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BASIC CHANGES IN GDP ACCOUNTING

Gross domestic product is the most widely used and most widely spread macroeconomic indicator. Economists and politicians use it to measure economic growth, openness of the economy and it is a key indicator for determining the stage of the economic cycle. GDP growth is often presented as an indicator of the quality of life improvement of the population in every country, the increase of its value represents growth of maturity of the economy. Despite the fact that for the calculation of GDP there are international standards, the question is how much explanatory value of the variable is. Last modified methodology for calculating GDP was realized at the end of 2014, even though this change did not increase its information value. Changes in the calculation of GDP are more related to methodological changes that to capturing international trends in the economy. Therefore, it is necessary to point out its shortcomings and find ways to address them.

Keywords. GDP, ESA 2010, changes in methodology of the GDP accounting.

Introduction. Textbook definition of gross domestic product (GDP) is that it is the sum of the cash value of final goods and services produced in the economy by all factors of production for a certain period (eg Jurečka 2010 Soukup 2011). GDP is thus explained to students of economics as a key macroeconomic variable and as a simple indicator of economic performance used worldwide. But does this indicator have relevant value in relation to the economic performance of the country? Does it really measure all production for final consumption?

Efforts to measure the performance of the economy are long-term. According to Coyle D. (2014b) efforts to measure the economy were extended to the 17th century. Interests of quantifying the size of the economy or of its measurement are different. While initially the goal is to estimate the size of the payment of taxes in order to determine whether a country is able to launch a war against the Netherlands and France, later (after and during the Great Depression) was added to ground measurements particular reason to estimate the size of the spare production capacity. Currently, we use GDP indicator, for example, to assess economic growth, measuring indebtedness of the country, inflation, openness, size of government. The indicator is used to compare the performance of different international economies, or to compare the performance of different regions of the country. GDP is a part of countless ratios. Analyses, comments and forecasts may not often be implemented without the occurrence of GDP indicator at least once in the text. At the same time there are increasingly reflected efforts to change the calculation of the variable, or its elimination or substitution by another indicator, or other indicators, which are for the residents and businesses of the country relevant and readable. One of the last attempts at redefining GDP is the so-called Stiglitz's report, in the formation of which were involved economists, statisticians, sociologists,

psychologists and other expert practitioners. The purpose of this meeting was to propose a new comprehensive indicator for evaluating the intensity of economic development and maintain economic growth, as well as an evaluation of living standard (Nečadová 2012).

The mutual influence and dependence of the economies, globalization and the rapid growth of information and communication technologies make that the changes to the calculation of GDP cannot be restricted only to a change in its methodology. On the economic process of the country, it is necessary to look at from another perspective. "In particular, economists will have to grapple with three issues. The first is economic complexity, driven by innovation, the constant introduction of new products and services, and the increasing globalization of production chains. The second is the increasing share in advanced economies of services and intangibles, including online activities with no price. The third is the urgent question of sustainability - Whether the depletion of resources and assets will now undermine potential future GDP growth" (Coyle, D. 2014).

The paper highlights some fundamental weaknesses in the calculation of GDP indicator and sets out the reasons why it is necessary to revise or completely replace it with a new indicator. It also raises the question whether it is necessary and possible to measure the performance of individual countries and compare them with each other.

S. Kuznets can be considered as a creator of today's terms of GDP. In structuring the GDP figures the author himself drew attention to its shortcomings and that the indicator should not be confused with the indicator of well-being or life satisfaction of the residents of a country.

Basic problems of GDP quantification. If we still go back to the basic definition of GDP, it refers to manufactured goods and services in the country for a certain period. If we take into account only manufactured goods and services, then a number of fundamental problems are involved in the actual definition.

1. All manufactured goods and services this means the production of agricultural products, crude oil

and petroleum products, garments, as well as aircraft. Production refers to the countless products that have different production, value added and selling value. Is it possible to quantify together also a myriad of goods by one number? And what is this indicator used for? It does not provide any information to citizens or businesses. The higher the GDP, the country is growing faster, but what if there has only been, for example a better crop of bananas in the country? And have actually been used efficiently scarce resources to produce the products that are needed? GDP is not indicative of the commodity structure of production. There is not enough information about the size of the output of each of the production units, on the structural composition of the produced or consumed production, nor whether production was necessary for anyone, whether it is a modern, or discontinued, or if there have been changes in the production of products or not. It does not address the question whether or not there have arisen by-products such as environmental pollution. If they have been created, who will bear the cost of removing externalities? B. Mandeville wrote Fable on bees (Sedlacek 2009), in which he highlighted the personal vices as a basis to develop and grow the economy. So it is good if there are thieves in the country, because there emerges work for locksmiths, cops, judges. Private taints shift the economic growth and progress in the country. Although we do not have to agree on this assessment, GDP figures do not ascertain whether economic growth was from "beneficial" production or "private vices", in other words, if the GDP growth was caused by negative effects resulting from the production or not, or whether only from financial transfers. According to Dan Vořechovský (2004) "GDP structure prevents us to see whether GDP growth was or was not a true reflection of the growth of wealth, or rather the consumption of capital".

The current trend in the production of goods on the one hand, is associated with the reduction of prices of goods and services by using economies of scale. On the other hand, producers are increasingly focused on manufacturing such goods that are tailored for a particular customer. "When more products are customized, we will not squander money on clothing that sits in the closet because it does not fit or compact discs with only one or two songs we really like. And goods will not languish on dealers' shelves. Achieving a higher standard of living with fewer demands on natural and labour resources will help ease price pressures and continue this decade's good news on inflation"(Coyle 2014). Specialization in specific customer may cause reduced growth in GDP, but on the other hand, it saves precious resources and resources are not wasted.

2. Supply affects demand in the market and vice versa. Production seeks to respond to consumer demand, but industrial innovations often create demand for already produced production. During the year, it is possible that the production introduces new products and original products are no longer manufactured. How can change in the structure of production be reflected in GDP indicator?

Real GDP presents the production of the given year valued by constant prices. Is it possible to express GDP in 2015 at 2010 prices when there did not appear, for example, tablet or i-phone in the market? It is actually possible to calculate the production measured in 2010 prices, for example, when the output has changed and the phone of 2005 is significantly different from the phone from 2015? Or how is it possible to assess, for example, by constant prices the production of incandescent light bulbs, whose production has been held up in the EU for a certain period? GDP indicator at constant prices has therefore even less informative value than the annual GDP at current prices.

Imperfection noted by D. Vořechovský (2004) is that the currency in which GDP is expressed is "unstable in unit value and its value is constantly changing." This means that there is not only a change of commodity structure of GDP as well as price and currency changes.

3. On the basis of the international division of labour and exploitation of comparative advantage in international trade, the country normally specializes in the production of certain goods, while other production is imported from abroad. Thus, the country has its own specialization and therefore, it is not possible to make international comparisons through GDP figures. Each country produces another track of goods and services which is supplemented by foreign trade.

4. GDP concerns production of goods and services. Basic elements of market are enterprises and households. But the calculation of GDP consists of businesses, households, state, and net exports. What role in the calculation of GDP is played by a State which alone does not produce anything? What do the financial transactions do in the calculation of GDP, which deal only with a transfer of capital but not produce new goods or services? Vořechovský D. (2004) also points out that in GDP there should be included only such exchange that is mutually beneficial, but what cannot be applied in the case of government. "Any involuntary exchange increases benefit of one side, but decreases of another one." Therefore, according to D. Vořechovský there is a need to exclude government from calculating GDP.

Methodology for measuring GDP. For quantification of GDP in theory and in practice we use three calculation methods with which can be acquired the same result. Accurate definition of GDP quantification is given by Kramulová J. and P. Musil (2013) and according to whom "GDP can be estimated by three different methods - expenditure, production and pension". Expenditure approach is the sum of all expenditure necessary to produce goods and services; these are reflected in sales prices. Consumers buy goods and services for consumer prices. By selling factors of production they earn money for purchasing goods and services. Pension approach expresses then any income which businesses obtain from different sources. Most consumers do not spend their entire income to purchase goods and services, but a portion is in form of deferred finance. On the other hand, there are consumers who spend more than their income,

living in debt. Production method of calculating GDP then includes any added value produced by individual economic entities to manufacture goods. Textbook definitions argue that all three methods of calculating GDP work towards the same result. "Because of the selection and non-sampling errors methods do not lead to the same result and it is therefore necessary to remove this inconsistency in the so-called balancing process" (Kramulová, Musil 2013).

The fact that the GDP indicator incorporates a number of deficiencies has been known for a long time. Economists and staff of statistical offices around the world are trying different ways to remove bugs or at least eliminate to the minimum possible level. However, is it possible via methodological changes to improve the quality of maladjustment indicator or only exacerbate its inconclusive ability?

The last major change in the measurement of GDP took place in 2014, when the countries of the EU moved to a quantification of GDP through the ESA in 2010, which replaced the previous method of calculating GDP known as ESA 95. The EU countries have changed former methodology for the standard calculation of GDP used all over the world and based on methodology of SNA 2008. The methods of calculating GDP according to SNA 2008 were firstly implemented by Australia, and its GDP was increased by 4.4% via new methodology. Later the Netherlands (GDP growth of 7.6%) and France (GDP growth of 3.2%) joined to the countries which implemented the methodology of SNA 2008 (Sixta, Ondruš 2014).

Changing the methodology for calculating GDP refers to 25 basic items, other and different methodological changes (Database ... 2014). In this paper we focus on quantifying changes in government spending, especially since the government cannot, strictly speaking, be regarded as productive component of the economy. Government spending are primarily involuntary and obligatory fees that taxpayers pay to the State. These funds then the government redistribute according their own decisions and a proportion of these funds is also directed to the productive sector. From a macroeconomic perspective there occurs stripping effect (crowding out) and government money is replaced by private investment. According to current findings, the share of government in total GDP of particular countries is from 14 to 26% (own calculations based on EUROSTAT data).

The first major change is in GDP methodology for the quantification of spending on weapons systems. While the ESA 95 methodology included in GDP only those weapons that were intended for civilian use, according to a new methodology weapons systems used not only for civilian purposes are included in GDP. "Weapons according to ESA 2010 are not captured in the intermediate consumption, but in gross fixed capital formation" (Sixta, Ondruš 2014). This means that the GDP will grow if the government begins to rearm and as usual weapons belong to the fixed assets, so the effect of the depreciation will be expressed in the next few years. Coyle D. (2014b) refers to S. Kuznets, who wanted to use such method for calculating GDP where he wanted to recon the

outputs of different industries and consumption of private individuals who will benefit from them. Therefore, from the national income he wanted to "deduct all costs associated with armament, financial and speculative activities and huge expenditure on transport and housing." But he wanted to add to GDP government spending, since it was a "common consumption". In addition, the Kuznets himself saw gaps in the calculation of the variable; we can see how much far we moved from his calculation of GDP. The basic definition of GDP refers to the final goods for final consumption, which in the case of weapons can only be said by strong cynic. As regards the method of calculating GDP, it is logical to include weapons systems in expenditure and commodity methods. But the inclusion of weapon systems in the pension calculation method of GDP is highly creative.

The change in the calculation of GDP tries to accurately distinguish the individual market units as government, public and private. The basic determining criterion is the price of marketed production, which is sold in the market for economically significant prices. Economically significant prices are considered as prices that cover more than 50% of the production cost. Based on these classified market units it is possible that public corporations may be reclassified into public administration, causing the GDP changes (the Statistical Office 2014). In this case, if there is a market entity that sells its output at a price that is lower than the cost and the difference between the selling price and production cost is borne by the government or public sources, such entity is classified as part of the state or public sector. Debt in the form of the difference between the selling price and cost price is paid by state which thereby increases GDP. Thus, overall we can say that in the case the state goes into debt, GDP grows, which is considered positive economic and socially desirable development.

Parts of the GDP are expenditures on education, health, social services and other public and private services. Health and education can be operated as a private service, where we quantify the market price at which services are sold. However public services are sold at economically insignificant prices. "Market price" of such services is then counted to GDP as only an estimate. Even more difficult it is in the case when the "market price" is a combination of public and private payments. To quantify these services, estimation of market price is usually at least partially relevant. However, to quantify and count prostitution in GDP is a really tricky question for the staff of the statistical office.

Based on changes in the methodology of calculating GDP there also happen changes in the calculation of the government institutions debt and according to available calculations, the share of government debt and government institutions to GDP is slightly reduced. The reason for reporting "better management of government" is not a real saving and wise spending of public funds. It is rather due to a change in the methodology of GDP calculation, the value of which increased slightly.

Let's move on from the calculation of "traditional" services to the provision of services via the Internet. Is it possible to quantify and to add to GDP for example search services as YouTube, or Facebook? And in this context, is it still possible to talk about the performance of the country?

Of all the changes that concern the new methodology for calculating GDP, we have selected only a few changes concerning the government. Even so, however, there are more problems, which upon closer examination raise new and emerging issues. Perhaps there can be included, for example, issues related to financing. Financial transactions that do not respond to the real economy are added to GDP as its part in the new methodology, too. Financial services should be considered only as a non-factor service, which often belong only to the accompanying services completing production of goods and services. The statisticians included them to GDP calculation. As financial management sector grew, the share of the financial sector to GDP grew too. As a result, in 2008 the share of the financial sector to GDP in the United Kingdom was the largest, which is manifestly absurd (Coyle 2014b).

Part of GDP are also services provided, for example, in case of a natural disaster. This means that the cost of repairing the damage increases GDP, but they do not include, for example, damage to human life or nature.

Conclusion. Indicator of GDP is the most commonly used indicator, even according to some economists, it is the most important indicator of the economy. Neither changed methodology for calculating GDP added to it more credibility and higher communicative value. If we dealt specifically even with the methods of calculation, we would have to conclude even greater deficiencies in its use and value. Many statisticians and planners focus more on "improving the methods for calculating the indicator" as a solution / removal of fundamental weaknesses in the calculation of GDP. Its use should, therefore, be significantly reduced in assessing the economic development of countries. Increasingly, there are more frequently arising new indicators to measure economic growth, prosperity, living standards that seek to remedy shortcomings in the calculation of GDP and reflected in it the environmental and social areas of development of the country.

Finally, there is the question whether we want and can examine the economic maturity of the country based on the indicator, under which nothing can be imagined by ordinary people and that certainly does not indicate established production in the territory of a state. Or are we already used to the GDP indicator to the extent that we cannot even imagine any economic analysis without it and we will continue to use it with all its shortcomings? Or are we able and ready to create a new indicator that will give information not only to economists but also ordinary people?

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