PRACE NAUKOWE
Uniwersytetu Ekonomicznego we Wrocławiu
RESEARCH PAPERS
of Wrocław University of Economics

271

Zarządzanie finansami firm – teoria i praktyka

Tom 2

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Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu
Wrocław 2012

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ISSN 1899-3192
ISBN 978-83-7695-219-2 (całość)

ISBN 978-83-7695-227-7 t. 2

Wersja pierwotna: publikacja drukowana

Druk: Drukarnia TOTEM

Spis treści

Summaries

PRACE NAUKOWE UNIWERSYTETU EKONOMICZNEGO WE WROCŁAWIU
RESEARCH PAPERS OF WROCŁAW UNIVERSITY OF ECONOMICS nr 271 • 2012

Zarządzanie finansami firm – teoria i praktyka ISSN 1899-3192

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ANALYSIS OF PUBLIC FINANCES IN POLAND AND THE EU DURING THE FINANCIAL/ECONOMIC CRISIS IN 2008-2010

Summary: The main problem facing the European Union today is the problem of public debt in the euro area. This problem has been intensified after the financial and economic crisis that took place in 2008-2010. Financial markets are now burdened with a high degree of uncertainty and there is lack of ideas of how to address the problem. Public finances in many EU countries were in poor condition even before the crisis of 2008-2010.To find a solution there must be the assessment to what extent this crisis intensified those problems. Meanwhile, Poland is considered a country which has relatively avoided the negative consequences of the financial crisis. The aim of article is to answer the question to what extent the economic crisis in 2008-2010 affected the state of public finances in the EU and what effect it had on the public finances in Poland.

Keywords: financial crisis, budget deficit, public debt, public finances.

1. Introduction

Financial and economic crisis among highly developed countries in 2008-2010 have shown that the decisions taken by public authorities have had a significant impact on financial markets. Highly developed economies, especially in the euro area are currently struggling with problems of debt and low growth or decline in gross domestic product. Poland as a country outside the euro zone managed to avoid this recession like a sheltered island surrounded by Western European financial turmoil.

This article aims to examine whether and to what extent the financial and economic crisis in 2008-2010 affected public finances in Poland and other European Union countries. It is presumed that the global crisis of 2008-2010 negatively affected the state of public finance in Poland and the risks associated with it.

The purpose and hypothesis of this research has been carried out by analyses where a comparison of changes in public finance in Poland and the European Union in 2008-2010 is made to changes in public finance for the period 2000-2007 (period prior to the financial crisis).

2. The state of public finance in Poland and the European Union

Public finances are a phenomenon associated with the existence of the state, because "[…] the subject of the science of public finance are the phenomena and processes related to the issuance of public funds to ensure the functioning of the public sector" [Owsiak 1999, p. 19]. Public finances are defined differently and, for the purpose of the article they will be determined in accordance with the Public Finance Act as the processes of accumulation and distribution of public funds [*Ustawa z dnia…* 2009, art. 3]. The analysis will be focused on the phenomenon of the budget deficit and public debt, taking into consideration that public finances relate to it. The public finances are treated as unitary state finances, this is why the problems within them are a problem both for the central budget and central government bodies. For this reason, the work will be analyzed in the public finance sector and public finances are recognized in accordance with EU methodology.

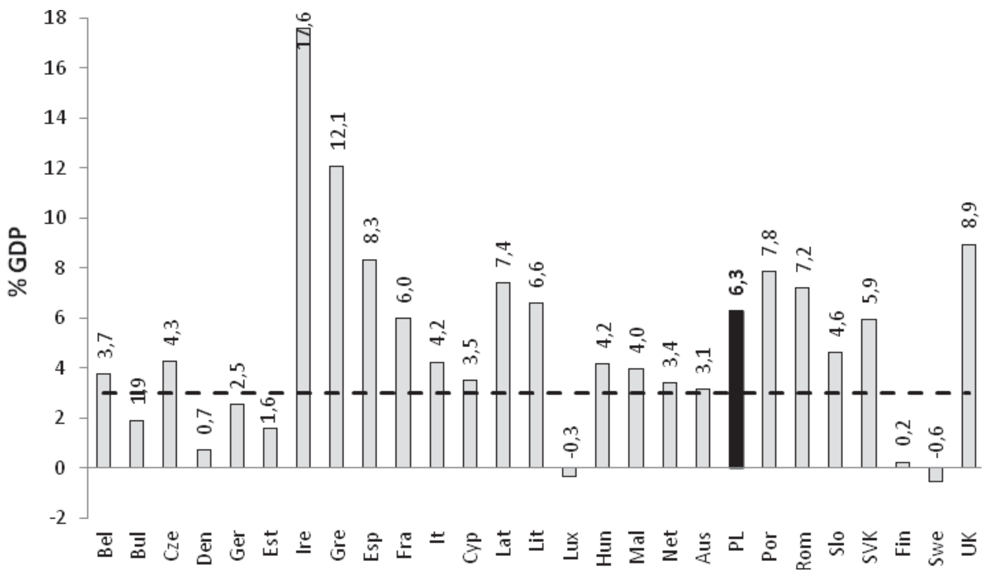

Figure 1. Average annual general government deficit in EU countries in 2008-2010

Source: own calculations based on Eurostat data, http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsieb080&plugin=1, 22.02.2012.

During the financial crisis and economic slowdown, most European Union countries introduced a rescue package for the economy, increasing state borrowing needs and their budgets showed a high level of deficit. In the period 2008-2010 in twenty of the EU-countries, the average annual general government deficit exceeded 3% of GDP (Figure 1). Poland was no exception. During this period the average general government deficit under the EDP (Excessive Deficit Procedure) amounted to 6.3% of GDP necessitating the need for increased borrowing.

Large countries budget deficits have meant the situation worsened in relation to public debt, defined as "the sum of the financial commitment at all levels of government sector" [Polarczyk 2004, p. 7]. At the end of 2010, public debt in fourteen EU members exceeded 60% of GDP, and the average level of debt in the European Union amounted to 80.1% of GDP (Figure 2). Fiscal problems mostly related to the euro zone, where the average public sector debt amounted to 85.3% of GDP. In Poland, the level of debt in 2010 amounted to 54.9%[1], which when compared to the euro area countries could be regarded as a relatively safe level. The structure of public debt in Poland is defined by the central government sector debt which is 92.6% (State Treasury debt is 92.4%), the local government sector debt which is 7.2%. The public debt is 0.2% and is generated by the social security sector. Foreign debt represents 30.9% (according to the place of issue criterion), so most of the debt is denominated in PLN.[2]

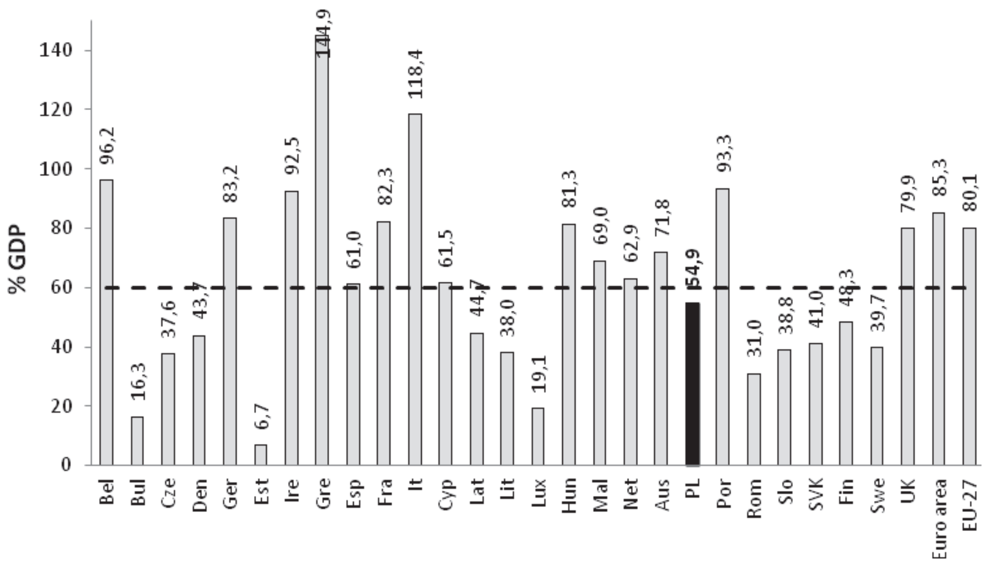

Figure 2. General government debt in EU countries in 2010

Source: Eurostat data, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_dd_edpt1&lang=en, 22.02.2012.

[1] The value of public debt calculated according to national methodology (PDP) was 52.8% of GDP in 2010. In 2011 according to preliminary data from the Ministry of Finance, general government debt (EU methodology) was 56.6% and public debt (national methodology) was 53.8%. [*Finanse publiczne*... 2012, p. 18].

[2] Ministry of Finance data − IX.2011, [in:] *Zadłużenie Sektora Finansów Publicznych III kw.* 2011, p. 1, 3.

3. Evaluation of public finances in the EU during the global financial and economic crisis

As it was mentioned previously, the financial situation within the EU is critical. The states are heavily indebted, and budgets in the public sector are unsustainable. It should be emphasized that the crisis in the years 2008-2010 contributed to a large extent to the debt problems. During this period the average annual deficit in the EU was much higher than in 2000-2007 (at an average of 3.5 percentage points of GDP). In Poland, a difference of 2 percentage points of GDP (p.p. of GDP) was one of the lowest in the EU, resulting in a slight increase in the borrowing needs of the state. It is worth noticing that the level of general government deficit increased mostly in those countries that currently face problems with high debt (e.g. Ireland, Greece, Spain, the United Kingdom).

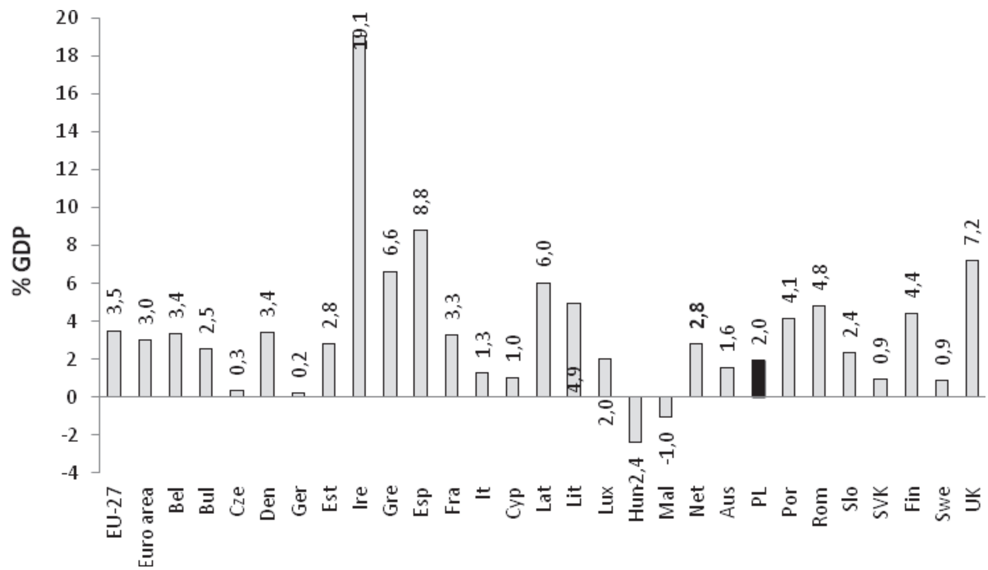

Figure 3. The increase in the average general government deficit in the EU countries in 2008-2010 compared to an average deficit in 2000-2007

Source: own calculations based on Eurostat data, http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsieb080&plugin=1, 22.02.2012.

The main factor that currently shaped debt of EU countries, especially those belonging to the euro area, were the large borrowing needs to support the economy in 2008-2010. It is noteworthy that in the period before the financial crisis, i.e. in 2000-2007, the level of debt in the EU and the euro area decreased on average annually by 0.4 percentage points of GDP (Figure 4). During the financial and economic crisis, public debt in the EU and the euro area has grown on average 7.0 and

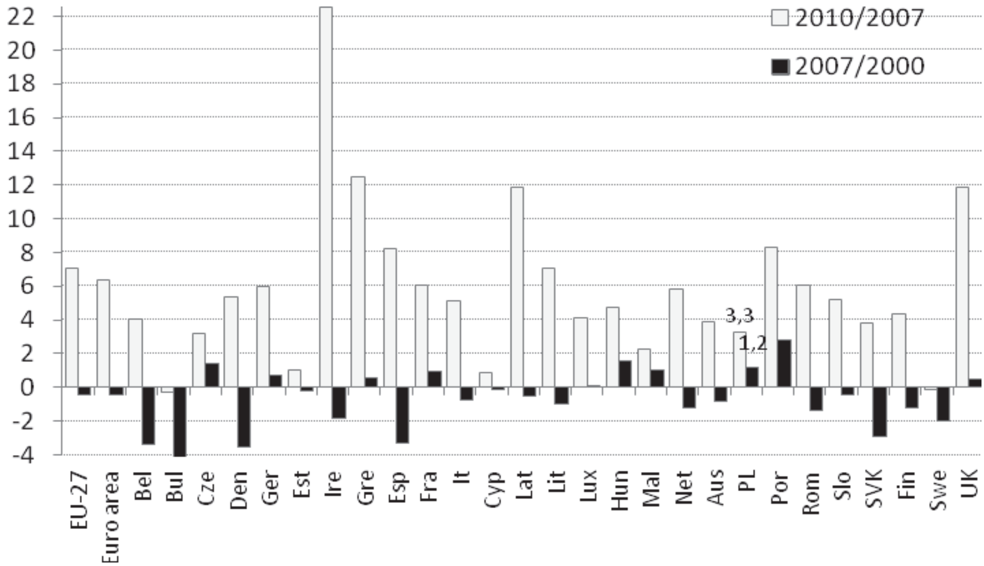

Figure 4. Average change of public debt in the EU

Source: own calculations based on Eurostat data, http://epp.eurostat.ec...

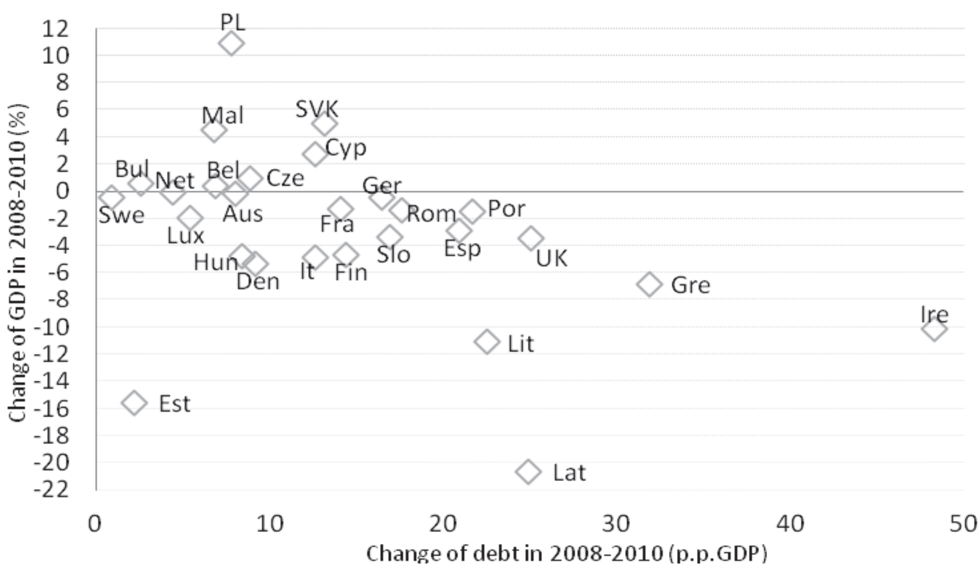

Figure 5. Change of public debt and change of GDP in the EU in 2008-2010

Source: own calculations based on Eurostat data, http://epp.eurostat.ec...

6.3 percentage points of GDP respectively. This is a proof of the negative impact of the crisis of 2008-2010 on the situation of public finances in the EU. In Poland, the crisis has also impacted negatively on the level of government debt, but this effect was small. Only in six EU countries, the level of public debt in the percentage points incremental GDP was lower than in Poland.

It is noteworthy that a large impact on "low" general government debt in Poland supported the economic growth. Poland was the only country which did not have a recession and recorded the highest increase in GDP over the period 2008-2010. It is worth noting that the analysis of changes in the rate of GDP and debt levels among the members of the EU (Figure 5) shows that debt increased most in those countries where the recession was strongest. In countries such as Ireland, Greece, Great Britain, Portugal, Latvia and Lithuania in 2008-2010 the increase of public debt was accompanied by a strong drop in GDP.

4. Assessment of the level of debt in Poland and the related risk

When the debt level is assessed, usually the criteria is set out in the Maastricht Treaty at 60% of GDP at market prices (ie. threshold value of the debt). In Poland, public debt does not exceed that level. In the literature there are also other indicators to assess the level of indebtedness For example Kołodko [1992, p. 70 and next] suggests the following indicators:

– the ratio of debt to exports (the threshold value is 275%),
– the ratio of debt service to exports (threshold is 30%),
– percentage ratio of debt to exports (threshold is 20%).

The results of this assessment of the level of debt is shown in Table 1. It is also important to assess risks in public debt (debt indicators). The source of financing the borrowing needs of the state is the issue and sale of Treasury securities, funds from the privatization of Treasury assets and loans and bank credit (money supply issues do not apply because the constitution forbids direct financing of state budget borrowing needs by the central bank. A similar prohibition is in most European countries). In practice, Treasury securities are primarily used because they involve a buyer in a relatively low risk. For this reason, when assessing the risks of public debt there are two types of risks to consider: refinancing (rollover debt) and market (related to fluctuations in macroeconomic variables, namely interest rates, inflation and exchange rates). In the Polish case, during the financial and economic crisis, the importance of exchange rate risk has played a very large part. This is connected with a substantial share of foreign debt in the structure of public debt and exchange rate fluctuations faced by the Polish currency. For this reason, in the fourth quarter of 2011foreign exchange interventions by the Ministry of Finance were observed, done in cooperation with the National Economic Bank and supported by the interventions of the Polish National Bank.

Table 1. Debt indicators* in 2005-2011

	XII.2005	XII.2006	XII.2007	XII.2008	XII.2009	XII.2010	XI.2011
Debt /Exp (%)	160.34	147.20	136.95	148.21	161.63	161.48	-
Debt servicing costs/Exp (%)	8.66	8.08	7.14	6.20	7.61	7.10	-
ATM-domestic debt (Years)	3.57	3.94	4.33	4.23	4.08	4.3	4.25
ATM-foreign debt	8.51	8.28	8.28	8.11	8.27	8.13	7.85
Duration-domestic debt	2.76	2.99	2.85	2.86	2.88	2.97	2.83
Duration-foreign debt	5.98	5.90	5.92	5.55	5.39	5.54	5.08
ATR-domestic debt	3.07	3.4	3.39	3.38	3.53	3.48	3.3
ATR-foreign debt	7.99	7.91	8.05	7.96	7.37	7.19	6.88

* Debt/Exp is calculated for general government debt. Other indicators are calculated for State Treasury debt.

Source: own calculations based on Central Statistical Office data; Ministry of Finance data; Zadłużenie... 2011, p. 3.

In order to reduce rollover risk, debt maturity periods are extended. For their measurement there is used a synthetic measure called Average Time to Maturity (ATM, also known as Average Residual Life). ATM gives information about the average length of time to maturity of debt. To measure interest rate risk, two indicators are used: the Macaulay duration and the rate of ATR. A duration measures the time it takes to match the debt service costs to the changed market interest rates. Indicator ATR (Average Time to Refixing) defines the average time for which the debt service costs are fixed. The higher the value of these indicators means the lower the interest rate risk to the public debt. In Poland, the risk assessment focuses primarily on State Treasury debt, which constitutes the major part of the public debt (indicators on Polish debt risk are presented in Table 1).

Based on the analysis of degree of indebtedness and its risks it should be noted that public debt in Poland is maintained at a safe level, it does not exceed any critical value and did not change significantly in 2008-2010 compared to 2005. Moreover, the rollover risk decreased (maturity of total debt has increased, albeit slightly). We can owe it to the lengthening of the maturity of domestic debt, which prevails in the structure of public debt in Poland. Indicators for assessing interest rate risk were reduced (duration and ATR). The main reason was the increase in interest rates in Poland. In Polish public debt there was observed a decrease in the risk of domestic debt and a slight deterioration in indicators of refinancing risk and interest rate risk for foreign debt, which is explained by the depreciation of Polish zloty, caused by the uncertainty surrounding the euro area. The terms for refinancing the maturity of the debt worsened in 2011,which was caused by rising global risk aversion.

It was confirmed by the international ratings agencies: Fitch, Moody's and S&P that Poland's public financial situation has remained relatively healthy since 2008, in contrast to most EU countries where it has worsened.

5. Instruments in the management of public finances in Poland

The aim of debt management is to minimize its operating costs and minimize risks associated with this process. In the economies of developed countries three models of public debt management are used to control it [Piotrowska-Marczyk, Uryszek 2009, p. 63]:
- ministerial model,
- agency model,
- bank model.

In most EU countries the first two models are used (the bank model is only in Denmark and Cyprus). In Poland, the person responsible for managing the public debt is the Minister of Finance. He must operate in such a way to manage debt, not to exceed the limits imposed by the Polish prudent regulations, namely:
- the Constitution of the Republic of Poland RP [article 216, point 5],
- law on public finance, where prudential standards and remedial has been set for the total public debt.[3]

In 2010 public debt was above the first prudent threshold (PDP/GDP> 50%) which meant that in 2011 the Minister of Finance was obliged to publish accounts of the public debt, and in the budget act for 2012 state budget deficit ratio to revenue had to be lower than in 2011. For 2012 and the following years the budget deficit cannot exceed 11.9 % of revenues [*Strategia zarządzania…* 2011, p. 4]. Public finances also affect the finances of local government sector. The following prudent standards are laid down:
- public debt cannot exceed 60% of the income of local government,
- repayment amount shall not exceed 15% of income,
- when public debt exceeds 55% of GDP, the debt service costs should be below 12% of income,
- the beginning of 2011introduced the principle of a balanced budget for local government, in force from 2014.

Another solution for controlling public finances is to impose an obligation on the Minister of Finance long-term planning, i.e. the preparation of management strategy of the State Treasury debt. There are defined objectives in the short and long-term, and strategies are developed for three years.

Another solution is the spending rule. Due to the increase in public debt in 2010 to 52.8% in relation to GDP, in 2011 there was an introduced rule concerning disciplinary expenditure. Discretionary spending and new rigid spending cannot exceed more than 1% per year.

[3] Prudent thresholds 50%, 55% and 60% of GDP are established for the debt calculated according to national methodology.

Figure 6. Long-term interest rate (for 10-year government bonds) in selected EU countries between I. 2007 and I.2012 (in %)

Source: ECB data, http://sdw.ecb.europa.eu, 19.02.2012.

All of these solutions helped to prevent public finances in Poland from deteriorating dramatically during the turmoil on global financial markets. The efficiency of public debt management in Poland is well illustrated by long-term interest rate for 10-year government bonds (Figure 6). It should be noted that the stability of Polish debt securities is one of the most stable in the EU (Table 2). Their volatility since 2008 has been only 4.3%. This situation should be assessed very positively. Polish interest rates remained remarkably stable, even in contrast to long-term interest rates for countries which were considered safe havens such as Germany, the Netherlands and Finland.

Table 2. Indicators of long-term interest rate variability in selected EU countries

Indicator	Period	Germany	Netherlands	Finland	Slovakia	Czech Republic	Poland
Standard deviation (perc. points)	I.2005-XII.2007	0.4046	0.4222	0.4423	0.5693	0.4007	0.3464
	I.2008-XII.2010	0.6013	0.5808	0.5958	0.4779	0.5528	0.2706
	I.2011-I.2012	0.6077	0.5146	0.4720	0.3474	0.3514	0.2302
coefficient of variation (%)	I.2005-XII.2007	10.71	11.07	11.61	13.75	10.32	6.52
	I.2008-XII.2010	18.13	15.97	16.19	10.78	12.42	4.52
	I.2011-I.2012	23.85	17.57	16.00	7.71	9.54	3.88

Source: own calculations based on ECB data in Figure 6.

6. Conclusions

The financial crisis in highly developed countries has caused considerable fiscal problems for the European Union countries, especially those concentrated in the euro area. In many countries, public sector debt has increased substantially. Before the financial crisis, the debt to GDP declined in most countries, and within three years of the crisis it has increased by 20-40 percentage points of GDP. An additional problem is the low rate of change of GDP. Public finances in Poland were weakly affected by the financial crisis in 2008-2010. The level of debt grew but on a much smaller scale than in the EU and maintained at a safe level, i.e. the possibility of providing a secure payment. The rapid economic growth and prudent standards adopted for government debt developed in previous years, which prevented the government from uncontrolled indebtedness, were the above all the factors contributing to success of Poland. The analysis puts forward the following proposals for the future. Firstly, there is the need for economic growth in the fight against over-indebtedness. Secondly, fiscal limits imposed by law are necessary to prevent the government from irresponsible fiscal decisions. Thirdly, during recession public debt must be effectively controlled.

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ANALIZA FINANSÓW PUBLICZNYCH W POLSCE I UNII EUROPEJSKIEJ W CZASIE KRYZYSU FINANSOWEGO I GOSPODARCZEGO W LATACH 2008-2010

Streszczenie: Głównym problemem, przed jakim stoi obecnie Unia Europejska, jest zadłużenie w strefie euro. Problem ten uległ zintensyfikowaniu po kryzysie finansowym i gospodarczym, który miał miejsce w latach 2008-2010. Rynki finansowe obarczone są obecnie wysokim stopniem niepewności i braku pomysłu na naprawę tego stanu. Poddać należy więc ocenie, czy finanse sektora publicznego już przed kryzysem były w złym stanie i w jakim stopniu kryzys z lat 2008-2010 zintensyfikował te problemy. Polska tymczasem uważana jest za kraj, który uniknął negatywnych konsekwencji kryzysu finansowego. Celem artykułu jest ocena, w jakim stopniu kryzys w latach 2008-2010 wpłynął na stan finansów publicznych w Unii Europejskiej oraz czy wyraźne było jego oddziaływanie na finanse publiczne w Polsce.

Słowa kluczowe: kryzys finansowy, deficyt budżetowy, dług publiczny, finanse publiczne.