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CHANGES OF THE ECONOMIC SITUATION VS. THE STATE OF PUBLIC FINANCES IN POLAND IN 2007-2015

Summary
The paper is devoted to the analysis of the impact of changes in the level of economic growth on the volumes deciding about the condition of public finances. The main hypothesis put forward in the paper is the assertion that the changes of the economic situation affect substantially the state of public finances, causing changes on the level of revenues and expenditures of public sector. The second hypothesis is the assertion that fiscal policy in Poland, in the analyzed period, was of a passive nature. The paper contains data analysis of the period between 2007 and 2015 provided by the Central Statistical Office with the use of correlation rates. Statistically significant negative dependence was observed between GDP growth and expenditures of the State budget, total public debt and government sub-sector debt. Such results indicate the dominance of passive fiscal policy during the analyzed period.

Key words: *economic cycle, economic growth, recession, public finance sector, GDP*

Introduction

The current state of finances in public sector, which is illustrated by budget deficit, depends on the current economic situation. Increasing the economic activity provides public sector with revenues from all sources. The situation reverses in periods of recession (a weakening of economic growth). In case of expenditures, the period of good economic situation limits the need for fiscal intervention of the State, while the downturn implies the need for increase of social expenditures as well as stability of operations. The scale of the State impact on the economic situation through the fiscal policy depends on the preferences of decision makers and the level of debt in public sector. High public debt limits the

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possibility for further indebtedness and also raises the interest rate expected by the investors buying public bonds.

The main hypothesis in the paper is the assertion that the changes in economic situation affect substantially the state of public finances, causing changes on the level of revenues and expenditures of public sector. The second hypothesis is the assertion that fiscal policy in Poland, in the analyzed period, was of passive nature. To verify the above hypotheses the author used the data related to the formation of appropriate rates in Poland in 2007-2015, published by the CSO in Statistical Annals of the Republic of Poland. As for the methods, the article uses initial descriptive analysis of secondary data. In addition, the author provides the analysis of correlation rates formation where as a specified variable the author assumed the pace of GDP growth and as the explained variables the author assumed the following ratios: the level of expenditures and revenues in public sector, level of budget deficit and public debt.

1. Economic situation as a determinant of finances in public sector

There are downturn fluctuations on the market which means successive ups and downs in economic activities. They form the business cycle defined as short-term production deviations from its long-term trend.[1] In a classic business cycle understanding there are four phases: crisis (decline of economic activity), depression (further decline in economic activity and its stability at the level of bottom cycle), recovery (increase of economic activity) and boom (further increase in activity until the summit cycle). For the purposes of this paper, it is enough to distinguish two phases in the economic situation: the phases of high rate of economic growth and relatively low rate of economic growth (possibly a recession)[2].

Due to the fact that the phase of high growth is usually longer than the period of decline in the level of economic activity (and in parts of cycles the recession does not appear at all) long-term trend is positive

[1] P.A. Neumeyer, F. Perri, *Business Cycles in Emerging Economies: The Role of Interest Rates*, Journal of Monetary Economics 2005, no 52, pp. 545-580; R. Barczyk, M. Lubiński, *Dilemmas of economic stabilization*, Publication of the University of Economics in Poznań 2009, p. 13.

[2] R. Barczyk, L. Kąsek, M. Lubiński, K. Marczewski, *New face of business cycle*, PWE, Warszawa 2006, pp. 131-132, 140, 151.

(the economy grows). Individual economic situation cycles are considered from the perspective of the duration and scale derivation from the trend, stating their turning points (initial and final moments of the cycle phase occurrence). The upper turning point (the highest level during the period of economic growth) designates the end of prosperous economic situation. The lower turning point (the lowest level during the period of economic growth) defines the end of unsuccessful downturn. Successful phase of the economic situation is between lower and upper tuning point and the phase of unsuccessful downturn is between upper and lower turning point[3].

Changes in the direction of the trend generally first affect the financial market. The growing economic phase is characterized by high level of business investments, high demand for credit and rising prices which reduce the real burden of debt. The banking sector decides to extend credits due to favorable financial situation of borrowers. In the long run, it leads to excessive debt, changes of mood and expectations on the financial market, drop in asset prices and paying off difficulties by some debtors. If in such situation the creditors demand to pay off debts, there is a wave of debtors bankruptcies, whom the decline in the value of assets does not allow to pay off their obligations[4]. The collapse of a financial market entails a decrease in production (economic downturn on the material market), the decline in employment and the increase of unemployment (which deepens the problem on material and financial market).

As the economic fluctuations destabilize economy, trigger nervous reactions of the investors and lead to the unemployment growth which, in turn, awakens social dissatisfaction, the State may decide to use stabilization policy aiming at limiting fluctuations in the economic situation[5]. The two main tools of stabilization policy are: fiscal policy (at the government discretion) and monetary policy (belonging to the competence of the Central Bank)[6]. The unsolved question about the

[3] R. Barczyk, M. Lubiński, *Dilemmas of economic stabilization*,...op. cit., pp. 13-17.

[4] M. Lubiński, *Business fluctuations vs. financial perturbation*, [in:] *Problem of economics and development policy*, J. Stacewicz [ed.], the Warsaw School of Economics, Warszawa 2005, pp. 26-28.

[5] R. Barczyk, L. Kąsek, M. Lubiński, K. Marczewski, *New face of business cycle* …op. cit., pp. 148-149.

[6] J. G. Nellis, D. Parker, *Principles of Business Economics*, Prentice Hall, Financial Times, Harlow, London, New York 2006, p. 23, 350.

economic theory still remains i.e. which of the above tools should dominate or even if the stabilization policy should be applied at all?

In the so-called economy mainstream one can distinguish two dominant directions which give different answers to the above question. Representatives of the neo-classical direction (referencing to the output of classical school) are against stabilization policy of the State as they do not believe in its effectiveness. In their view, monetary policy is enough to stabilize the economic situation, government should not use the expenditures growth (fiscal policy) for rescuing the economic activity. Representatives of neo-Keynes direction are of different opinion (referencing to the output of J.M. Keynes). They believe that the State should counteract the downturn and fiscal policy is the best possible way to do so[7].

The State can be interested in counteracting the downturn because as the result of limitation in economic activity during the downward phase of the business cycle, there are tensions in public finances. Lower economic activity results in a decrease in the revenues of public sector in an event when expenditures side of public finance is rigid or even requires more expenditures during the downturn. This is especially true for the social security system (insurance connected with retirement, health, pension, maternity, unemployment or breadwinner's death) which are mostly financed by employers and employees. The State, however, is the guarantor of these benefits (must cover the deficit of the social security system which increases in the economic downturn)[8]. Apart from the necessity for social security funding, deepening the deficit in the sector of public finances during the downturn may occur if the State will try to rebuild the economic activity by fiscal stimulation (tax reduction,

[7] T. Laubach, *New evidence on the interest rate effects of budget deficits and debt*, the Journal of the European Economic Association 2009, no. 7, p. 858; W. Stankiewicz, *History of economic thought*, PWE, Warszawa 2000, p. 40; M. Zieliński, *Fiscal policy and economy crisis in chosen European Union countries*, [in:] J. Sokołowski, M. Rękas, G. Węgrzyn (ed.) *Economics,* Academic Work of the University of Economics in Wrocław no. 245, Wrocław 2012, pp. 697-699.

[8] P.M. Gaudament, J. Moliner, *Public finances*, Warszawa: PWE 2000, pp. 417-418; A. Siwy, A. Adamczyk, T. Lubińska, W. Tarczyński, *Fiscal level and unemployment and rate of GDP changes in European Union countries and in Poland in 1990-2000. Economist* 2004, no. 1, p. 101; E. Denek, J. Sobiech, J. Wolniak, *Public finances.* Warszawa, PWN 2001, pp. 204-206.

public expenditures increase) which is a sign of active (in that case expansive) fiscal policy[9].

The root tension in public finances during the economic downturn is related to the income decrease. As the most important component of the State revenue is income tax, the structure of these influences is essential. Stability of income taxes is mostly between direct taxes (income and property) and indirect taxes (tax on goods and VAT services, excise tax and income tax). From the point of view of the level and stability of budget revenues, direct taxes are more effective as it is more difficult to evade paying them[10]. Besides, direct taxes put a burden, most of all, on the consumption which changes to a smaller extent than incomes, thus constitutes a more stable source of revenues.

The effect of changes in the economic situation are the changes between the revenues and expenditures of public sector. If the government does not implement extreme variant of fiscal policy (expansionary or restrictive) during the summit of the economic situation, the level of the budget deficit decreases (or there is a budget surplus), in the lower cycle point there is the deepest deficit in the public finance sector. Consequently, there is a rapid growth of public debt in the period of downturn, on the other hand, the growth is insignificant during the period of good economic situation (or public debt is even lower if the budget surplus occurs).

2. Economic situation vs. public finances sector: situation in Poland in 2007-2015

The analysis of changes and the situation of public finances relating to the condition of economic situation, was based on the data published in the Statistical Annals of Polish Central Statistical Office. The most important rates are: GDP changes, budget deficit level and public debt. To define the reasons of debts in public sector it is necessary to consider income and expenditure side with all sub-sectors. Table 1 shows the level of public revenues, the evolution of the revenues from direct taxes and

[9] R. Barczyk, L. Kąsek, M. Lubiński, K. Marczewski, *New face of business cycle …*op. cit., p. 59.

[10] J. Kudła, *Changes of the structure in budgetary influences in chosen European Union countries in 2008-2010*, [in:] J. Sokołowski, M. Sosnowski, A. Żabiński (eds.), *Public finances,* Academic Work of the University of Economics in Wrocław 2012, no 247, pp. 181-182.

income tax (from individuals and enterprises) as the main sources of the State budget revenues and hence the possible causes of changes in budget deficit. The table includes the income and expenditure of the Social Security Fund as the most essential element of the social security sub-sector.

Table 1. Economic growth and the rates influencing the condition of public finances in Poland in 2007-2015

Feature	Year								
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
GDP increase	6.8	3.9	2.8	3.6	5.0	1.6	1.4	3.3	3.9
Budget income	236368	253547	274183	250303	277557	287595	279151	283543	289137
Indirect taxes	146482	153678	154958	165190	180273	181892	175369	187067	187267
Income tax	59899	65818	59921	57363	62937	64955	64366	66288	70853
State budget expenditures	253324	277893	298028	294894	302682	318002	321345	312520	331743
State budget debt	-1.4	-1.9	-1.8	-3.1	-1.6	-1.9	-2.5	-1.7	-2.4
Public debt in general	527442	597797	669876	747899	815346	840477	882293	826775	877282
Governmental sub-sector debt	500214	566907	623592	692360	748806	770819	831515	754993	805109
Local-government sub-sector debt	24483	28115	39325	53519	64261	67398	68398	71663	72073
Incomes of social security funds	162082	172874	140471	167481	162036	174123	191481	186577	196115
Expenditures of social security funds	152993	167191	153438	170845	167786	176440	204381	195014	201717

Source: Statistical Annals CSO 2008-2016.

The period included in the analysis covers the years 2007-2015. The starting point marks the last peak of economic cycle and closes with the last year for which comparable data was available. From the perspective of public finances, the most important fact is that Poland did not suffer from any recession during the last economic crisis. The lowest level of economic growth was recorded in 2013 and it was 1.4%. Relatively high growth of the Polish economy (5.0%) was recorded in 2011. Throughout the tested period, the budget deficit occurred, the lowest was recorded in the summit of economic situation while the highest in 2010 when it amounted to 3.1% GDP. Public debt, analyzed in this period, gradually increased and its one-time drop in 2014 was caused by transfer of the funds from Open Pension Fund (OFE). The effects of this decision are also visible in the decline of the level of budget deficit and increase of the level of incomes to the Social Security Fund.

The State revenues gradually grew and in two years (2010 and 2013) there was a drop in year-on-year. While considering tax revenues, one has to note that year 2013 (since a part of the OFE funds was acquired) was the only one where there was a decline from indirect taxes which are the basic source of the State budget revenues. It could also be observed that the revenues from income tax decreased (tax from individuals and enterprises) while more rapid declines in income tax were recorded in the period 2009-2010. Lower tax revenues in 2013 could be explained by the downturn and it should be pointed out that it was the second year of a very weak economic situation. The level of budgetary expenditures was more stable than tax revenues. The expenditures gradually grew, and in this case, there was double decline in year-on-year (in 2010 and 2014).

Considering the structure of public debt, the key sub-sector is the governmental sector. This sub-sector generates over 90% of public debt. The sector of public fund from OFE makes the analysis of debt more difficult. We can notice a very high increase of debt in governmental sub-sector in 2013 and even higher decline in debt in the next year. Unfortunately, 2015 brought a major increase in the debt of governmental sub-sector (over 50 billion PLN). The changes of level in the Social Security debt are a reflection of their guarantee by the State budget. A very high increase of sub-sector debt in 2009 probably resulted from the lack of topping up funds from the State budget, which at that time experienced financial difficulties. Decline to an insignificant level of debt in this sub-sector in 2013 resulted from the transfer of funds taken from OFE. This conclusion can be formulated thanks to the fact that the biggest negative differences between revenues and expenditures of the Social Security Funds occurred in 2009 (when social sub-sector debt rapidly increased) and in 2013 when the debt of this sub-sector declined. The only rate included in Table 1, which constantly was increasing in the analyzed period, was the debt of the local government sub-sector. Still this is a sector which jeopardizes the public finances stability, however, its debt in the total debt of public sector increased from 4.6% in 2007 to 8.2% in 2015.

To determine the relation between the growth pace of GDP and forming of basic rates influencing indebtedness in public sector, correlation coefficients was made (Table 2).

Table 2. Correlation coefficients of GDP growth with the basic rates influencing public finances conditions

Specification	GDP growth (%)
Budget revenues	-0,6404*
Indirect taxes	-0,4332
Income taxes	-0,225
The State budget expenditures	-0,7139**
The State budget deficit	0,4293
Total public debt	-0,6243*
Governmental sub-sector debt	-0,6446*
Local government sub-sector debt	-0,5341
Social security debt	0,0753
Incomes of social security funds	-0,2812
Expenditures of social security funds	-0,5074

**p<0,05; *p<0,1
Source: Own calculation based on data from Table 1.

Significantly negative relation (0,05) was observed only between GDP growth and expenditures of the State budget. This is consistent with the literature on the subject because higher rate of economic growth is accompanied by smaller needs of support to both the social security system and active fiscal policy. In accordance with literature, but statistically insignificant, there are also positive correlations among GDP growth and deficit of the State budget as well as social security debt.

When it comes to other rates influencing the condition of public finances, a negative correlation with GDP growth was observed which is incompatible with the subject literature. Significant negative relation with significance level 0,1 was observed among GDP growth and budget revenues, total public debt and governmental sub-sector debt. Taking into consideration that in the whole analyzed period the recession did not occur, this indicates a passive approach to tax policy. During the period of good economic situation, the tax collection relatively drops while strengthening tax policy during the periods of economic downturn in order to obtain the expected income. In the fields of tax collection the next government followed the pro cycle policy (increasing the downturn and without cooling the economy in periods of high growth). Negative correlation between GDP growth and total public debt while the negative relations of budget expenditures (mentioned above) can confirm the reduction in tax collection in the economic summit and indicate the lack of debt payment in good economic conditions which grew during the downturn. This explanation suggests statistically significant negative correlation between the economic growth and government sub-sector debt with the positive correlation in the budget deficit. Negative, statistically insignificant, correlation in 2007-2015 also occurred among the economic growth and tax revenues, local government sub-sector debt as well as revenues and expenditures of social security funds.

Conclusions

Primary analysis of changes in the level of economic growth and basic rates characterizing the condition of public finances, leads to the conclusion that in the tested period almost all analyzed rates were gradually growing. There are two exceptions to this rule: the level of the budget deficit depending on the current economic situation and the level of social security debt depending on transfers from the State budget which in recent years was drastically limited due to the acquisition of financial resources from OFE. In downturn periods there were declines in revenues and expenditures of the State budget and social security funds. There was also a one-time drop in total public and government sub-sector debt, however, this was the result of the acquisition of partial financial resources from OFE. The only rate gradually increasing in 2007-2015 was the debt of local government sub-sector. These observations allow to hypothesize that changes of the economic situation significantly affect the condition of public finances causing changes in the level of revenues and expenditures of public sector.

Based on the analysis of the coefficients correlation, it can be concluded that fiscal policy in 2007-2015 was inconsistent. On one hand, there is the strongest negative correlation between the economic growth and budgetary expenditures as well as the highest positive (although statistically insignificant) correlation with the budget deficit. On the other hand, most of the rates characterizing the level of public revenues and expenditures indicate a negative correlation with the economic growth. The dominance of negative correlations between the economic growth and public revenues and expenditures allows for partial confirmation of the second hypothesis of this paper, that fiscal policy in Poland, during the tested period, was of a passive nature. Full confirmation of this hypothesis is not possible, according to subject literature, with correlation among the economic growth and expenditures and deficit of the State budget as well as social security debt (although the success of reducing the expenditures growth may be attributed to the decrease in need for the economy and society support during the periods of high economic prosperity and is not the result of deliberate fiscal policy).

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