

# THE RESPONSE OF POLICYMAKERS TO NATIONAL AND EUROPEAN FISCAL RULES – THE CASE OF POLAND

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*The paper examines the impact of national and European fiscal rules on fiscal policy in Poland in 2004-2012 using a modified form of a fiscal reaction function (FRF). In order to distinguish the impact of these two sets of rules, we propose two innovations relative to existing literature. Firstly, our explanatory variables representing each of the rules are a numerical approximation of the incentives stemming from these rules. Secondly, using a database of legislative measures, we construct a bottom-up indicator of fiscal effort, which we use as the dependent variable, instead of the cyclically-adjusted primary balance. We find that national fiscal rules had a statistically significant disciplining effect on fiscal policies, whereas the European rules did not. We also confirm the pro-cyclical bias of fiscal policy in Poland, which is consistent with the pro-cyclical nature of public debt ceilings.*

## 1 Introduction

The global economic crisis has led to severe weakening of fiscal positions or revealed pre-existing weaknesses in this area in the majority of European economies. They now face the challenge of consolidating their public finances and ensuring that sound fiscal policies are maintained in the medium term to facilitate reduction of public debt ratios from record levels.

In the past, the objective of ensuring sustainable fiscal policies was supposed to have been supported by the European fiscal rules framework. In reality, the targets of maintaining budget balances in EU countries close to balance or in surplus and keeping debt ratios below 60 per cent of GDP or ensuring their steady decline towards this level, had not been met in a number of countries. This is partly attributable to technical deficiencies of the rules and their statistical base, as well as large macroeconomic imbalances in some countries. However, another key reason was the weak enforcement of European fiscal rules.

These failings have since been addressed in two ways – firstly by strengthening of the Stability and Growth Pact through regulations contained in the so-called Six-pack and Two-pack. Secondly, it has been argued, that in order to increase ownership of fiscal rules, they should be enforced at the national, rather than the European level. Some countries, notably Germany, have begun to reinforce their national fiscal frameworks already before the onset of the economic crisis. But the milestone step towards widespread adoption of national fiscal rules in EU countries was the signing of the so-called Fiscal Compact by 25 out of the 27 EU countries in March 2012. The signatories of the compact made a commitment to transpose European fiscal rules to their national legislation, preferably at the constitutional level.

While there are several empirical studies on national fiscal rules and their impact on policy outcomes in EU countries (e.g., Debrun et al., 2008), the issue of interaction of national and European fiscal rules which are in force at the same time has not been investigated to our knowledge. This paper looks at the response of policymakers to EU and national rules in Poland. In order to distinguish between the impacts of the two rules, we look in detail at incentives arising

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from each of the rules. In addition, in order to best capture the policymakers' response, we use a "bottom-up" measure of fiscal effort.

The paper starts with a brief overview of the literature on the effectiveness of fiscal rules at national and EU level. In the next section we provide a description of the Polish public debt ceiling framework, which is in place since 1999 and which is anchored by the constitutional debt limit of 60 per cent of GDP. We then go on to describe our empirical strategy and the construction of the dataset used in our study. Next, we present a summary of fiscal developments in the analysed period in the context of the two sets of fiscal rules, before turning to a quantitative analysis. We close with conclusions.

## 2 National and European fiscal rules – a brief overview

The introduction of fiscal rules is associated with what is described as a "deficit bias" in fiscal policy, for which several explanations have been put forward in the literature. A number of them are linked to the common pool problem where different groups of interest decide on parts of public spending, often resulting in suboptimal overall spending levels. Other research points to the problem of time inconsistency of preferences, which may emerge both on the side of the voters and the government. The voters may be myopic and not understand the government's intertemporal budget constraint, resulting in demanding more government services than their taxes can finance. In addition, research has found evidence of strategic behaviour of outgoing governments, which create high deficits in order to "tie the hands" of their successors. On the other hand, the relationship between voters and elected officials may suffer from the principal-agent problem, in case politicians have other priorities than voters, such as seeking rents (von Hagen, 2002).

The problem of deficit bias may be addressed through the institutional setup of fiscal policy. This includes notably the introduction of fiscal rules, as well as improvements in transparency of government accounts and designing budget procedures in such a way that fiscal costs of policy measures are fully internalised (Ayuso-i-Casals *et al.*, 2007).

There is a considerable body of literature examining the relationship between fiscal rules and budgetary outcomes and usually finding that a favourable relationship exists. This includes notably studies in the U.S. context, (for example, Bohn and Inman, 1996; Poterba, 1996) where most state governments are bound by balanced budget rules since the 19th century. The widespread emergence of national fiscal rules is a more recent development, but these have also been the subject of empirical studies, particularly since the publication of the European Commission's database on budget rules in EU countries. One of the first applications was European Commission (2006), showing that the cyclically-adjusted primary balance on average improved in the years following the introduction of numerical fiscal rules. The data on fiscal rules were also tested econometrically on a panel of 25 EU countries, using a fiscal reaction function including a time-varying fiscal rule index variable. The latter was found to have positively affected the primary cyclically-adjusted budget balance, with its coefficient significant at the 10 per cent level.

While studies mentioned above have shown that introduction of fiscal rules is usually accompanied by better fiscal performance, they have not proven a causal relationship running from rules to outcomes. The question of existence of such a relationship has been briefly addressed by Poterba (1996), who suggested that both fiscal institutions and fiscal discipline may be driven by an omitted variable, namely voter preferences for fiscal restraint. Debrun and Kumar (2007a) looked at the issue of causality more in depth, arguing that countries in a better underlying fiscal position, or those, where the commitment to improve it is already present, are more likely to introduce or maintain fiscal rules, than those who would have a difficult time meeting the rules. They tested the hypothesis of reverse causality between fiscal rules and fiscal outcomes empirically on a sample of

EU countries, using the Commission's database on budgetary rules and found evidence of endogeneity bias in tests of rules as determinants of outcomes. In a related paper, the same authors (2007b) confirmed, that the belief in the role of fiscal rules as commitment devices is not entirely substantiated. Instead, they found that the rules may play the role of "signalling" devices, adopted by responsible governments to reveal the nature of their (unobservable) preferences and derive political gains from compliance with the rules.

The issue of deficit bias is of special significance in a monetary union, where negative consequences of fiscal indiscipline are partly exported to other members of the union, resulting in free-rider opportunities. In order to prevent this from happening, EU countries adopted a supranational fiscal rule in the form of the Stability and Growth Pact (SGP).

Recent years have shown, that the SGP has not succeeded in ensuring fiscal discipline. The reasons for this are well known (see, for example, Larch *et al.*, 2010). They include technical problems, associated with weaknesses in statistical surveillance and pro-cyclical nature of the corrective arm of the SGP. Another problem was the build-up of large macroeconomic imbalances in the period preceding the crisis, the reversal of which resulted in fiscal problems even in countries which previously complied with the Pact and were perceived to have conducted sound policies. The former group of problems and, to a certain extent the latter one, have since been addressed through changes in the SGP and other EU regulations introduced in 2011 with the so-called Six-pack.

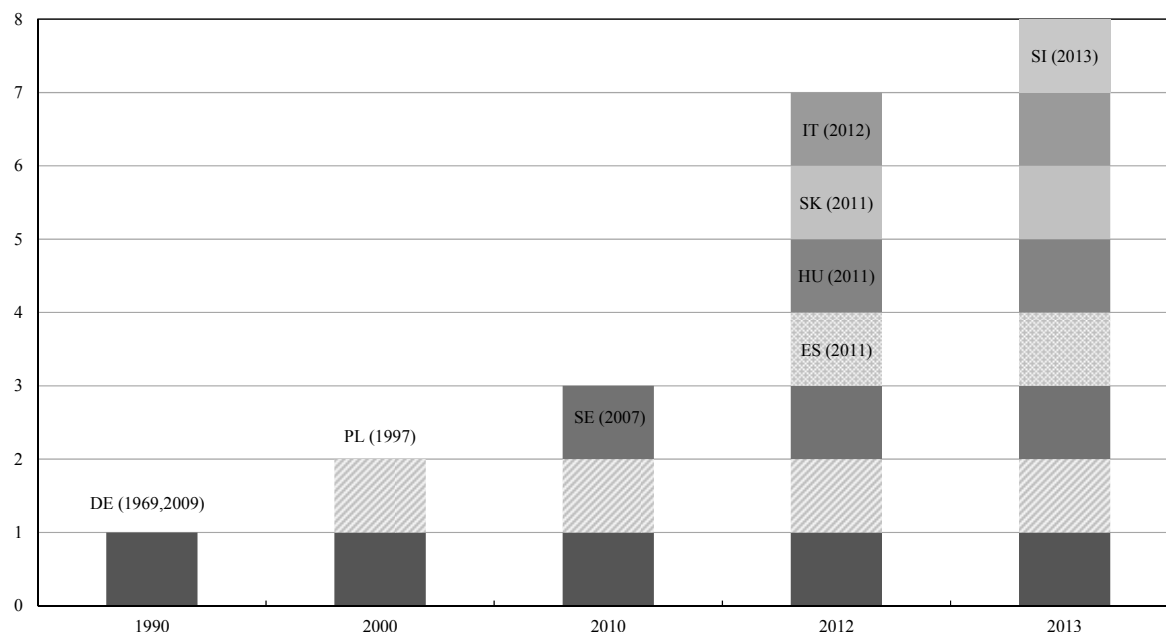
However, another important flaw of the SGP was the weak enforcement of its rules. This was a consequence of the contradiction between the supranational nature of the rules and the full fiscal sovereignty of Member States, whose ownership of the Pact was lacking. Buti *et al.* observed already in 2003, that the plausibility of imposing sanctions on sovereign countries is doubtful, yet noted that the existing level of political integration between EMU precludes a substantial improvement of the SGP in this regard. The problems of enforcement and ownership became acutely clear following the November 2003 Council decision to put the excessive deficit procedures against France and Germany in abeyance, against Commission recommendations. This sparked a debate among economists and policymakers, with many of the former (see, e.g., Annett *et al.*, 2005; Wyplosz, 2005) proposing measures to enhance domestic accountability, inter alia by establishing national budgetary institutions providing an independent assessment of fiscal policies. The Commission's broad proposals for SGP reform, outlined in Commission (2004) referred to independent national fiscal institutions and closer involvement of national parliaments in the application of EU fiscal rules. However, in the end, the SGP reform adopted in 2005 did not include any specific changes in this area.

Efforts to address the problem of enforcement and ownership of the SGP were only undertaken after the outbreak of the euro area debt crisis. The first step was the European Semester which aims at involving national authorities to a greater degree in the process of EU fiscal surveillance. Another change introduced after the crisis was the Six-pack clause calling on Member States to introduce national fiscal rules promoting the fulfilment of the SGP, but without any specific requirements as to the design of these rules, and encouraging them to introduce independent fiscal institutions, but with no binding obligation in this regard. These changes were criticised by Schuknecht *et al.* (2011) as too timid and not necessarily sufficient to ensure sound policies.

A more decisive shift of responsibility for fiscal discipline in the EU to the national level took place with the signing in 2012 by 25 out of the 27 EU countries of the Treaty on Stability, Coordination and Governance (TSCG). Its core (called the "fiscal compact") consists of

Figure 1

## Number of Fiscal Rules Anchored in the Constitution in EU Countries



Note: Only fiscal rules covering central or general government are shown in the graph.

Source: National Fiscal Rules Database (2012), European Commission; European Commission (2013); Fiscal Rules Dataset (2013), IMF.

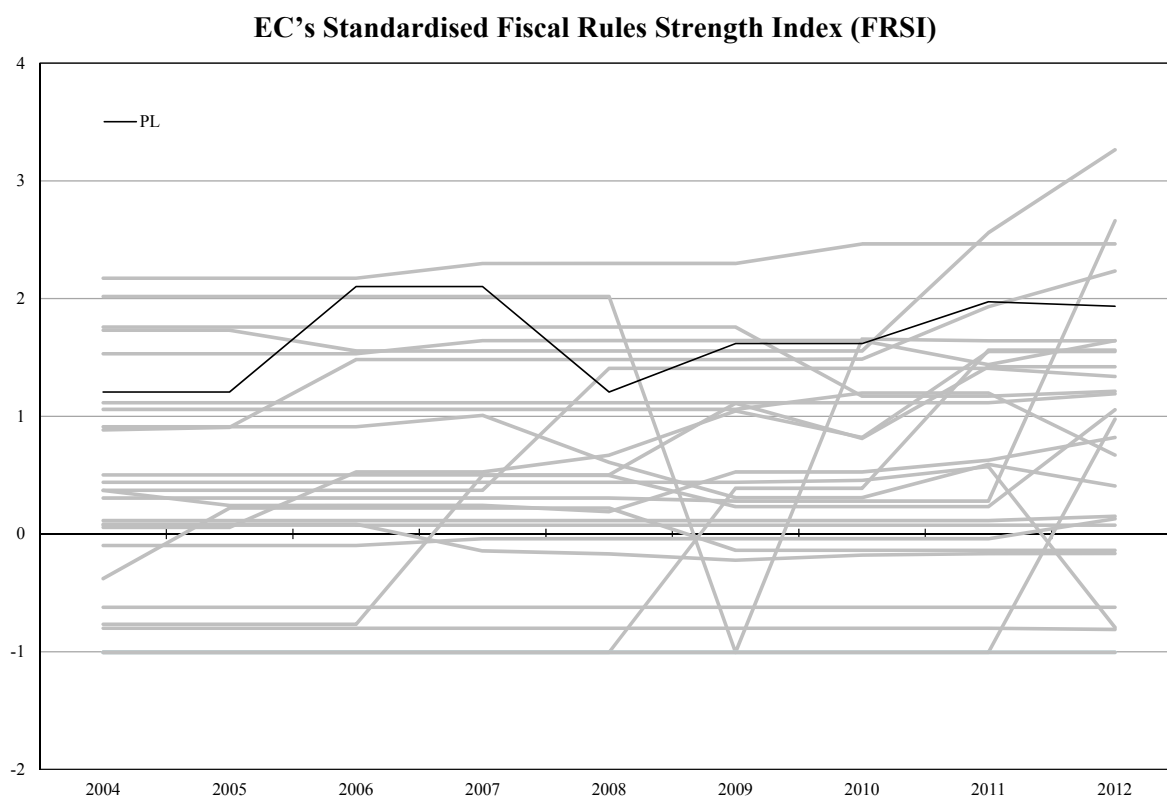
requirements, mandatory for euro area countries, concerning the transposition of European fiscal rules to national legislation, preferably of constitutional level, introduction of mechanisms ensuring automatic correction of past budgetary slippages and establishing of independent bodies monitoring the application of the rules.

The fiscal compact has been welcomed by some observers as a step towards strengthening the commitment to sound fiscal policies by anchoring it at the national level (e.g., ECB, 2012; Wyplosz, 2013). Indeed, empirical literature on national rules does give some support to this idea, as they are found to be associated with improved budgetary outcomes. However, the lack of firm evidence on causality may suggest that this is a result of selection bias, *i.e.*, national fiscal rules being introduced only by countries where there is a pre-existing commitment to sound fiscal policies.

### 3 Fiscal rules in force in Poland

The cornerstone of Poland's fiscal rule framework is a rule anchored in the Constitution of 1997, which stipulates that the public debt to GDP ratio shall not exceed 60 per cent. Such a strong statutory base has until recently been unique among EU countries (see Figure 1), whereas nowadays this kind of institutional design is promoted by the Fiscal Compact "debt brake" provisions. Enforcement of the rule is strong, as the law provides for an automatic correction mechanism. According to the European Commission (National Fiscal Rules Database, 2012) overall strength of rules embedded in the Polish fiscal framework is one of the highest among the Member Countries (see Figure 2).

Figure 2



Note: Single comprehensive score for each EU Member State.

Source: National Fiscal Rules Database (2012), European Commission.

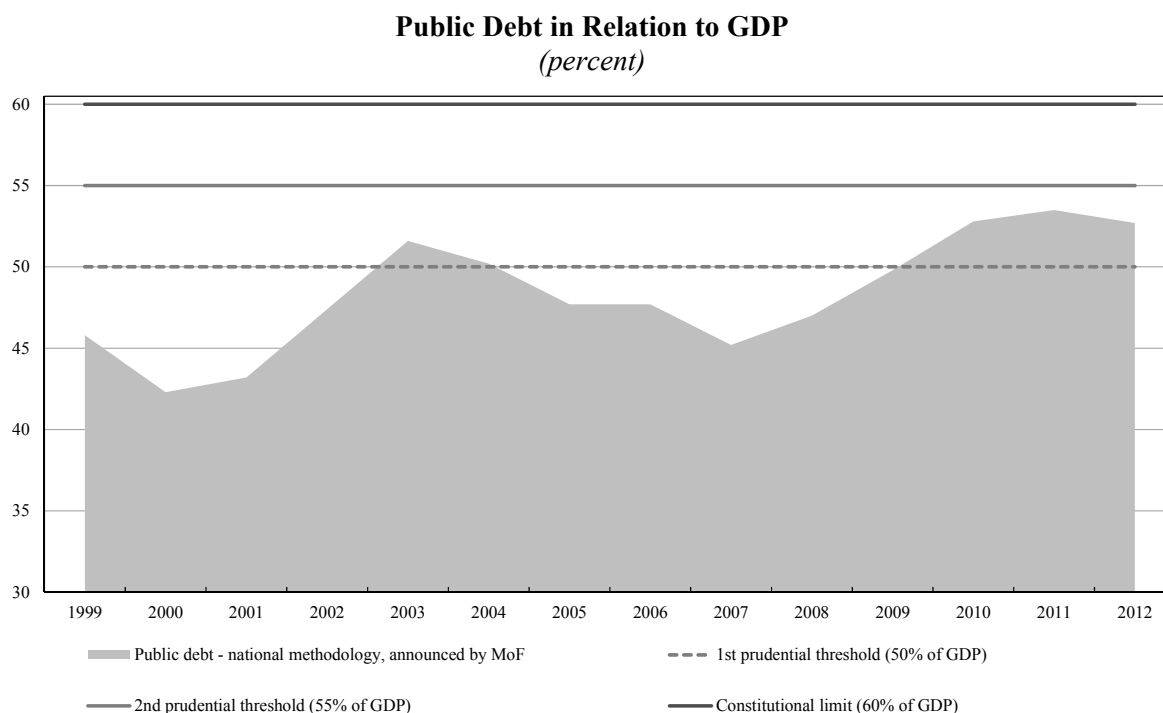
The Public Finance Act (PFA), in force since 1999, complements the Constitution, as it defines the scope of the general government, public debt, escape clauses for exceptional situations<sup>1</sup> and prudential procedures, *i.e.*, automatic correction measures (see Appendix 1) triggered by the public debt-to-GDP ratio breaching prudential thresholds – 50, 55 and 60 per cent (constitutional ceiling).<sup>2</sup> It should be noted, that these measures are generally taken with two-year lag.

Corrective measure in case of public debt exceeding the 1<sup>st</sup> prudential threshold (50 per cent of GDP) is rather mild, as reduction of the state budget deficit-to-revenue ratio from year to year usually does not require a large fiscal adjustment. However, the magnitude of required consolidation measures could be very large, once public debt exceeds 55 per cent of GDP. The rule stipulates that in such a case the central budget has to be at least balanced or its outturn must ensure the decrease of State Treasury debt to GDP ratio. In times of economic downturn it may imply a requirement to plan a surplus in the budget. Furthermore, other measures triggered by the debt exceeding 2<sup>nd</sup> prudential threshold, such as public sector wage freeze or lower pension indexation, are politically sensitive. This contributes to a good track record of the Polish debt rule. Since 1999, the breach of the 2<sup>nd</sup> prudential threshold (55 per cent of GDP) has been avoided (see Figure 3).

<sup>1</sup> Imposition of martial law, state of emergency or natural disaster (nationwide).

<sup>2</sup> The PFA also requires the Minister of Finance to submit, along with the draft budget act, annual public debt management strategy to the parliament. This document includes public debt forecast, which allows assessing the risk of public debt exceeding the following safety thresholds.

Figure 3



Note: Ratio as announced by Ministry of Finance (MoF) for a given year (in May following year), without subsequent revisions.  
Source: MoF.

The debt-to-GDP ceiling has a disadvantage of promoting pro-cyclical fiscal policy. Under severe economic conditions, an increase in the deficit accompanied by the denominator effect is likely to force pro-cyclical fiscal tightening. Meanwhile, in good times, the rule does not have a disciplining effect on policymakers.

Since 2004 Poland is also subject to the rules of the Stability and Growth Pact. The Pact consists of the preventive and corrective arms, which encompass several rules, regarding the size of the government deficit and debt, but also the cyclically-adjusted budget balance which is expected to be maintained at the level of the medium-term objective (MTO). However, the practical application of the Pact, at least prior to the economic crisis, has been such, that fiscal adjustment measures were only required in case the nominal general government deficit exceeded 3 per cent of GDP. Therefore, similarly to other papers (e.g., Golinelli and Momigliano, 2006), for the purposes of our study, we focus only on the 3 per cent reference value and disregard other disciplining elements of the SGP.

Moreover, it should be noted that the threat of sanctions did not apply (pre-2012) to a situation of breach of the 3 per cent reference value, but only to a situation, where a country did not comply with recommendations it received under the excessive deficit procedure (EDP), assuming that the EDP had been initiated beforehand. Therefore, in our view, an accurate reflection of incentives faced by policymakers is to take “European fiscal rules” to mean “recommendations under the excessive deficit procedure” and this is the approach we follow.

As a non-euro country, Poland did not face the threat of fines under the EDP. However, Poland was and is a recipient of substantial amounts of EU cohesion funds. In case of severe non-compliance with EDP recommendations, the EU Council may take a decision to suspend

commitment appropriations from the Cohesion Fund. Contrary to fines under the EDP, this form of penalizing fiscal irresponsibility has in fact been applied in the past, implying that it is a credible disciplining mechanism. Poland's compliance with EDP commitments and the associated threat of suspension of EU funds has widely featured in the domestic policy and media debate. For these reasons, we would have expected that European fiscal rules would be a binding constraint on Poland's fiscal policies in the analysed period.

#### 4 Empirical strategy

Our objective in this paper is to test how policymakers in Poland have responded to the two sets of fiscal rules described above. A tool typically used in the literature for this type of exercise is a fiscal reaction function, where a measure of fiscal stance, usually the cyclically-adjusted primary balance (CAPB), is regressed against indicators of the economic cycle and various political and institutional variables. However, the use of CAPB as an indicator of fiscal stance is problematic. This has been raised in the context of studies on the impact of fiscal policy on the economy by the IMF (2010). Cyclically-adjusted budget balance indicators are not entirely free of the impact of macroeconomic developments on fiscal performance. In particular, they are likely to be distorted by the impact of asset price movements on tax revenue. In addition, tax elasticities used in cyclical adjustment are not directly observable and, contrary to the assumption made, may fluctuate over time.

Moreover, the CAPB may be affected by temporary measures, such as one-off capital transfers. In principle, fiscal experts may be able to correct the CAPB for their impact to obtain a "structural" balance. However, this requires a lot of time and detailed information, especially given that many existing studies on the impact of fiscal rules are panels covering dozens of countries. As a result, such adjustments are often omitted.

In our view, using the CAPB to test if policymakers are responding to fiscal rules has additional drawbacks. There is a lag between the announcement, or legislation of fiscal measures – *i.e.*, the moment when policymakers take action – and the time when the impact of these measures becomes visible in the CAPB. This lag may vary depending on the specific measure in question.

Therefore, we propose to use a "bottom-up" or "narrative" approach, where instead of the CAPB we will measure fiscal stance using the impact of announced legislative measures. We use the combined fiscal impact of legislative measures announced in a given period as the dependent variable in our fiscal reaction function. In our view, the date of announcement, rather than the date of passing by Parliament or the date of entry into force, is the right one to use when focusing on policymakers' motivations.

While fiscal policy is generally set using annual budgets, our database of legislative measures shows that they are announced and passed throughout the year. In view of this and in an effort to best use the information available, we have decided to use quarterly data. Because one of our main objectives was to compare the impact of national and European fiscal rules, the study had to be limited to the period when both sets of rules were in force, *i.e.*, after Poland's EU accession. The sample period is therefore quite short - 2004:Q3-2012:Q4.

It is clear that legislative measures passed by Parliament are not the only source of changes in fiscal policy, as it is also driven by discretionary policies of central and local governments. We capture the discretionary central government expenditure component (non-discretionary spending is already captured by other legislation) by including budget laws as separate pieces of legislation. For each budget law, we calculate the fiscal effort by deducting the planned growth rate of discretionary spending from nominal potential GDP growth. We disregard local governments in our study, as in the Polish institutional setup, the responsibility for compliance with domestic and

EU fiscal rules, as well as for using fiscal policy for cyclical stabilisation generally falls on the central government. Local governments have the freedom to independently set fiscal policies within the constraints of local government debt rules, most notably the ceiling of their debt-to-revenue ratio of 60 per cent - more stringent than the debt-to-GDP ratios faced by the central government.

Aside from a “bottom-up” measure of the fiscal stance, the other innovation we propose is in how the impact of fiscal rules is captured in our regression. In existing studies, fiscal rules were usually included in the form of dummies or indices proxying the strength of fiscal rules. This provides insights as regards the impact of fiscal rules compared to the situation when they are not in place and relative to other rules, which are assessed to be of different strength. However, we wanted to be able to assess the impact of two different fiscal rules which were in force in one country at the same time. In order to do this, we needed to look more directly at the incentives arising from both these the rules, *i.e.*, to what extent they “bite” at a given point in time. In case of European fiscal rules, we do this by using European Commission forecasts to determine the amount of additional fiscal adjustment required to comply with the EDP deadline. In case of the national debt rule framework, we use debt forecasts to determine the distance of the projected debt ratio from the critical debt ceiling of 55 per cent of GDP.

Summing up, we estimate the following fiscal reaction function:

$$FE_t = \alpha_0 + \alpha_1 PDR_t + \alpha_2 EDP_t + \alpha_3 GAP_t$$

where:

FE – our bottom-up measure of fiscal effort,

PDR – the public debt rule indicator,

EDP – additional fiscal effort required to comply with the EDP.

## 5 Compilation of the dataset

Our study uses the following variables:

- 1) **Fiscal effort.** As noted above, our independent variable is a bottom-up measure of fiscal effort, encompassing the fiscal impact of new legislation passed by Parliament (see Appendix 2). Our database of legislative measures includes those related to non-discretionary budget items, *i.e.*, revenue from taxes and social contributions and expenditure on social transfers. In order to capture the impact of central government decisions concerning discretionary spending items (public consumption and public investment) we have additionally included budget laws in the database as separate pieces of legislation. For each budget law, we have calculated its fiscal impact by deducting the growth rate of discretionary expenditure from the growth rate of nominal potential GDP and multiplying the difference by the ratio of discretionary expenditure to potential GDP.

The database of legislative measures and their fiscal impact has been compiled at Narodowy Bank Polski as part of an ongoing project of a working team of the ESCB Working Group on Public Finance. Wherever possible, the estimate of the fiscal impact has been drawn from official sources, while for the remaining cases, NBP estimates have been used.

For every legislative measure we have a date of announcement (this is usually the date of submission of the bill to Parliament) and the date of entry into force. The fiscal effort variable is based on the former date – we assume that policymakers react to incentives arising from fiscal rules (and other variables considered in our study) by announcing legislative drafts which are then processed in Parliament and enter into force with some delay. The date of entry of fiscal



measures into force is used for the purpose of interpolation of semi-annual into quarterly data (see below).

- 2) **Excessive deficit procedure indicator.** This variable represents incentives arising from EDP requirements and it is the average annual amount of consolidation required to bring down the deficit to 3 per cent of GDP. The required consolidation is calculated using real-time deficit projections of the European Commission. We calculate this variable as the difference between the deficit projected for the EDP deadline (or the final year of the Commission's projection) and the reference value, divided by the number of years left from the current quarter until the end of the year of the EDP deadline (see Appendix 3).

For example, in the spring of 2005, the Commission projected a deficit of 6.3 per cent of GDP for 2005 and 5.7 per cent of GDP for 2006, while the EDP deadline was 2007. This means that the total fiscal adjustment effort required is  $5.7 - 3$  per cent = 2.7 per cent of GDP. We divided this figure by 2.5 years left until the end of 2007. Thus we obtained that in Q2 of 2005, the average additional annual effort required under the EDP amounted to 1.1 per cent of GDP.

The Commission only publishes forecasts semi-annually (at least it has done so during the period covered by our study), while we need an updated forecast every quarter. Therefore, we have interpolated the deficit projections in the missing quarters, as the average of the projections published in the quarters before and after, adjusted for the impact of new fiscal measures announced in the meantime.

- 3) **Public debt rule indicator.** This variable represents incentives arising from the public debt rules. As noted in section 3, while the breaching of the first debt-to-GDP threshold (50 per cent) triggers only relatively minor corrective measures, the consequences of debt exceeding 55 per cent of GDP are punitive. We assume that policymakers want to avoid such a scenario and we expect that the closer the debt ratio is to the 55 per cent limit, the more likely they are to undertake consolidation measures. Therefore, we take the log of the difference between the 55 per cent limit and the debt ratio projected for the end of the current year<sup>3</sup> as the explanatory variable representing the national debt ceilings in our study.

The debt projections in question are, again, real time projections of the European Commission, but with an additional correction. The Commission projects ESA95 debt, while the debt ceilings apply to the debt ratio according to the domestic definition. The main difference between the two is in the delimitation of the public sector. Therefore, for every period we made a correction based on the difference between the two definitions at the end of the previous year and the projected change in this difference in the current year, consisting of the average change in the two preceding quarters, the current quarter and one forthcoming quarter<sup>4</sup> (see Appendix 4).

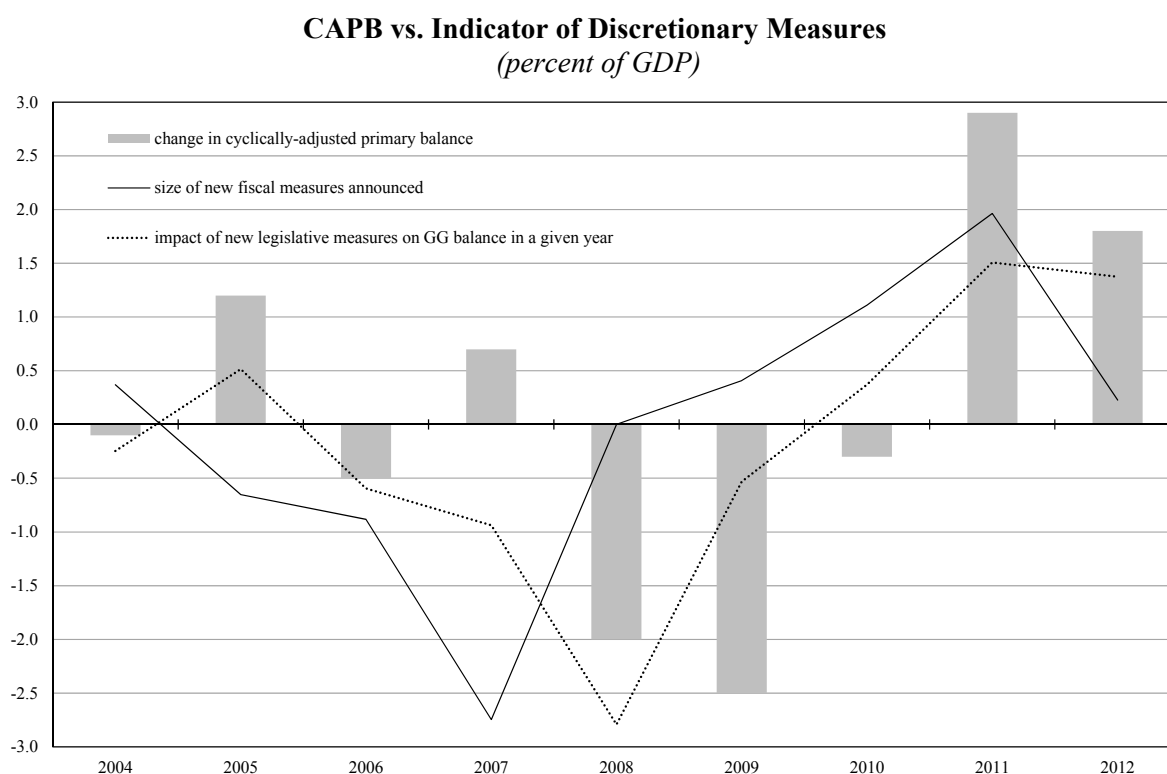
Again, we needed to interpolate Commission forecasts for the missing quarters. We followed a similar approach as for the deficit – average of the forecast from the quarters before and after, adjusted for the change in the deficit arising from new fiscal measures.

- 4) **Output gap and election cycle.** These variables may also be drivers of fiscal policy decisions, so we have included them in the fiscal reaction function. We used real time output gaps from the European Commission, again interpolating the missing quarters.

<sup>3</sup> We have also checked debt projections for the following year, but they did not perform well.

<sup>4</sup> We assume some foresight, because policymakers have partial control over the difference between debt levels according to the two definitions. Notably in 2009 the government shifted around 0.8 per cent of GDP of public investment spending from the central budget to the National Road Fund, which is not part of the government sector according to the domestic definition.

Figure 4



Source: own calculations using European Commission projections.

## 6 Overview of fiscal developments in 2004-2012

Figure 4 presents a summary of fiscal developments over the analysed period, showing the lag between the announcement and the impact of new fiscal measures, as well as the deviation of the CAPB from the said impact.

Prior to EU accession, fiscal deficits in Poland have usually exceeded 3 per cent of GDP, but as a result of a high economic growth rate, as well as substantial privatization receipts, this did not lead to an increase in the debt-to-GDP ratio. However, this changed when the economy entered a sharp slowdown in 2001, with public finances additionally burdened by higher than anticipated implementation costs of four major reforms (of pension scheme, health sector, local administration and education) introduced in 1999. The deficit increased and the debt ratio began rising towards 50 per cent, the first prudential threshold of the Public Finance Act, breaching it in 2003.

While the 2002 and 2003 budgets already included a number of smaller consolidation measures, they did not prevent further growth of the debt ratio. Faced with the risk of breaching of the 55 per cent debt-to-GDP threshold, the government began work on a comprehensive fiscal reform programme. In January 2004 the outline of the *Programme for Rationalization and Reduction of Public Expenditure* was approved by the government. The programme focused predominantly on the expenditure side and aimed at reduction in social transfers and public administration, but also included measures to broaden the tax base. However, the *Programme* was only partly implemented and in addition, it was offset by other measures, which had a negative effect on the budget balance. This was related to the breaking apart of the ruling coalition in

mid-2004 (it was replaced by a minority government) and the forthcoming elections in autumn 2005. Moreover, in 2004 the economy recorded very strong growth, especially in nominal terms, while in autumn 2005 a GDP revision took place, raising past GDP levels. As a result, the 2005 debt-to-GDP ratio amounted to 47.7 per cent and the threat of breaching debt thresholds (and with it the motivation for policymakers to implement consolidation measures) dissipated.

In the meantime, in May 2004 Poland entered the EU and in July was placed in an excessive deficit procedure (EDP), with a deadline to correct the fiscal imbalance in 2007. The deficit indeed was declining, but this was mainly due to favourable growth conditions, as no substantial consolidation measures were announced in the 2005-mid 2006 period. By late 2006 and 2007, strong growth prospects and perceived lack of fiscal risks prompted policymakers to implement a broad range of expansionary fiscal measures, although forecasts at the time indicated, that there are risks to compliance with the EDP deadline. The measures included inter alia a cut in social contributions by 7 percentage points of the salary, abolition of the top personal income tax bracket, new tax breaks and introduction of child tax allowance. The last of these measures was announced in the summer of 2007, when it was already apparent, that early elections would be called in the autumn. However, economic growth and tax revenues were so buoyant, that despite these expansionary measures, the general government deficit was brought below 3 per cent of GDP in 2007 and the EDP was abrogated in July 2008.

Once the global economic crisis started, the fiscal position rapidly deteriorated, reflecting cyclical factors, tax revenue shortfalls, the delayed impact of expansionary measures legislated during the preceding boom, as well as a substantial fiscal loosening at the local government level (local government deficit increased from 0.2 per cent of GDP in 2008 to 1.1 per cent of GDP in 2009). In 2009 Poland was yet again placed in an EDP with a deadline of 2012. Consolidation measures were not taken immediately – in 2010 the deficit continued to rise, reaching 7.8 per cent of GDP.

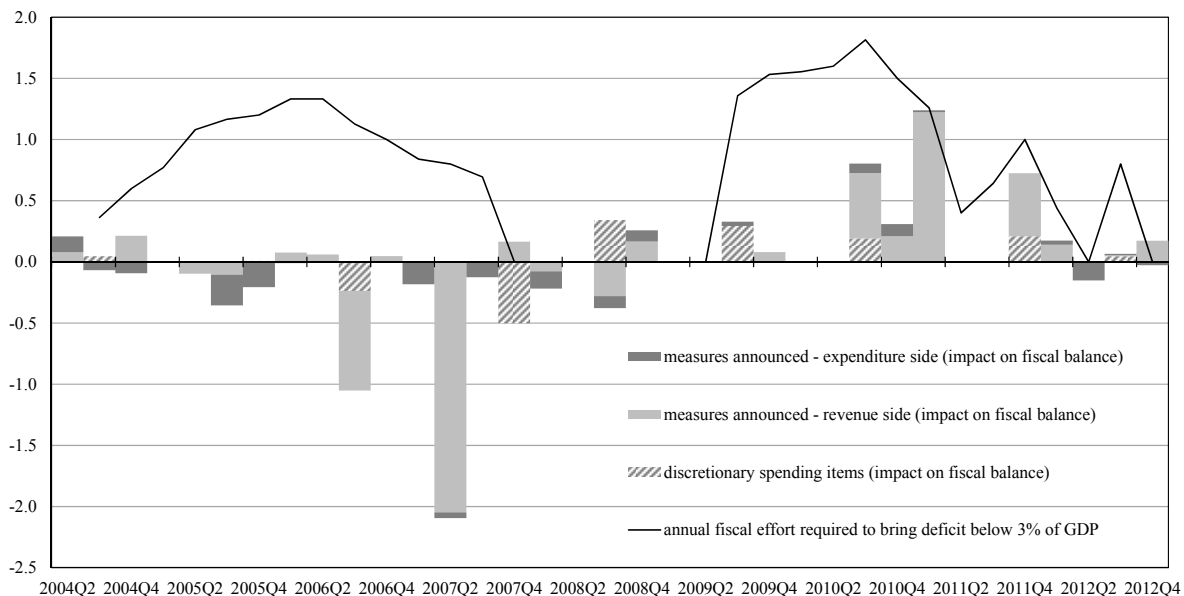
A major consolidation package was only announced in 2010-2011 and implemented in 2011-12, consisting, inter alia, of a VAT rate increase, changes to the pension scheme, a rise in social contributions and a wage freeze in the public sector. In early 2012 it appeared that these consolidation measures may be sufficient both to bring the deficit below 3 per cent of GDP and reverse the rise in the debt ratio. Therefore, no major additional consolidation measures have been announced since 2011. However, tax revenue slowed down considerably in mid-2012, as a result of which the EDP deadline was missed (the deficit reached 3.9 per cent of GDP).

In the basic specification, the fiscal effort is determined only by incentives arising from the two fiscal rules, which are the subject of the study. Contrary to the typical form of fiscal reaction functions, we do not include past deficit and debt levels in the regression, as they are highly correlated with our fiscal rule variables. Both fiscal rule variables have the expected sign – fiscal effort increases as the distance of the debt ratio to the 55 per cent of GDP threshold becomes closer and as the adjustment effort required to meet EDP targets increases. Only the debt variable is significant. As the table shows, the EDP variable is insignificant in all specifications we have looked at, while the debt rule variable performs consistently better and is at least weakly significant in most cases.

The next step is the inclusion of an output gap variable – specifically, the real-time output gap projection for the following year. The output gap enters with a negative sign, which is consistent across the different specifications of the model, pointing to pro-cyclical behaviour of policymakers. However, in some of the specifications, the output gap is not statistically significant.

Figure 5

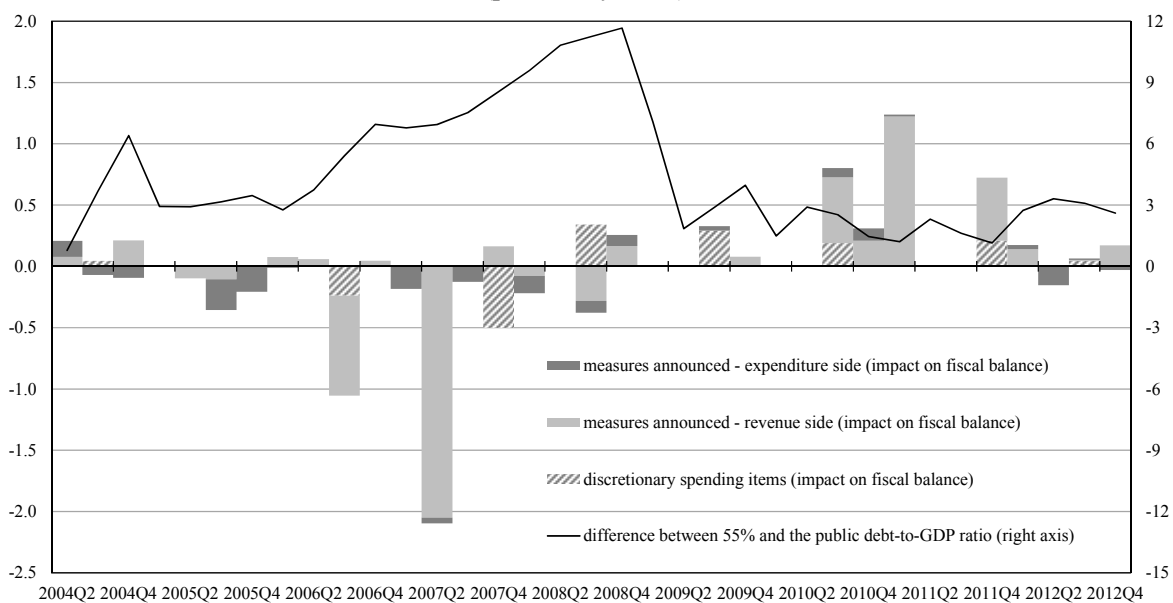
**Magnitude of Fiscal Measures Taken and Annual Fiscal Effort  
Required to Comply with the EDP Deadline**  
(percent of GDP)



Source: Own calculations using European Commission projections.

Figure 6

**Magnitude of Fiscal Measures Taken and the Distance of the Projected Debt Ratio  
from the 55 per cent of GDP Threshold**  
(percent of GDP)



Source: Own calculations using European Commission projections.

## 7 Empirical results

The table below presents an overview of the results of our quantitative analysis (estimation with OLS; dependent variable: fiscal effort indicator)

	Baseline				Sensitivity Checks					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Distance from 55% debt threshold	-0.14*	-0.15**	-0.13*	-0.15**	-0.12*				-0.31*	-0.13
	(-1.99)	(-2.2)	(-1.89)	(-2.18)	(-1.93)				(-1.88)	(-1.59)
Annual effort required under EDP	0.17	0.12	0.13	0.10		-0.01	0.15		-0.02	0.14
	(1.57)	(1.05)	(1.21)	(0.92)		(-0.12)	(0.96)		(-0.1)	(1.1)
Output gap (t+1)		-0.09	-0.08	-0.09	-0.11**	-0.08	-0.11*	-0.11*	-0.06	
		(-1.66)	(-1.4)	(-1.64)	(-2.07)	(-1.37)	(-1.78)	(-1.77)	(-0.87)	
Pre-election dummy			-0.26							
			(-0.92)							
Post-election dummy				0.31						
				(1.09)						
Debt level							0.00	0.00		
							(-1.36)	(-0.98)		
c									0.36	
									(1.04)	
Ex post output gap										-2.71
										(-0.44)
no. of observations	34	34	34	34	34	34	34	34	34	34
R-squared	0.12	0.19	0.19	0.20	0.16	0.06	0.11	0.09	0.22	0.12
Adjusted R-squared	0.09	0.14	0.11	0.12	0.13	0.03	0.06	0.06	0.14	0.06

Another potential determinant of fiscal policy decisions is the electoral budget cycle. We have tested it in two specifications –with a dummy for the quarter before parliamentary elections and with a dummy for the quarter immediately after. The results are not significant, which is hardly surprising given just three electoral periods in the sample. The coefficients are in line with expectations – before elections policymakers introduced measures to loosen fiscal policy, while immediately after they proposed measures to reduce the deficit. Interestingly, the latter coefficient is both higher in absolute terms and more significant, indicating that policymakers were more likely to tighten fiscal policy after elections than to loosen it beforehand.

We have then checked other specifications as robustness checks. We have looked at each of the rules separately, with the debt rule variable once again proving to be more significant. We also wanted to check whether the significant impact of the debt rule variable does not simply capture the

response of policymakers to increasing debt ratios typically seen in fiscal reactions functions regardless of the presence of public debt ceilings. In order to do this, we replaced the debt rule variable with a simple debt-to-GDP ratio in the preceding quarter (7 and 8). Quite surprisingly, it was not only insignificant, but also had the wrong sign. Finally, we tried using an *ex post* output gap instead of the real time one, but it was not significant.

## 8 Conclusions

This paper has examined the impact of national and European fiscal rules on fiscal policy in Poland in 2004-2012. The paper proposes two innovations relative to existing literature on the impact of fiscal rules on fiscal outcomes. Firstly, we employed a bottom-up approach to gauge fiscal effort, using a database of fiscal measures approved by the legislature, rather than primary cyclically-adjusted budget balances, which are likely to be distorted by factors other than actual policy decisions. Secondly, in order to distinguish between the effects of the two fiscal rules in question, we use explanatory variables which approximate the incentives arising from each of these rules. While the sample is short and results need to be interpreted with caution, the following conclusions may be drawn from our results:

- Policymakers in Poland have responded quite consistently to incentives stemming from the national debt ceiling framework by announcing new consolidation measures, as the risk of breaching the 55 per cent of GDP debt ceiling increased. This effect was statistically significant in most specifications;
- Meanwhile, the policymakers' response to European fiscal rules was generally not significant;
- Fiscal policy decisions have tended to be pro-cyclical, which is consistent with incentives arising from the debt ceiling framework, which tends to have a disciplining effect during economic slowdowns and not in "good times";
- The effect of parliamentary elections on policymakers' actions was not statistically significant, but it had the expected sign – in the quarters directly preceding elections there were announcements of expansionary measures, while immediately after elections the opposite was the case.

These results appear to confirm the notion that national fiscal rules which have a strong legislative base and are well-established in the national public debate, can have a stronger disciplining effect on policymakers than European fiscal rules which in the past faced the problem of insufficient ownership.

## APPENDIX 1

### THE POLISH DEBT RULE – AUTOMATIC PRUDENTIAL MEASURES (1999-2012)

Debt rule	<ul style="list-style-type: none"> <li>• Anchored in The Constitution of the Republic of Poland (1997)</li> <li>• Bans contracting loans and granting guarantees when the public debt is exceeding 60% of GDP</li> <li>• Regulated by the Public Finance Act (amendments: 2005, 2009, 2010, 2012)</li> <li>• Applied to prudential thresholds concerning public debt<sup>5</sup> (PD) to GDP ratio (50%, 55%, 60%):             <ul style="list-style-type: none"> <li>○ If PD in year <math>t &gt; 50\%</math> and <math>\leq 55\%</math> of GDP (1<sup>st</sup> prudential threshold), then the state budget deficit-to-central budget revenue ratio in the draft budget act adopted by the Council of Ministers for the year <math>t+2</math> cannot be higher than in the year <math>t+1</math>,</li> <li>○ If PD in year <math>t &gt; 55\%</math> and <math>\leq 60\%</math> of GDP (2<sup>nd</sup> prudential threshold), then:                 <ul style="list-style-type: none"> <li>▪ the state budget for the year <math>t+2</math> has to be at least balanced <b>or</b> the difference between central budget revenues and expenditures in draft budget act for the year <math>t+2</math> must safeguard the decrease in central government debt-to-GDP ratio at the end of the year <math>t+2</math> in comparison to the year <math>t</math>,</li> <li>▪ obligation to draft measures aimed at increasing state budget revenues,</li> <li>▪ amount of state budget subsidy to National Disabled Persons Rehabilitation Fund (PFRON) is reduced from 55% to 30% of fund's expenditure on refunds for disabled persons (year <math>t+2</math>),</li> <li>▪ expenditures<sup>6</sup> penciled in budget resolution of each local government unit adopted for the year <math>t+2</math> can be higher than revenues only by the amount connected with the realization of current tasks financed by the EU funds and non-returnable financial help from EFTA member countries,</li> <li>▪ for the year <math>t+2</math>: i) salaries of public sector employees are frozen at the level set for the year <math>t+1</math>, ii) indexation of pensions in the year <math>t+2</math> does not include 20% real wage growth in the year <math>t+1</math>, iii) granting new loans and credits from the state budget is forbidden, iv) increase in state budget expenditures of certain units (preparing their budget chapters autonomously)<sup>7</sup> must not be higher than expenditures growth in the government administration,</li> <li>▪ units of government administration can incur liabilities for investment only if EU funds for particular project have been appropriated at the highest allowable level (no lower than 50% of total costs), with the exception of:                     <ul style="list-style-type: none"> <li>○ construction or modernization of roads in order to improve traffic safety,</li> <li>○ investments related to disposal of flood damages,</li> <li>○ development of electronic toll collection system,</li> <li>○ expropriation in case of road construction</li> </ul> </li> <li>▪ the Council of Ministers reviews: i) state budget expenditures financed with foreign credits, ii) long-term projects,</li> <li>▪ the Council of Ministers presents a recovery programme.</li> </ul> </li> <li>○ If PD in year <math>t &gt; 60\%</math> of GDP (Constitutional limit) then actions listed for 2<sup>nd</sup> prudential apply and additionally:                 <ul style="list-style-type: none"> <li>▪ budgets of local government units for the year <math>t+2</math> must be at least balanced,</li> <li>▪ granting new guarantees by public finance sector entities is forbidden,</li> <li>▪ the Council of Ministers presents a recovery programme, including measures aimed at reducing PD to GDP ratio below 60%.</li> </ul> </li> </ul> </li> </ul> <p>Since 2012: measures triggered by the PD breaching the 1<sup>st</sup> or 2<sup>nd</sup> prudential threshold, would not be taken if the amount of public debt-to-GDP ratio converted into PLN using the average exchange rates in a given year and reduced by free funds of the MoF as of the end of the budgetary year (used to finance the borrowing needs in the subsequent budgetary year) does not exceed 50% or 55% of GDP, respectively.</p>
Prudential procedures	

Source: The Public Finance Act.

<sup>5</sup> Domestic methodology (differs from ESA95: includes matured payables, scope of units included in the public sector is defined in the Public Finance Act).

<sup>6</sup> Less cumulated budgetary surplus from previous years and liquid funds.

<sup>7</sup> Lower and upper house of Polish Parliament, Chancellery of the President of the Republic of Poland, Constitutional Tribunal, Supreme Audit Office, Supreme Court, Supreme Administrative Court, Voivodship Administrative Courts, Common courts, National Council of the Judiciary, Human Rights Defender, Spokesman of Child Rights, National Board of Radio and Television, General Inspector for the Personal Data Protection, The Institute of National Remembrance – Commission for the Prosecution of Crimes against the Polish Nation, National Electoral Office, National Labor Inspectorate.

**APPENDIX 2**  
**IMPACT OF MEASURES ON THE GENERAL GOVERNMENT BALANCE**

Announced	Legislative Measures*						Discretionary Spending Items**
	Revenue				Expenditure		
	Indirect Taxes	Income Taxes	Social Contributions	Other	Social Benefits	Other	
2004	-0.0	-0.0			0.2	0.1	0.0
2005	-0.1		-0.1		-0.5		0.0
2006	0.1	-0.8		0.0		-0.0	-0.2
2007	0.2	-0.3	-1.8		-0.4	0.1	-0.5
2008	-0.1		-0.1	-0.0	-0.2	0.0	0.3
2009	0.1	0.0			0.0		0.3
2010	0.7	0.1			0.2		0.2
2011	0.2		1.6			0.0	0.2
2012	0.2	0.0	0.0	0.1	-0.1		0.0

\* combined impact of measures on general government outturn in a given category in the first full year, in which they were effective.

\*\* difference between the nominal potential GDP growth and the increase in discretionary spending planned in the budget act for a given year.



### APPENDIX 3 EXCESSIVE DEFICIT PROCEDURE INDICATOR

$$EDP_{q,t} \left\{ \begin{array}{l} \frac{DEF_{EC\ autumn\ t-1}^{t+1} + MEAS_{1,t} + OAdj_{1,t} - 3\%}{T_{EDP}}; q = 1 \\ \frac{DEF_{EC\ spring\ t}^{t+1} - 3\%}{T_{EDP}}; q = 2 \\ \frac{F_{EC\ spring\ t}^{t+1} + MEAS_{3,t} + OAdj_{3,t} - 3\%}{T_{EDP}}; q = 3 \\ \frac{DEF_{EC\ autumn\ t}^{t+2} - 3\%}{T_{EDP}}; q = 4 \end{array} \right.$$

$EDP_{q,t}$  – annual fiscal effort required in quarter  $q$  of the year  $t$  to bring down the fiscal imbalance to 3 per cent of GDP within the EDP deadline.

$DEF$  – the European Commission’s general government deficit forecast; subscript indicates source of data (spring or autumn forecast published in the year  $t$ ), superscript – the year, for which deficit projection was taken.

$MEAS_{q,t}$  – combined impact of measures announced in quarter  $q$  of the year  $t$  on a general government balance in the first full year, in which they were effective.

$OAdj_{q,t}$  – interpolation of deficit projections in quarters, in which the European Commission did not issue its economic forecasts:

$$OAdj_{1,t} = \frac{(DEF_{EC\ spring\ t}^t - DEF_{EC\ autumn\ t-1}^t) - MEAS_{1,t} - MEAS_{2,t}}{2}$$

$$OAdj_{3,t} = \frac{(DEF_{EC\ autumn\ t}^t - DEF_{EC\ spring\ t}^t) - MEAS_{3,t} - MEAS_{4,t}}{2}$$

$T_{EDP}$  – the number of years left from the quarter  $q$  of the year  $t$  until the end of the year of the EDP deadline:

$$T_{EDP} = \frac{EDP_{4,deadline} - t_{q,t}}{4}$$

**APPENDIX 4**  
**PUBLIC DEBT RULE INDICATOR**

$$PDR_{q,t} \left\{ \begin{array}{l} 55\% - \frac{DEBT_{EC\ autumn\ t-1}^t + DEBT_{EC\ spring\ t}^t + MEAS_{2,t} - MEAS_{1,t}}{2} - Adj_{1,t}; q = 1 \\ 55\% - DEBT_{EC\ spring\ t}^t - Adj_{2,t}; q = 2 \\ 55\% - \frac{DEBT_{EC\ spring\ t}^t + DEBT_{EC\ autumn\ t}^t + MEAS_{4,t} - MEAS_{3,t}}{2} - Adj_{3,t}; q = 3 \\ 55\% - DEBT_{EC\ autumn\ t}^t - Adj_{4,t}; q = 4 \end{array} \right.$$

$PDR_{q,t}$  – difference between the public debt-to-GDP ratio and the 2<sup>nd</sup> prudential threshold set in the Public Finance Act (55% of GDP) in quarter  $q$  of the year  $t$ .

$DEBT$  – the European Commission’s general government debt forecast; subscript indicates source of data (spring or autumn forecast published in the year  $t$ ), superscript – the year, for which debt projection was taken.

$MEAS_{q,t}$  – combined impact of fiscal measures announced in quarter  $q$  of the year  $t$  on a general government balance in the first full year, in which they were effective.

$Adj_{q,t}$  – adjustment of the ESA general government debt to the domestic methodology (DM, applied in the Public Finance Act) – actual data:

$$Adj_{q,t} \left\{ \begin{array}{l} \Delta DEBT_{4,t-1}^{DM-ESA} + \frac{\Delta DEBT_{3,t-1}^{DM-ESA} + \Delta DEBT_{4,t-1}^{DM-ESA} + \Delta DEBT_{1,t}^{DM-ESA} + \Delta DEBT_{2,t}^{DM-ESA}}{4}; q = 1 \\ \Delta DEBT_{4,t-1}^{DM-ESA} + \frac{\Delta DEBT_{4,t-1}^{DM-ESA} + \Delta DEBT_{1,t}^{DM-ESA} + \Delta DEBT_{2,t}^{DM-ESA} + \Delta DEBT_{3,t}^{DM-ESA}}{4}; q = 2 \\ \Delta DEBT_{4,t-1}^{DM-ESA} + \frac{\Delta DEBT_{1,t}^{DM-ESA} + \Delta DEBT_{2,t}^{DM-ESA} + \Delta DEBT_{3,t}^{DM-ESA} + \Delta DEBT_{4,t}^{DM-ESA}}{4}; q = 3 \\ \Delta DEBT_{4,t-1}^{DM-ESA} + \frac{\Delta DEBT_{2,t}^{DM-ESA} + \Delta DEBT_{3,t}^{DM-ESA} + \Delta DEBT_{4,t}^{DM-ESA} + \Delta DEBT_{1,t+1}^{DM-ESA}}{4}; q = 4 \end{array} \right.$$

## REFERENCES

- Annett A., J. Decressin and M. Deppler (2005), *Reforming the Stability and Growth Pact*, IMF, Policy Discussion Paper, No. PDP/05/2.
- Ayuso-i-Casals, J., X. Debrun, M.S. Kumar, L. Moulin and A. Turrini (2007), *Beyond the SGP – Features and Effects of EU National-level Numerical Fiscal Rules*, paper presented at the October 2007 Economic Policy Panel in Lisbon.
- Bohn, H. and P. Inman (1996), *Balanced Budget Rules and Public Deficit: Evidence from the US States*, NBER, Working Paper, No. 5533.
- Debrun, X. and M.S. Kumar (2007a), “The Discipline-enhancing Rule of Fiscal Institutions: Theory and Empirical Evidence”, in *The Role of Fiscal Rules and Institutions in Shaping Budgetary Outcomes*, proceedings of the ECFIN Workshop held in Brussels on 24 November 2006, European Commission.
- (2007b), “Fiscal Rules, Fiscal Councils and All That: Commitment Devices, Signaling Tools or Smokescreens?”, in *Fiscal Policy: Current Issues and Challenges*, proceedings of the Banca d’Italia Public Finance workshop.
- Debrun, X., L. Moulin, A. Turrini, J. Ayuso-i-Casals and M.S. Kumar (2008), “Tied to the Mast? National Fiscal Rules in the European Union”, *Economic Policy*, No. 23, pp. 297-362.
- European Central Bank (2012), “A Fiscal Compact for a Stronger Economic and Monetary Union”, in *ECB Monthly Bulletin*, May.
- European Commission (2004), *Communication from the Commission to the Council and the European Parliament. Strengthening Economic Governance and Clarifying the Implementation of the Stability and Growth Pact*, COM(2004).
- (2006), “Public Finances in EMU – 2006”, *European Economy*, No. 3/2006.
- (2013), “Fiscal Frameworks in the European Union: Commission Services Country Factsheets for the Autumn 2013 Peer Review”, *European Economy*, Occasional Paper, No. 168, December.
- Golinelli, R. and S. Momigliano (2006), “Real-time Determinants of Fiscal Policies in the Euro Area: Fiscal Rules, Cyclical Conditions and Elections”, Banca d’Italia, Temi di Discussione, No. 609.
- IMF (2010), “Will It Hurt? Macroeconomic Effects of Fiscal Consolidation”, in *World Economic Outlook*, October.
- Larch, M., P. van den Noord and L. Jonung (2010), “The Stability and Growth Pact: Lessons from the Great Recession”, *European Economy*, Economic Papers, No. 429, Brussels, December.
- Poterba, J.M. (1996), “Budget Institutions and Fiscal Policy in the U.S. States”, NBER, Working Paper, No. 5449.
- Schuknecht, L., P. Moutot, P. Rother and J. Stark (2011), “The Stability and Growth Pact. Crisis and Reform”, ECB, Occasional Paper, No. 129, September.
- von Hagen, J. (2002), “Fiscal Rules, Fiscal Institutions and Fiscal Performance”, *The Economic and Social Review*, Vol. 33, No. 3, pp. 263-84, Winter.
- Wyplosz, C. (2005), “Fiscal Policy: Institutions Versus Rules”, *National Institute Economic Review*, No. 191, pp. 64-78.

Wyplosz, C. (2013), “Europe’s Quest for Fiscal Discipline”, *European Economy*, Economic Paper, No. 498.