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Public Debt under Financial Crisis in the New EU Member States

Abstract: With the growing imbalance of public sectors in the EU Member States, the public debt in the countries increased too. Public debt management institutions face the task of choosing the optimal debt structure in order to minimize the negative effects for the economy.

This article sets out to determine changes in the public debt structure in the EU Member States during economic crisis. It consists of four sections. Section one deals with public debt management under crisis conditions. In the next sections, the term, currency and lender structure of public debt in the new Member States are analysed and discussed. The last section presents major conclusions from the research.

Key-words: Public debt, financial crisis, new EU Member States.

Introduction

In today's world public debt is an inseparable characteristic of most free-market economies. Institutions managing public debt must determine its structures to minimize its negative impacts on the economy. This article seeks to identify changes in the structure of public debt in new EU Member States during economic crisis, which reflect the countries' approach to public debt management and the situation of their public finance sectors affected by economic instability. To accomplish this purpose, the following research hypotheses have been formulated:

- to cope with the rising borrowing needs of the public sector in the period of crisis, the public debt management institutions increased the value of short-term borrowing,
- most of the debt incurred by the public debt management institutions was denominated in national currencies in order to reduce the exchange risk.
- the share of financial institutions in the lender structure of public debt increased in the period of crisis, as these institutions sought for low-risk investment instruments,

In the article, the public debt in all the new EU Member States is analysed by its term, currency and lender structure. To ensure comparability between countries, the data on entire public finance (General Government) sectors are

used (and not only those showing the State Treasury's debt). The period of research covers the years 2007–2012. The “new EU Member State” is defined in the article as the country which joined EU structures in 2004 or later, with one exception: Croatia was excluded for the research, as it joined EU structures in 2013 (after the end of the research period).

1. Public debt management under economic crisis

Public debt management is extensively covered in both Polish and foreign literature [see, for instance, Marchewka-Bartkowiak 2011; Aldrich 1949]. In the broad sense, it can be defined as this part of the state's budget policy where decisions on how much of the projected spending will be funded with debt are made (this effectively translates into the amount of public debt); in the narrow sense, public debt management consists of all decisions on the manner of financing the state's borrowing needs (and thereby on the structure of public debt). In this article, public debt management is considered in its narrow meaning, given that the institutions managing countries' public debt do not make decisions about its amount (which is treated here as an exogenous variable the value of which is determined by the state's budget policy), but about its structure, including debt maturities, the type of lenders, or currency. These decisions have a bearing on the type of debt instruments and the type and values of interest rates that will be used, as well as having some effect on the future exposure to various risks (including refinancing or exchange risks).

The permanently imbalanced public finances causing public debt to grow have made investors less trustful in the Treasury debt instruments that until recently were considered non-risk or risk-free [Dębski 1997, p. 49]. The public debt management institutions have to work harder and harder to attract investors and to make the instruments more appealing to them. In most cases, the tool used to boost investors' demand is higher interest rates on public debt instruments. This approach increases financial strain on future budgets because more money will be needed to service debt, making public finances even more imbalanced. The interest rate on the Treasury debt instruments is losing its significance as a point of reference for financial market transactions [for details see: Fedorowicz 1997, p. 159; Scott et al. 2008, pp. 219–220] in many countries. Alternative solutions are sought instead, the need for which had been signalled in the literature long before the recent financial crisis occurred [see, for instance, O'Leary 2001].

The public debt-to-GDP ratio increased between 2007 and 2012 in all new EU Member States (see table 1). The increase ranged from ca. 8% in Bulgaria to over 350% in Lithuania. – the average for all the EU Member States rose from 59% in 2007 to 85,3% in 2012. These circumstances cause that public debt management becomes particularly important [Dooley 2000, pp. 45–59]. The literature on this subject emphasises its special role not only in periods of economic slowdown [Easterly, 2001], but also during economy's exposure to excessive debt [Sutherland 1997, pp. 147–162], currency crises [Benigno, Missale 2004, pp. 165–188], and even in times of sustainable development [Nicu, Georgeta 2011, pp. 365–371].

Table 1. Public debt in the new EU Member States (as % of GDP)

	2007	2008	2009	2010	2011	2012
EU	59,0	62,3	74,6	80,0	82,5	85,3
Bulgaria	17,2	13,7	14,6	16,2	16,3	18,5
Cyprus	58,8	48,9	58,5	61,3	71,1	85,8
Czech Republic	27,9	28,7	34,2	37,8	40,8	45,8
Estonia	3,7	4,5	7,2	6,7	6,2	10,1
Hungary	67,0	73,0	79,8	81,8	81,4	79,2
Latvia	9,0	19,8	36,9	44,4	41,9	40,7
Lithuania	16,8	15,5	29,3	37,9	38,5	40,7
Malta	60,7	60,9	66,4	67,4	70,3	72,1
Poland	45,0	47,1	50,9	54,8	56,2	55,6
Romania	12,8	13,4	23,6	30,5	34,7	37,8
Slovakia	29,6	27,9	35,6	41,0	43,3	52,1
Slovenia	23,1	22,0	35,0	38,6	46,9	54,1

Source: developed by the author based on the Eurostat data: *Government deficit/surplus, debt and associated data (gov_dd_edpt1)* – access date: 30. Sept. 2013.

It needs to be noticed that the institutions managing public debt can directly determine only the structure of the Treasury debt which is only one of the items making up the debt of the whole public finance sector. In practice, the Member States manage public debt based on one of three models which are called a ministerial model, a banking model and an agency model [for details see, for instance, Marchewka-Bartkowiak 2008, p. 139]. Regardless of the models' characteristics or the controversies concerning their use [see Piotrowska-Marczak, Uryszek 2009, pp. 64–65], none of them allows the direct control over the structure of subnational debt, which is shaped by regional or local governments borrowing in their own name and on their own account. The central government can control this component of public debt only indirectly by issuing orders and bans, or by imposing caps on its amounts. This mechanism, however, falls under the broad definition of public debt management. Institutions determining the structure of public debt at the central level have not powers over its local composition.

2. The term structure of public debt

Public debt is mainly managed through its term structure. One outcome of disproportionately large amount of short-term instruments in the structure of public debt is increased exposure to refinancing risk [Uryszek 2011, pp. 66–77] and interest rate risk [Uryszek 2010, pp. 73–87]. Public authorities choos-

ing to borrow short term have to seek funds relatively often and have to pay different prices. Sometimes such funds may not be achievable at all. The proportion of short-term debt (with maturity to one year) in the General Government debt structure in the new Member States is shown in table 2.

Table 2. The short-term debt (to 1 year) as a share of public debt in the new EU Member States (%)

		2007	2008	2009	2010	2011	2012
Bulgaria	%)	0,1	0,2	0,2	2,5	2,8	0,1
	EUR mn**)	3,2	9,9	10,8	146,1	178,0	8,9
Cyprus	%	n/a	n/a	n/a	n/a	n/a	n/a
	EUR mn	n/a	n/a	n/a	n/a	n/a	n/a
Czech Republic	%	8,2	6,3	6,8	7,6	9,5	10,7
	EUR mn	3 133,6	2 575,6	3 297,5	4 354,4	5 784,9	7 448,8
Estonia	%	2,2	1,2	1,3	0,7	0,7	0,6
	EUR mn	11,7	139,0	12,9	6,3	7,2	9,5
Hungary	%	13,4	10,6	10,6	9,6	8,7	12,2
	EUR mn	8 824,7	7 701,2	7 967,6	7 514,4	6 278,9	9 320,9
Latvia	%	7,7	35,9	14,7	9,4	8,4	6,2
	EUR mn	146,5	1 613,9	993,7	751,3	721,2	560,1
Lithuania	%	2,5	7,9	4,4	6,3	6,0	6,5
	EUR mn	118,9	398,2	347,4	663,0	711,7	871,4
Malta	%	11,5	12,7	13,8	10,8	7,7	4,7
	EUR mn	388,4	461,5	545,3	458,4	354,4	226,9
Poland	%	4,4	8,4	6,9	3,4	1,1	0,7
	EUR mn	6 445,0	12 185,6	11 485,2	6 619,4	2 135,5	1 517,7
Romania	%	13,8	18,9	22,7	24,5	22,9	15,2
	EUR mn	2 006,3	3 220,7	6 290,0	9 181,4	10 242,5	7 592,9
Slovakia	%	0,4	4,9	5,0	5,5	4,5	3,9
	EUR mn	73,6	911,1	1 112,0	1 489,2	1 338,1	1 444,7
Slovenia	%	3,3	2,3	6,8	1,1	1,1	4,4
	EUR mn	270,0	192,5	847,3	154,7	183,0	844,7

*) – the share of short-term debt in the structure of the public debt (in %)

**) – the value of short-term debt (in millions of EUR)

n/a – data not available

Source: developed by the author based on the Eurostat data: *Structure of government debt (gov_dd_sgd)* – access date: 30. Sept. 2013.

Financial crisis augmented the share of short-term instruments in the structure of public debt in most new EU Member States. Between 2007 and 2009 the proportion of these instruments increased in 9 out of 11 new Member States (on which data were available). A considerably more frequent use of the short-term instruments as a means of financing public sector's borrowing needs in the years 2007–2009 was particularly distinct in countries where public debt was mounting very fast (e.g. Latvia, Lithuania, Romania, Slovenia). Compared with the other Member States, Poland's situation was relatively good in this respect.

After the first wave of the crisis was over and the public debt management institutions made preliminary assessments of the situation, the financing of the public sector with the short-term instruments was promptly abandoned. This was a positive decision that largely reduced the refinancing risk of public debt. In the new Member States most instruments had maturity of 7–10 years [see: Eurostat, *Structure of government debt (gov_dd_sgd)*], which was a little bit shorter than in the “old” EU members. This reveals distinct differences between countries with a long free-market tradition and the relatively “new” market economies regarding the preferred length of borrowing.

3. The currency structure of public debt

Whether investors willing to buy Treasury securities or to grant loans (credit) secured by public assets will be sought on the domestic market or abroad directly depends on the currency of the debt to be issued. Instruments denominated in national currencies reduce exchange risk, but issuers frequently choose foreign exchange in order to diversify the range of sources financing the borrowing needs of public authorities, to acquire less expensive capital abroad, or to avoid likely problems with borrowing domestically. Table 3 shows new Member States' debt denominated in national currencies as a proportion of the total public debt in these countries.

According to the data, all new EMU countries borrowed mostly in euro currency. Among the non-euro EU members, debt denominated in national currencies was chosen by countries with relatively stable currencies and well-developed economies, having high ratings from the international rating agencies (mainly by the Czech Republic and Poland).

“Smaller” economies (such as Lithuania or Latvia) seek to finance their borrowing needs abroad, so they have to use foreign currencies. In this case, the euro and – to some extent – the US dollar were chosen the most frequently. Besides Lithuania is going to join Eurozone soon. According to the Lithuanian government, it should happen in 2015 [see: *Lagarde...* 2013]. In such a case, Lithuania uses euro as the “main” currency for public borrowing. The similar example is Estonia, which used former national currency (Estonian Kroon) to a small extent. After joining EMU in the beginning of 2011, the whole public debt was denominated in euro.

Table 3. Public debt denominated in national currencies as a proportion of public debt in the new EU Member States (%)

	2007	2008	2009	2010	2011	2012
Bulgaria	23,2	24,4	23,4	25,7	26,3	22,4
Cyprus	n/a	n/a	n/a	n/a	n/a	n/a
Czech Republic	90,6	86,2	83,7	82,1	83,6	81,4
Estonia	n/a	17,1	3,8	11,1	100,0	100,0
Hungary	68,4	59,9	53,6	52,9	48,2	56,5
Latvia	40,2	41,4	25,3	18	16,3	14,4
Lithuania	n/a	17,6	8,5	12,1	13,5	16,9
Malta	99,9	99,9	100,0	100,0	100,0	100,0
Poland	75,8*)	73,7*)	73,3*)	73,0	69,1	69,6
Romania	34,4	40,1	39,5	39,6	40,7	44,0
Slovakia	72,1	75,6	99,7	99,7	99,7	94,3
Slovenia	n/a	99,4	99,8	99,8	99,8	90,9

*) data on the Treasury debt

n/a – data not available

Source: developed by the author based on the Eurostat data: *Debt by currency of issue (gov_dd_dcur)* – access date: 30. Sept. 2013.

Countries with “weaker” currencies and less favourable economic situation, such as Bulgaria or Romania, rarely used debt instruments denominated in national currencies, because their poor ratings made them unattractive for investors. Having to choose foreign currencies, they opted for the strongest of them: the euro and the US dollar. In Bulgaria and Romania, the euro-denominated debt accounted for around 50% and the USD-denominated debt accounted up to 20% of total public debt. It is noticeable, however, that along with the countries’ improving ratings (despite continuing financial crisis), they take efforts to change the currency structure of their debt by making a wider use of instruments denominated in national currencies.

4. The lender structure of public debt

The lender structure of public debt is meant as the various groups of investors that purchase Treasury debt securities (TDS) or grant loans to public authorities. The TDS issuers can specify (in the information memorandum) the target groups of investors to whom particular instruments are addressed. Assessing financial institutions’ involvement in lending to the public sector in the period of financial crisis and economic deceleration seems particularly interesting, because the institutions themselves faced major problems which made them considerably reduce their investment activity and attempt to diminish invest-

ment risk related to the structure of their assets. One option they could exercise was to purchase TDS carrying, if not zero, at least the lowest risk among all financial assets that were then available in the market. It can therefore be assumed that the financial sector could “absorb” a large part of the public debt increase. This assumption is particularly relevant to countries with high ratings from the international rating agencies. Table 4 shows the proportion of financial institutions in the lender structure of public debt in the Member States.

Table 4. Financial institutions in the lender structure of public debt in the new Member States

		2007	2008	2009	2010	2011	2012
Bulgaria	%)	37,9	45,0	34,8	46,0	52,9	51,1
	EUR mn**)	1 992,2	2 186,9	1 778,3	2 693,8	3 322,5	3 756,1
Cyprus	%	n/a	n/a	n/a	n/a	n/a	n/a
	EUR mn	n/a	n/a	n/a	n/a	n/a	n/a
Czech Republic	%	73,8	70,5	70,0	63,2	61,8	63,2
	EUR mn	28 289,5	28 977,9	34 011,5	36 244,4	37 614,4	44 183,9
Estonia	%	58,2	57,3	48,1	58,7	56,3	34,2
	EUR mn	310,2	6 646,0	476,9	561,7	561,1	590,2
Hungary	%	44,1	41,6	39,5	38,7	30,6	31,5
	EUR mn	29 063,8	30 137,9	29 853,0	30 344,1	22 068,6	24 135,7
Latvia	%	26,5	45,9	21,0	16,7	14,9	14,7
	EUR mn	507,2	2 063,0	1 421,1	1 340,4	1 269,8	1 326,6
Lithuania	%	32,3	34,4	24,6	23,4	23,1	20,8
	EUR mn	1 564,3	1 730,9	1 921,6	2 451,3	2 745,3	2 773,6

Malta	%	68,3	63,6	66,3	66,9	65,2	60,8
	EUR mn	2 307,6	2 304,8	2 619,8	2 844,2	3 004,6	2 961,1
Poland	%	57,7	60,4	57,5	52,2	47,1	44,0
	EUR mn	84 751,8	87 355,8	95 798,7	101948,8	90 739,7	95 688,5
Romania	%	60,9	63,8	68,7	65,0	65,2	68,4
	EUR mn	8 842,6	10 888,9	19 029,9	24 332,9	29 137,4	34 184,2
Slovakia	%	60,1	59,3	63,4	61,8	58,8	51,4
	EUR mn	10 844,6	11 043,4	14 162,8	16 678,5	17 581,9	19 157,8
Slovenia	%	n/a	n/a	n/a	n/a	n/a	n/a
	EUR mn	n/a	n/a	n/a	n/a	n/a	n/a

*) – the share of financial institutions in the lender structure of the total public debt (in %)

**) – the value of the public debt incurred in the financial institutions (in millions of EUR)

n/a – data not available

Source: developed by the author based on the Eurostat data: *Structure of government debt (gov_dd_sgd)* – access date: 30. Sept. 2013.

The reason why two countries are omitted from the lender structure was the lack of data. As for the remaining 10 countries, in the years 2007–2010 (the “first wave” of crisis), only in four of them financial institutions increased their contribution to Member States’ public debt and in the other six their share decreased. In several cases changes were minor, so it cannot be concluded that, on principle, financial institutions were increasing their share in public debt. Moreover, it has been found that even if investors considerably increased their purchases of Treasury debt securities they promptly withdrew from their investments as illustrated by the Latvian case. Despite the high interest paid on the Latvian Treasury debt securities (up to 12% in the research period) the poor economic situation (followed by poor ratings) made them unattractive to investors.

In contrast, the Czech Treasury debt securities enjoyed a lively (and increasing) interest from financial institutions. The fast swelling public debt in this country (both in nominal terms and in proportion to GDP) was „absorbed” in the analysed period in a large part by the financial sector, probably attracted by the relatively high ratings. Romanian Treasury securities were also attractive for financial sector. Relatively poor ratings were discounted by high interest rates in this case. The financial institutions’ interest in the Polish TDS was relatively strong and fairly stable, because of the country’s good rating („A” by Fitch) and the relatively high interest on its debt instruments (around 5% p.a. on average).

Basing on the data it is very hard to assess the involvement of financial institutions in the process of lending to the public sector. The conclusions of this part of the study remain ambiguous.

Conclusion

In the wake of the expanding borrowing needs of governments the shares of short-term instruments in the structure of public debt increased too. With the recession of the first wave of the financial crisis, the public debt management institutions started to limit their issues of short-term instruments as much as they could, which was a rational thing to do. Therefore, the first research hypothesis has been confirmed.

Public debt management institutions frequently borrowed in national currencies. In the EMU countries (as well as in the counties that were preparing to enter Eurozone in the near future), almost 100% of total public debt was denominated in euro. In the non-euro countries with relatively strong economies, national currencies accounted for most of the public debt. Countries with less advanced economies had to borrow in foreign currencies, their preferred currencies being the euro and the US dollar. The second hypothesis can be considered proven, however bearing in mind that the debt issued by the less developed economies was frequently denominated in strong foreign currencies (especially euro).

The share of financial institutions in the lender structure of public debt is not so straightforward to assess. In some countries the share either did not increase or, after it did, investors started withdrawing their funds once economies reached a relative balance and information about the market situation became available. However, financial institutions invested in the TDS issued by countries where public debt was swelling fast. In this case the probable reason was rather high interest rates on these instruments, and – in some cases – relatively high ratings of these countries (despite their expanding debt). These findings do not provide strong evidence for accepting the third hypothesis as true.

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