economy and the so-called black market, so one should rather use the term unofficial economy, which includes both of these phenomena.

Tanzi uses the term underground economy and believes that there are at least two definitions and, therefore, also at least two different measures of the underground economy. The first one is associated with the production (or income) not included in official statistics, and the other one relates to the revenue unregistered by the tax authorities [Tanzi 1999: 334].

Mróz, however, assumes that the informal economy includes “unregistered activity aiming at the obtainment of material benefits in natural or monetary form and triggering value-creative and/or redistributable effects” [Mróz 2002: 23].

Analyzing the above-cited, very brief overview of academic definitions, one can say that their authors agree that the activity in the shadow economy usually comes down to: conducting an activity without appropriate permits, failure to comply with regulations governing business practices, and the avoidance of incurring fiscal burden, taxes, and quasi-fiscal charges. It includes “criminal activity and unregistered profit from the production of legal goods and services and cash or swap deals, namely any activity that would be subject to taxation if notified to relevant institutions” [Pietrzak 2013: 16] (Table 2).

Table 2. Taxonomy of the types of activities in the informal economy

Type of Business Activity	Pecuniary Transactions		Non-Pecuniary Transactions	
Criminal/Illegal Activity	Handling stolen goods, drug production, drug trafficking, prostitution, gambling, smuggling, fraud, etc.		Interchangeable trade with drugs and goods from theft, smuggling, etc. Cultivation or manufacture of drugs for personal use. Stealing for personal use.	
	Tax Evasion	Tax Avoidance	Tax Evasion	Tax Avoidance
Legal Activity	Undeclared earnings from self-employment, salaries and income from unregistered work related to legal services and goods	Discounts for employees, bonuses	Barter of legal goods and services	Any form of DIY and neighbor's assistance

Source: Schneider et al. 2013: 26.

According to statisticians, academic definitions of the informal economy are too general and not very accurate. From 2014 onwards, the National Statistical Authorities of the EU Member States have been using the definition contained in the *System of National Accounts* ESA 2010. The European Commission defining the informal economy uses, in this document, the term *non-observed economy* and classifies to it³:

³ Guidelines on this subject can be found in the document with the guidelines concerning the national accounts system in the European Union (ESA 2010). Definition of this phenomenon developed by the European Commission has a significant impact on the scope and range of estimates of shadow economy prepared by the national official statistics. European System of Accounts. ESA 2010, www.lb.lt/n22873/esa_2010-en_book.pdf [access: 23.07.2016].

- illegal activities (parties participate voluntarily in a transaction that is prohibited by law),
- hidden activities (transactions in accordance with the law which, however, are not registered, and thus actions taken in order to avoid inspection are invisible to the bodies of tax administration authorities),
- activities of an informal nature (usually conducted occasionally or on a very small scale, in which case no record is kept).

The unregistered economy, in line with the guidelines of ESA 2010 does not include the illegal activities, where one of the parties is not a voluntary participant, because these type of activities do not constitute a transaction in economic terms and the production of goods or services within the household for personal use [Schneider, Marcinkowska & Cichocki 2008: 8]. As one can see between the scientific perspective and statistical definition, there are many discrepancies; therefore, the measurement of the informal economy, depending on the assumptions, could materially differ.

The consequence of a lack of uniform definition for the phenomenon of informal economy is the existence of many methods of its measurement. Most often in the literature, one distinguishes two groups of methods for estimating the informal economy: direct and indirect ones. Direct methods examine the gray market with the help of surveys, interviews, analysis of asset declarations, or tax returns etc. In contrast, indirect methods (also called “indicative” methods) rely primarily on the analysis of documents and statistical data. They are mostly macroeconomic methods for which the estimation of the size of the gray market utilizes various economic indicators carrying information on the development of the phenomenon over time [Schneider, Marcinkowska & Cichocki 2008: 8].

3. An Assessment of the Relationship Between the Level of Tax Burden and the size of the Shadow Economy in the EU Member States

The extent of the occurrence of the gray market is mentioned as one of the main measures allowing to determine the borderline of public revenue and expenditure, after the exceedance of which one can talk about excessive fiscal policy. At the same time, the majority of scientific studies show that one of the main reasons for the existence and growth of the shadow economy, in addition to psychological factors, is the presence of high fiscal burdens (Table 3), tax, and quasi-tax commitments. Therefore, these measures should not be considered separately, and the full analysis of the level of fiscal policy and its borderlines cannot be carried out without a thorough analysis of the scope of the gray market in the economy.

Table 3. Main Reasons for the Growth of the Shadow Economy

Factors Affecting the Black Economy	Impact on Black Economy (in %)	
	Average value (out of 12 tests)	Average value (out of 22 tests)
1) Growth in the tax burden and social security contributions	35-38	45-52
2) The quality of state institutions	10-12	12-17
3) Regulations of the labor market	7-9	7-8
4) Social transfers	5-7	7-8
5) Services of the public sector	5-7	7-8
6) Tax Morality	22-25	–

Source: own elaboration based on Schneider et al. 2013: 44.

Scientists seek a starting point to determine the relationship between the decision on moving to the black economy, and the amount of tax burden in the selection between working time and leisure time. As a result of taxation, gross salary paid by the company is higher than net salary received by employees. Employees, when deciding on how much of their work to offer, compare the amount of net salary with the marginal value of their free time. The greater the difference between the overall cost of work and the amount of income (from work) after taxation in the official economy, the greater the encouragement to do work in the black economy. Due to the fact that this difference depends largely on the overall burden of taxes and social security contributions, these are the issues that have the greatest impact on the existence and expansion of the black economy [Schneider, Marcinkowska & Cichocki 2013: 8].

A positive correlation between the fiscal burden and the size of the black economy is confirmed by empirical research conducted by Schneider [2000, 2003] and Johnson, Kaufmann and Zoido-Lobaton [1998a, 1998b], in which the authors present strong evidence indicating a significant impact of direct and indirect taxes, as well as, social security contributions on its growth. Moreover, the size of the black economy, according to Schneider, is determined to a great extent by the intensity of legislation: the more bureaucratic the economy is (ie. more regulations), the greater the size of the shadow zone⁴. The reasons for the existence of the shadow economy are also confirmed by research carried out in Poland, involving a group of 271 companies from the SME sector, according to which the decision on the functioning of the black economy were mainly taxes that were too high and social security contributions, which reduced the businesses' competitiveness [Gołębiowski 2007: 19].

⁴ According to Schneider, a one-point increase in the regulation indicator (on a scale from 1 to 5) means a 10% growth of gray area in the economy.

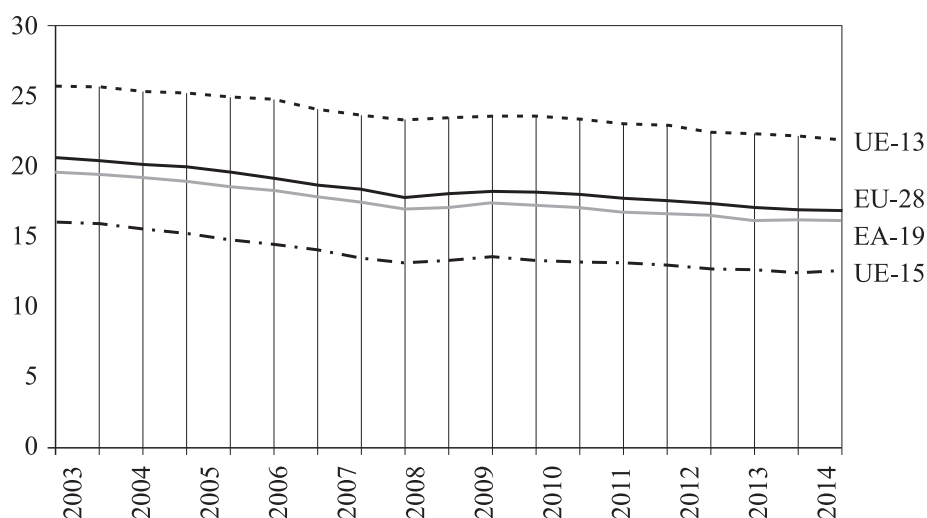
Table 4. The Size of the Shadow Economy of the EU-28 Member States during the years 2003-2014 (as a % of the GDP)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	21.4	20.7	20.1	19.2	18.3	17.5	17.8	17.4	17.1	16.8	16.4	16.1
Bulgaria	35.9	35.3	34.4	34.0	32.7	32.1	32.5	32.6	32.3	31.9	31.2	31.0
Czech Republic	19.5	19.1	18.5	18.1	17.0	16.6	16.9	16.7	16.4	16.0	15.5	15.3
Denmark	17.4	17.1	16.5	15.4	14.8	13.9	14.3	14.0	13.8	13.4	13.0	12.8
Germany	17.1	16.1	15.4	15.0	14.7	14.2	14.6	13.9	13.7	13.3	13.0	13.3
Estonia	30.7	30.8	30.2	29.6	29.5	29.0	29.6	29.3	28.6	28.2	27.6	27.1
Ireland	15.4	15.2	14.8	13.4	12.7	12.2	13.1	13.0	12.8	12.7	12.2	11.8
Greece	28.2	28.1	27.6	26.2	25.1	24.3	25.0	25.4	24.3	24.0	23.6	23.3
Spain	22.2	21.9	21.3	20.2	19.3	18.4	19.5	19.4	19.2	19.2	18.6	18.5
France	14.7	14.3	13.8	12.4	11.8	11.1	11.6	11.3	11.0	10.8	9.9	10.8
Croatia	32.3	32.3	31.5	31.2	30.4	29.6	30.1	29.8	29.5	29.0	28.4	28.0
Italy	26.1	25.2	24.4	23.2	22.3	21.4	22.0	21.8	21.2	21.6	21.1	20.8
Cyprus	28.7	28.3	28.1	27.9	26.5	26.0	26.5	26.2	26.0	25.6	25.2	25.7
Latvia	30.4	30.0	29.5	29.0	27.5	26.5	27.1	27.3	26.5	26.1	25.5	24.7
Lithuania	32.0	31.7	31.1	30.6	29.7	29.1	29.6	29.7	29.0	28.5	28.0	27.1
Luxemburg	9.8	9.8	9.9	10.0	9.4	8.5	8.8	8.4	8.2	8.2	8.0	8.1
Hungary	25.0	24.7	24.5	24.4	23.7	23.0	23.5	23.3	22.8	22.5	22.1	21.6
Malta	26.7	26.7	26.9	27.2	26.4	25.8	25.9	26.0	25.8	25.3	24.3	24.0
Netherlands	12.7	12.5	12.0	10.9	10.1	9.6	10.2	10.0	9.8	9.5	9.1	9.2
Austria	10.8	11.0	10.3	9.7	9.4	8.1	8.5	8.2	7.9	7.6	7.5	7.8
Poland	27.7	27.4	27.1	26.8	26.0	25.3	25.9	25.4	25.0	24.4	23.8	23.5
Portugal	22.2	21.7	21.2	20.1	19.2	18.7	19.5	19.2	19.4	19.4	19.0	18.7
Romania	33.6	32.5	32.2	31.4	30.2	29.4	29.4	29.8	29.6	29.1	28.4	28.1
Slovenia	26.7	26.5	26.0	25.8	24.7	24.0	24.6	24.3	24.1	23.6	23.1	23.5
Slovakia	18.4	18.1	17.6	17.3	16.8	16.0	16.8	16.4	16.0	15.5	15.0	14.6
Finland	17.6	17.2	16.6	15.3	14.5	13.8	14.2	14.0	13.7	13.3	13.0	12.9
Sweden	18.6	18.1	17.5	16.2	15.6	14.9	15.4	15.0	14.7	14.3	13.9	13.6
United Kingdom	12.2	12.3	12.0	11.1	10.6	10.1	10.9	10.7	10.5	10.1	9.7	9.6
EU-28	22.6	22.3	21.8	21.1	20.3	19.6	20.1	19.9	19.6	19.3	18.8	18.6

Source: Schneider, Raczkowski & Mróz 2015: 45.

Table 4 presents the size of the gray area in the EU Member States, estimated by Schneider using econometric MIMIC (*Multiple Indicators Multiple Causes*), including such features of the examined economies as: inflation, unemployment level, and the rate of economic growth or GDP level. Based on the analysis of this data, one can state that the size of the gray area in the EU decreased in relation to GDP by 4 percentage points, assuming the value of 18.6% of GDP in the year 2014 (Table 4). The size of the gray area described in relation to the registered GDP of the Member States of the European Union is therefore still significant as

Chart 4. The size of the shadow economy of the EU-28 Member States during the years 2003-2014 (as a % of the GDP)



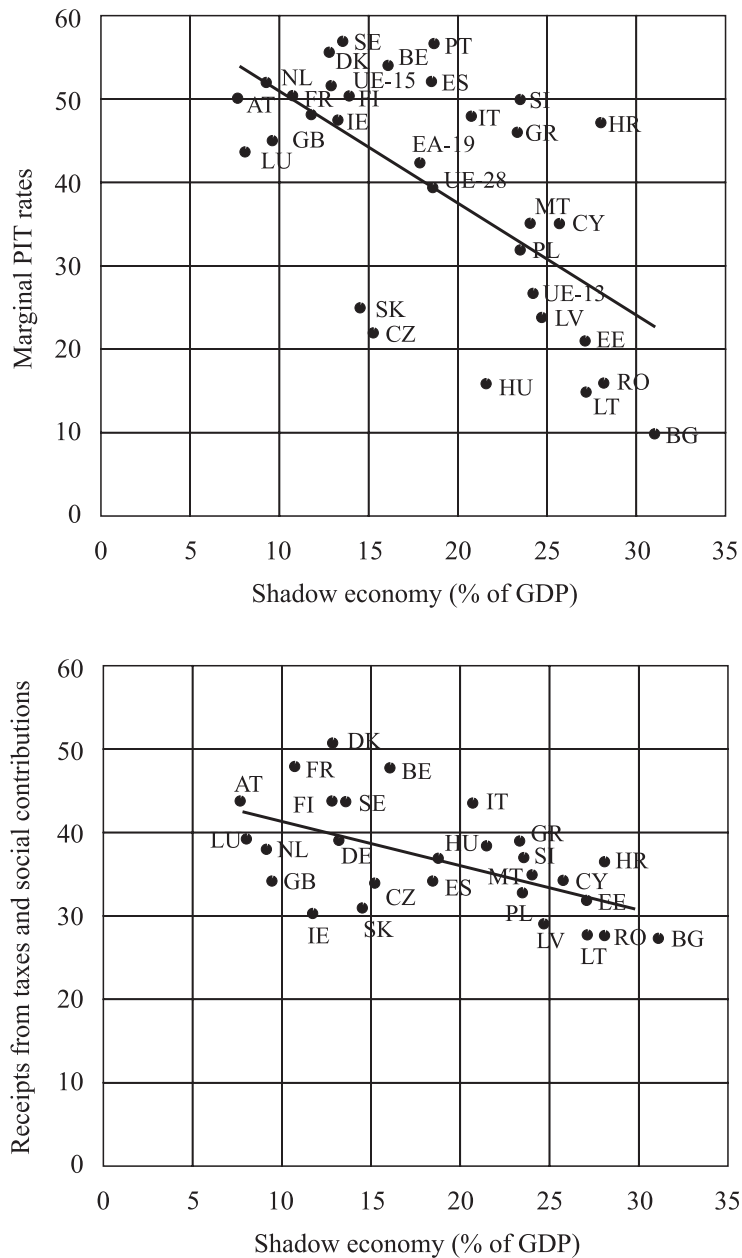
Source: own elaboration based on Schneider, Raczkowski & Mróz 2015.

it represents nearly half of public revenues collected in the form of fiscal burden and 38.6% of the public finance sector in the whole community.

In the observed period, in all EU countries including new Member States, the gray area has decreased, while its size is significantly higher in the countries which joined the community in and after 2004 (Chart 4). The highest drop, by more than 5 percentage points, in the size of gray area occurred in Latvia, Romania, Italy, and Belgium. The biggest gray area is invariably in the new Member States, Bulgaria and Romania, at 35.9% and 33.6% of GDP respectively, while the smallest is in Austria, where in 2014 its value amounted to 7.8% of GDP, as well as, Luxembourg, and the Netherlands (at 8.1% and 9.2% of GDP respectively).

An analysis of the level of fiscal policy measured by the size of gray area in an economy thus leads to an opposite conclusions than was formulated during the analysis of the previous measures. It turns out that the Member States, where the fiscal burden is expressed as tax rates, income tax, and taken from social security contributions, and where the size of public sector was higher, did not simultaneously record greater sizes of an informal economy as expected. The conducted tests of the Pearson correlation coefficient confirmed a negative and statistically significant relationship between the size of the gray area in the EU-28 Member States in the year 2014 and the level of fiscal policy measured by the amount of tax rates and fiscal burdens, and the size and balance of the public sector (Table 5). A very strong and negative linear correlation (Chart 5) exists between the total sum of fiscal burden and the rate of the PIT, which means that the higher the revenues from taxes and quasi-fiscal charges and the higher the marginal rates of PIT, the

Chart 5. The size of the gray economy, the marginal PIT rates, and the amount of fiscal burden in the EU Member States in the year 2014



Source: own elaboration.

smaller the size of the gray area. On the basis of the conducted analyses, one can further state that in accordance with previously formulated assumptions, the balance of public finances is a poor indicator of the level of tax burden, which is also confirmed by the very weak link with the size of the gray area.

Table 5. A correlation analysis of the gray area and traditional measures of tax burden in the EU Member States in the year 2014

	Marginal PIT Rates		Marginal CIT Rates		Receipts from Taxes and Social Contributions	
	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)
Shadow Economy	–0.618**	0.000	–0.397*	0.037	–0.626**	0.000
	Total Tax Receipts		Total General Government Expenditure		Net Lending (+) / Net Borrowing (–)	
	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)
Shadow Economy	–0.561**	0.002	–0.440*	0.019	–0.278	0.153

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed).

Source: own elaboration based on Schneider, Raczkowski & Mróz 2015; *General government revenue, expenditure and main aggregates*, Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10a_taxag&lang=en [access: 21.07.2016].

Conclusion

The analysis conducted above shows that one cannot, based on traditional measures, clearly determine the borderline between rational and excessive fiscal policy. It is not always a high level of public revenue that signifies excessive fiscal policy. As already stated above, one of the key measures of the level of fiscal policy, especially with regard to the negative impact on the economy, is an indicator determining the extent of the occurrence of the informal economy. Its scope, due to a negative impact not only on the economy but also on the public finances sector itself, should lead to the reflection on whether the level of tax burden and public spending is not excessive. An analysis of the level and structure of fiscal burden and the size of the public sector in the EU Member States has shown that countries with relatively high fiscal burdens and those that interfere in the private sector to a greater extent, enjoy a smaller scale of the informal economy, and vice versa – in countries where fiscal policy is much more gentle, the gray area of the economy is the greatest. Assuming that one of the major causes of the enlargement of the gray area is excessive fiscal policy, the quoted conclusions clearly reject this thesis.

In conclusion, the conducted studies have shown that the measurement of fiscal policy by means of traditionally formulated indicators may lead to conflicting conclusions. In light of the conducted analyses, the occurrence of excessive fiscal policy in quantitative terms within the EU countries is an illusion. Contrary to the interest of the state taxpayers' behavior, namely the avoidance and evasion

of taxation, in addition to the extent of the occurrence of the shadow economy, all indicate however, that it is otherwise, and not in fact an illusion as originally suggested. It is therefore necessary to build new measures, which will take into account not only the amount of fiscal burden, but also the quality of legal regulations and tax morality. Without this, determining the borderline of the state's fiscal capacities may be impossible.

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Problem nadmiernego fiskalizmu państwa – fakt czy iluzja?

Streszczenie. W artykule podjęto próbę oceny czy i w jakim stopniu dotychczas wykorzystywane wskaźniki pomiaru fiskalizmu ukazują jego rzeczywisty poziom oraz czy na ich podstawie można wskazać granicę pomiędzy racjonalnym a nadmiernym fiskalizmem. Przeprowadzone badania dowodzą, że pomiar fiskalizmu za pomocą tradycyjnie formułowanych wskaźników może prowadzić do sprzecznych wniosków. Badania przeprowadzono na podstawie literatury przedmiotu oraz danych statystycznych dotyczących wybranych państw UE publikowanych przez Eurostat.

Słowa kluczowe: fiskalizm, szara strefa, gospodarka nierejestrowana, obciążenia fiskalne, UE