FISCAL SHOCKS AND THE REACTION OF AUTOMATIC STABILIZERS

EMILIA CÂMPEANU[*]
Bucharest Academy of Economic Studies, emilia.campeanu@fin.ase.ro
ELENA PĂDUREAN
Centre of Financial and Monetary Research „Victor Slavescu", padureanelena@yahoo.com

Abstract:
Investigation of the fiscal policy effects generates comprehensive dispute given the scientific importance of understanding the mechanisms by which governments interventions operate and interact throughout the economy. In addition, should not be overlooked that the effects of fiscal policies are considered in the literature that results shocks. In this case, temporary shocks caused by business cycles should be corrected by automating stabilizers. This requires proper functioning of the automate stabilizers. It is therefore useful the scientific approach proposed in this paper to analyze the fiscal policy shocks and the mechanism through which the automatic stabilizers react to them.

Key words: *fiscal policy; shock; automatic stabilizer; business cycle.*

JEL classification: E62; H20; H62.

1. Introduction

Investigation of the fiscal policy effects generates comprehensive dispute given the scientific importance of understanding the mechanisms by which governments interventions operate and interact throughout the economy. In addition, should not be overlooked that the effects of fiscal policies are considered in the literature as shocks. But what it means shock when it is involved the fiscal policy? The literature indicates some answers without a consensus among the authors.

The most accepted view for the definition of shock involves an "unexpected or unpredictable exogenous event that has a positive or a negative incidence on the economy" (Câmpeanu, Pădurean, 2011, pp. 477). Once identified the governments can undertake the necessary active measures in order to absorb, correct or limit the shock effects on the economy. But the multiple instruments must be used properly in order to not disturb further the economic activities. By these actions governments prevent the shift of the current challenges from a reversible situation to an irreversible one. These depend on the threats perception, on the willingness and ability to take the adequate measures in order to ensure the fiscal sustainability without compromising the economic growth and the quality of public finance.

Also, countries have different shock exposures induced by the set of fiscal and macroeconomic policies applied in the past. Investigating the past policies behaviours offer important signs for the improvement of the current policies. Since the paper aim is to analyze the fiscal policy shocks and the mechanism through which the automatic stabilizers react to them then the scientific research does not involve the investigation of the past fiscal policy in order to indicate the shock exposure based on fiscal policy instruments. The paper is structured as follows. Section 2 is dedicated to the fiscal shock

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while the next section consists in investigation of the automatic stabilizers. Section 4 concludes.

2. Fiscal shocks – concept and investigation methods

The impact of fiscal policy on the economy is considered in the literature as shock that may have positive or negative effect on the entire economy or on some of the macroeconomic variables such as consumption, investments or even growth. Any unpredicted change in fiscal policy expresses a fiscal shock (Mountford, Uhlig, 2009, pp. 963). This is the simplest way to define shock. All it is important is the impact on the economy of these shocks.

The basic fiscal policy shocks can be on government revenue and/or expenditure. A government revenue (expenditure) shocks are caused by a government revenue (expenditure) increase for a defined period after the shock such as a year or fourth quarters (Mountford, Uhlig, 2009, pp. 965). The linear combination of government revenue and expenditure shocks conduct to the identification of budget balance shock.

Also, the main stream of literature indicates that fiscal shocks are generated by the business cycle shock (Mountford, Uhlig, 2009). This is an accepted view because in many papers are investigated the connection between fiscal shock and business cycles especially in the literature on economic growth.

The impact of fiscal shock depends on the shock perception as being temporary or permanent. In the last case, it is expected a tax increase for the next period that will affect consumption, investments, and even growth. Also, an important factor for inducing fiscal shock is on the politic field. The governmental measures must have the approval of the policy makers. Therefore, there are studies that reveal the prevalence of some measures based on different type of government (single party, coalition). When the government has representatives from several political parties then there will be problems in implementation of the appropriate budget and fiscal measures according to the macroeconomic environment of each country closely with the international situation. These studies are focused on political and institutional factors that determine and implement fiscal and budgetary policies (Alesina, Perotti, 1994; Persson, Tabellini, 1997, 1999; Feld, Schaltegger, 2009).

However, the impact of shocks is closely related to public confidence in government measures. Giavazzi, Jappelli and Pagano (2000) showed based on a group of advanced and developing countries (OECD members and others) that the confidence in the reliability of the measures can lead to nonlinear effects of fiscal and budgetary policies fact that will affect the sign and size effects.

Also, it must be taken into consideration the fact that fiscal policy consist of a combination of automatic stabilizers and discretionary fiscal policy (endogenous, exogenous)(Fatas and Mihov, 2008). The automatic stabilizers depend on the tax code and expenditure rules (Fatas and Mihov, 2008) and can explain the fluctuation of the governmental revenue and expenditure on short term. Also, the size of the automatic stabilizers can be indicated by the difference between the actual and cyclically adjusted variables (Fatas and Mihov, 2008, pp. 16).

But, it is important to identify those shocks that are induced by the fiscal policy and are under its direct control. In contrast, cyclical shocks are considered to be temporary and can be absorbed or attenuated by the operation of automatic stabilizers in the economy.

In identifying the impact of fiscal policy on the economy it should make a distinction between temporary and permanent effects (Frenkel, 1988). The temporary effects can be caused by the economic cycles. To not be affected the analysis results, the

literature recommends their removal using cyclically adjusted variables also called structural variables. These can be calculated using the methodology of the OECD or the European Commission.

Also important is the distinction between short and long term effects on the one hand, and between temporary and permanent effects on the other hand. This distinction is important because there are situations when some government decisions positively influence the economy in the short term but long term significant adverse effects.

Fiscal shock can be induced before or after the government undertaken measures. Therefore, these shocks can be investigated ex-ante and ex-post. Almost all the studies used in their investigation data based on a backward looking in order to reveal the shock considering the past fiscal policy. It can be used estimated data for the next period but with a low degree of confidence taken into consideration the continuous changes in the economy. But, in the same time it is a gap between the announcement and application of the governmental measures (Mertens and Ravn, 2010). Between these two moments can be an interval of at least one quarter. However, once applied, government measures will generate effects in the future that may be of the order of quarters or even years.

In time it was developed techniques for identifying the fiscal shocks (automatic and cyclical) by extending techniques applied to monetary policy. Thus, Galli and Perotti (2003) use the general government deficit as a linear expression of revenues and expenditures. Thus, the budget deficit is a result of fiscal policy applied in a given time horizon. This variable is considered by Galli and Perotti (2003) as the sum of two components, one cyclic and one structural. Cyclical or non-discretionary component reflects variations due at least in the short term causes that are outside the direct control of budget and fiscal authority, such as business cycle fluctuations due to changes in unemployment and the tax base. In the case of taxes, these variations can be interpreted as changes in tax revenues dynamics of income due to tax rate data and definitions of tax bases.

On the other hand, the structural component (or cyclically adjusted discretionary) budget deficit is the value expressing the need for public resources that would have been if output had reached its potential. Therefore, this indicator is intentionally used by policymakers to indicate the budget and fiscal position opposed to the value it has as a result of economic fluctuations and is beyond the control of decision makers.

Following the same line, Galli and Perotti (2003) recommended that debt interest payments are considered a non-discretionary element of this component because they are largely beyond the control of budget and fiscal authorities. However, Galli and Perotti (2003) consider that the structural budget deficit itself has two components (systematic and unsystematic or exogenous or endogenous). Policymakers can change structural spending or revenues in a systematic response to changes in actual or anticipated cyclical economic conditions. For example, if they want to pursue active countercyclical policy it could reduce tax rates or increasing government consumption whenever the economy is in recession, and vice versa in an expansion. Thus, in contrast to non-discretionary cyclical component of the budget deficit, possible cyclical behavior of the structural deficit is the result of a deliberate political decision and not a result of automatic stabilizers. Unlike this component, exogenous component captures random changes of budget and fiscal variables that do not correspond to systematic responses of the cyclical conditions but are a result of extraordinary political processes or exogenous non-economic (eg in case of war).

Afonso and Claeys (2007), investigating the relationship between cyclical components of fiscal, budgetary and macroeconomic variables, showed that the interventions of governments was based mainly on revenues without being accompanied

by appropriate actions to reduce spending. Budget deficit and public debt induced long-term negative effects on the economy. They stressed that governments prefer measures that produce short-term benefits with significant long-term costs (Kitao, 2010). In contrast is the study by Coenen, Mohr and Straub (2008) on fiscal consolidation measures that generate long term positive effects in terms of short-term negative effects.

Mountford and Uhlig (2009) indicate the problems with the identification of the components of fiscal shock. The distinguish between the automatic response of fiscal variables to other shock (business cycle, monetary policy shock) and the definition of fiscal policy shock constitute two major difficulties in the analysis of the fiscal shock. But, the shocks can be analyzed based on error decomposition using the regression equations expressing dependent variables and variable depending on the fiscal budget Blanchard and Perotti (2002).

In addition, Blanchard and Perotti (2002) demonstrated that shocks can be deterministic or stochastic effects which influence the economy. On the other hand, Perotti (2004) emphasize that the economic policy responses to be automatic, discretionary or random.

The delineation of the shock types can be done using descriptive and econometric analyzes. The descriptive approach involves the dummy variables to mark important changes in revenues and expenditures, along with tracking changes in the macroeconomic variables able to describe what happens in the economy as the effects of these government measures. The main advantage of descriptive analysis is that it allows the distinction between anticipated and unanticipated shocks on the time horizon considered. For example, government measures announced in the various political exposures may represent a good start for considering and identifying shock effects (Romer, Romer, 2007, 2008).

The structural fiscal shock can be identified using vector autoregression as was demonstrated by Blanchard and Perotti (2002).

While these boundaries are conceptually quite simple, in reality, the implementation of cyclical adjustment techniques is subject to bias because policy makers may opt for adjustment technique to apply.

3. Automatic stabilizers – concept and function

Analysis of automatic fiscal stabilizers, which comes from the golden age of Keynesian period, post-war, became a real interest after 90 years.

In the Euro area countries, the national legislation of the fiscal policy is often discretionary, leading to pro-cyclical effects inducing negative effects in economies of these countries.

Current design on policy adjustment, especially budgetary and fiscal policy is largely discretionary type. This creates not only an increased budget and fiscal instability, and also a high adjustment costs, even in terms of tax administration, during the execution of the general government.

Predominant discretionary fiscal policy is generated in some emerging countries (eg. Romania) by the reduced ability of macroeconomic forecast caused by the emerging nature of economic growth and by political reasons. In this context, it is considered appropriate to use the automatic fiscal stabilizers in the fiscal policy design, implementation and monitoring. The stabilizers have to react, without extra charge in order to produce unacceptable gap between designed and actually targets achieved during the year and which, thus ensuring, in a non-discretionary and completely predictable (both the legal authorities and economic players at) the expected adjustments for the real economy.

Public adjustment policy is involved indirectly in the economy. There are two categories of policy adjustment: explicit and default adjustment policy. The first

category is discretionary type, the second is a non-discretionary. Between discretionary and non-discretionary fiscal policy occur similarities caused by characteristics of fiscal policy as a species of the adjustment policy, and inter-generated caused by practical aspects of operationalization of fiscal policy.

Automatic fiscal stabilizers (AFS) are an institutional device that ensures the non-discretionary fiscal instruments operationalized through it. The purpose is meant to reduce the macroeconomic volatility of output.

A AFS is characterized both by insufficient predicates such as institutional, structural, macroeconomic relevance, anti-cyclical, but also necessary predicate generated by default predicates sufficient to ensure their functionality. SFA shall provide momentum to stabilize the volatility of GDP, or a causal one cycle or several cycles causal.

Institutional indicator called automatic fiscal stabilizer can be defined by several characteristics:

1. AFS has a control feature. The finality of his action is to reduce the macroeconomic volatility of output, or that asymmetric shock absorption.
2. AFS has an impact, anti-cyclical.
3. AFS is characterized by high effectiveness. By the effectiveness of SFA it can be understand its property to achieve the purpose for which it was designed and introduced in the institutional mechanism of fiscal policy.

As any measurement, AFS requires the existence of design criteria, ie criteria for identification.

A. The economic role of the AFS. Operation of AFS is to achieve, at the institutional level, the pair of processes acting in opposite each other: one of them will be the process itself, the logical progress and the other will be the process that it will control, the automatically, the first in order to avoid or minimize excessive variation. This criterion is most important because it provides the designer institutional (government) that objective will be achieved.

B. Institutional conditions of operation of an AFS.

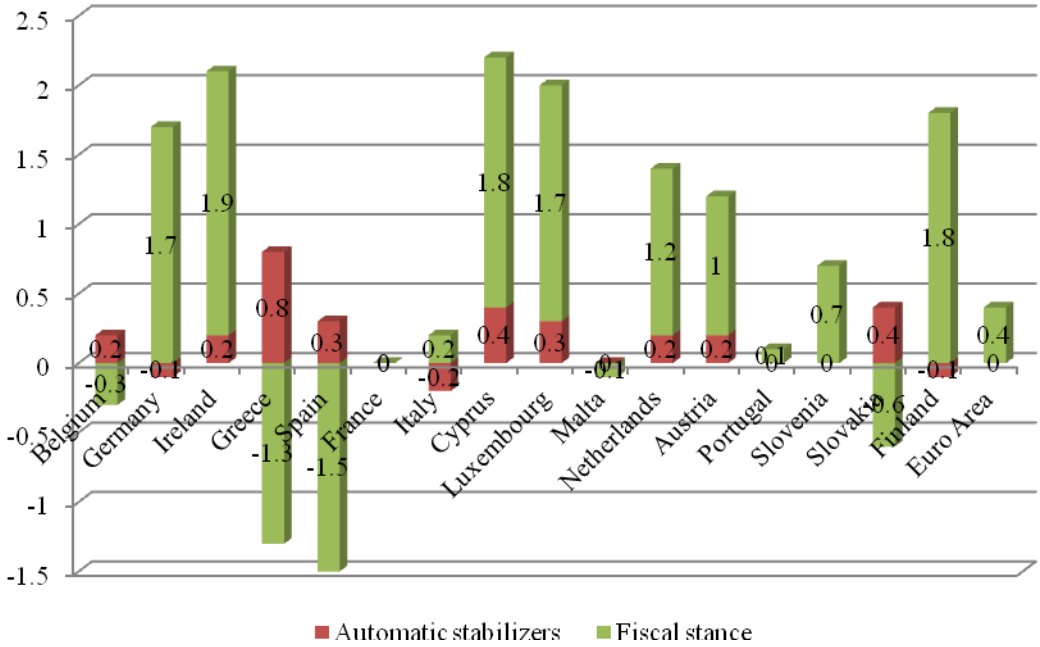
After it was designed an AFS, based on role and functions that it must meet, it is necessary to design any institutional conditions in which it can operate effectively. Although AFS is an institutional device it has to have a discontinuous functioning because AFS comes into operation and shall be effective only when there are trigger conditions of its constituents.

Monitoring mechanisms of AFS. So, with the design of a AFS must be done the design, mechanisms, rules and procedures for monitoring the entry into service and the effects of AFS in question. Of course, this should not necessarily lead to the emergence of structures or institutions specializing in the field, which means an increasing institutional, but the introduction of specific procedures for monitoring existing structures. Monitoring the operation is meant to ensure its development by identifying weaknesses and strengths in this operation.

Criteria that have been mentioned in connection with AFS design is important because the degree to which they are observed depends on the whole process that is considered automatically to reduce or eliminate the oscillations of the output macro.

But the most important are the identification of the reaction of the AFS. In order to do so, Fatas and Mihov (2008) propose some econometric methodologies that are capable to indicate if the efficiency of AFS in dealing with the output fluctuation on short term. The investigation of the size of the automatic fiscal stabilizers is based on the data represented in figure 1.

Figure 1. Components of the fiscal impulse, 2010



Source: own representation based on AMECO data.
Note: the negative sign of the automatic stabilizers indicate a fiscal expansion characterized by a budget deficit.

In time of fiscal crisis, governments must undertake measures in order to reduce the budget deficit and therefore the public indebtedness. These involve active measures based on fiscal adjustment using tax increase and/or expenditure cut. But during the economic downturns it seems that the most efficient active measures consist in expenditure cut involving especially consumption spending. Meanwhile, tax must not affect the disposable revenue in order to not reduce consumption and savings.

But what happens when it is a Ricardian economy? In this case the neutrality of fiscal policy will not absorb the business cycle fluctuation on short term. Therefore, it is necessary a further research in order to indicate the economy type and after this it could be investigated the reaction of fiscal policy in order to correct the economic unbalances.

4. Conclusions

Any unexpected or unpredictable event is defined as a shock regardless of how generates it. The main stream of literature indicates that the shocks can be induced by the fiscal policy, business cycle, monetary policy. The paper aim is to investigate only the fiscal shock starting with the possible definitions and methods to indicate their size. It seems that the government size is dependent of the automatic stabilizers that represent the fiscal policy part capable to attenuate the shock on short term.

The diversity of the investigation methods conduct to many possibilities of indicating the existence and effect of the fiscal shock in the economy. These make more difficult analyzes based on countries experiences especially that have an unstable macroeconomic environment such as emerging economies. But the paper highlights only some difficulties in fiscal shock identification and the function of the automatic fiscal stabilizer in order to reduce their negative effect on the economy.

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