INFLUENCES OF INSTITUTIONAL FACTORS ON THE DIMENSION OF FISCAL AND BUDGETARY MULTIPLIERS IN ROMANIA FOR THE PERIOD 2006 – 2017

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Abstract. *In this paper, an assessment of the influences of institutional factors, on the nature of the structural and conjunctural characteristics of the economy, will be made on a set of fiscal and budgetary multipliers, for the period 2006 - 2017, for Romania. The research methods used in the paper refer to evaluations of the theory, studies and interpretations in the literature regarding the fiscal and budgetary multipliers, the methodological analysis, the economic and institutional mechanism and the interpretation of economic significance. The results expected to be obtained can be concretized in an evaluation table of the impact of the fiscal-budgetary multipliers, based on the influence of the mentioned factors.*

Key words: *multiplier, tax, budget, economic cycle.*
JEL classification: *E60, E61, E62.*

1. Research stage

The topic of fiscal policy contribution to GDP growth through multipliers is presented in the literature and addressed from different perspectives such as: sectoral, where the impact of a certain fiscal and budgetary multiplier is calculated and evaluated; on the dynamics of fiscal and budgetary multipliers in relation to the phases of the economic cycle (Auerbach et al., 2012; Canzoneri et al., 2012); in relation to their impact on economic growth (Hemming et al., 2002); in relation to the incidence of forecast errors on the fiscal-budgetary multipliers (Blanchard and Leigh, 2013).

As for the size of fiscal and budgetary multipliers in developing countries, there is a relatively small number of approaches (Battini et al., 2014), which concludes that their size is small and insignificant, being dependent on a number of structural factors, such as the degree of opening of the economy, the exchange rate regime (Juessen et al., 2013), and the degree of indebtedness.

Regarding the persistence of the multiplication effect generated by the fiscal-budgetary impulses, it is approached from the perspective of its frequency (single or permanent) and the results find that the persistence of the impulse, either single or permanent, is about 5 years, the impact being nonlinear, usually with the smallest impact in the second year from the moment of impulse generation (Baum et al., 2012).

Regarding the methodology for calculating fiscal and budgetary multipliers, it is appreciated that better identification of fiscal policy contribution to GDP growth through multipliers may play a key role in delivering more realistic macroeconomic forecasts. However, there are certain difficulties in the accuracy of the estimates, namely the extraction of the pure effect of fiscal-budgetary impulses on GDP.

We note that the importance and role of fiscal and budgetary multipliers is not only about contributions to the effects on economic dynamics but they can make positive contributions to the design of the fiscal-budgetary strategy in order to set achievable targets.

Having these references on the existing approaches on this topic in the literature, our orientation in the elaboration of the paper aims to evaluate the influences of some institutional factors in the literature on the size of fiscal and budgetary multipliers in Romania, calculated for the period 2006-2017.

2. About the concept of fiscal and budgetary multiplier

The fiscal-budgetary system is an economic system associated with the real economy (as the banking-monetary system is associated with the nominal economy), having more properties, such as: it exhibits a certain rigidity (changes to fiscal-budgetary rules or methodologies can be done only by the approval of Parliament or, in extreme cases, the Government Emergency Ordinance); refers to public financial funds and is (through fiscal-budgetary policy) an important macroeconomic adjustment tool.

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The regulatory variables are: tax rates or rates on social contributions, tax bases, exemptions from budgetary obligations, deferrals and / or exemptions. All this is the input of the fiscal inputs. There is also a vector of budgetary input containing components such as budget commitments; budget expenditure ceiling and normative budget expenditure.

Behavioral variables are: average or marginal inclination towards consumption; the average or marginal inclination towards saving; the mean or marginal inclination towards importation; behavioral tendencies of the Engel type.

As far as the output of the fiscal-budgetary system is concerned, it should be seen as an effect of the input on the real economy variables: GDP; consumption; investment; productivity; unemployment; balance of trade balance; balance of services balance.

Depending on the way the output with the normative input is associated, it is possible to determine fiscal and budgetary multipliers defined as follows:

- the fiscal multiplier - is calculated by the ratio between the effect in the most aggregated real economy and the change of a regulatory input component specific to the budgetary revenues;
- the budgetary multiplier - is calculated by reporting the most aggregate output of the real economy to the volume of government expenditures, especially investment, as they only have a multiplier effect on GDP;
- the fiscal - budgetary multiplier - is calculated by reporting the most aggregate output of the real economy to a combination of fiscal-budgetary variables.

3. Institutional factors influencing the fiscal and budgetary multipliers

Two categories of determinants are identified in economic theory and specific literature. The first one refers to the structural characteristics of the country that influence the responses of the economy to the fiscal-budgetary impulses under conditions of economic stability. These are**:**

- *the degree of opening of the economy* - the lower import trend can generate higher fiscal and budgetary multipliers, as the influence of imports on domestic production is reduced (the demand is mostly covered by the domestic market) and the fiscal-budgetary impulses have a more pronounced effect on GDP;
- *the effectiveness of public spending and revenue management* - the size of fiscal and budgetary multipliers may be lower when there is a low level of tax revenue collection, insufficient allocation and inefficient use of public spending in different areas;
- *the exchange rate regime* - the flexible exchange rate regime may reduce the size of fiscal and budgetary multipliers, as exchange rate fluctuations can mitigate the effects of fiscal policy impulses on the economy;
- *the level of total public debt* - a high level of total public debt may generate a lower multiplier effect, as fiscal-budgetary impulses (fiscal policy in general) do not enjoy

credibility in the economic environment, but also due to the fact that possible positive effects can be largely absorbed by the costs of public debt repayment;

- *rigidity of the labor market* - a rigid labor market can generate larger multipliers if this rigidity is also transferred to labor remittance, because a reduced flexibility of labor remuneration tends to focus the effects of more fiscal and budgetary impulses on production;
- *the size of automatic stabilizers* - the existence of automatic stabilizers in an economy and, in particular, their large manifestation, can reduce the size of tax-budgetary multipliers, as the effects of fiscal and budgetary impulses are attributed to automatic stabilizers, thus reducing their effect) on GDP.

The second category of factors refers to the conjuncture aspects that influence the size of the fiscal-budgetary multipliers. These are:

- *the degree of adjustment of monetary policy to fiscal-budgetary impulses* - if monetary policy accommodates fiscal-budgetary impulses, multipliers tend to have higher values. Here is the question of the dominance of one of the two macroeconomic adjustment policies. If fiscal policy is dominant, then the monetary impulse is accommodated to the fiscal-budgetary impulse, and if monetary policy is dominant, then the fiscal-budgetary impulse is accommodated to the monetary one;
- *the state of the economic cycle* - the state of the economic cycle at one point (expansion, recession) can influence the size of the multipliers. In the expansion phase of the economic cycle, multipliers tend to have smaller dimensions, and in the recession phase, they tend to have larger dimensions. One explanation is that a fiscal-budgetary impulse is more effective during the recession than in the expansion period. In the expansion phase, the economy tends to get closer to its potential level and a constraint (a limitation of space) occurs in the manifestation of multiplier effects, while in the recession phase there is no such constraint, and the fiscal-budgetary impulses can is manifested with amplitude, which is transmitted in the multiplier dimension and, consequently, on the economic cycle trajectory (orientation to the expansion phase).

For the analysis and interpretation of the size of the fiscal and budgetary multipliers calculated for the period 2006-2017 in Romania, presented in the annex, we will produce a table (Table 1), which will present the annual state of each exogenous factor for Romania and will analyze possible influence on multiplier size. For the annual evaluation of each factor, the following acronyms will be used: high - R; medium - M; low - S.

In the penultimate column on the right side of the panel, the multiplier effect will be shown, assessed from the point of view of the factors described above for each factor, by the following qualifiers: positive; neutral and negative. In the last column on the right side of the picture, we try to assign each factor a score of importance valued on a scale from 1 to 5, where 1 represents the minimum score and 5 the maximum score.

The attribution of scores for the category of structural factors was based on the following arguments:

- for factors such as *the degree of opening of the economy, respectively the effectiveness of public expenditures and the administration of revenues*, were awarded higher scores 5 and 4 respectively, as their variation generates direct changes on aggregate demand and implicitly multiplying effects on production;
- for the factors of *the exchange rate regime and the total public debt level*, the same score was assigned, respectively, 3 because their variation first generates direct influences, in general, on the first two factors (the degree of opening of the economy, respectively the efficiency of public expenditures and the administration of revenues ,

of the budget deficit) and thus produce indirect changes to aggregate demand and, implicitly, multiplying effects on production;

- for *the labor market rigidity factors and the size of the automatic stabilizers*, a relatively low score of 2 was attributed, because they are factors with a high complexity of functioning (manifestation) and their changes are non-discretionary effects, occurring in the medium term and long and implicitly with indirect and reduced multiplication effects on production.

Table no. 1. Presentation of the annual state of the exogenous (institutional) factors on the two categories, their influence on the size of the multipliers and the importance score in Romania for the period 2006-2017

Factors	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	The influence	Assigned score
Structural factors														
The degree of opening of the economy	R	R	R	R	R	R	R	R	R	R	R	R	negative	5
The effectiveness of public spending and revenue management	S	S	S	S	S	S	S	S	S	S	S	S	negative	4
The exchange rate regime	M	M	M	M	M	M	M	M	M	M	M	M	neutral	3
The level of total public debt	S	S	S	S	S	S	S	S	S	S	S	S	positive	3
Rigidity of the labor market	M	M	M	M	M	M	M	M	M	M	M	M	neutral	2
The size of automatic stabilizers	S	S	S	S	S	S	S	S	S	S	S	S	positive	2
Conjuncture factors														
The degree of adjustment of monetary policy to fiscal-budgetary impulses	R	R	R	R	R	R	R	R	R	R	R	R	positive	3
The state of the economic cycle	M	M	M	M	M	M	M	M	M	M	M	M	neutral	2

Source: the author

The assignment of scores for the category of conjuncture factors was made considering the short-term character which we consider cannot be attributed to higher scores, with the following arguments:

- for the factor of *the degree of adjustment of the monetary policy to the fiscal-budgetary impulses* the score 3 was attributed, as the fiscal-budgetary impulse is dominant, being specific to the real economy, in which the fiscal-budgetary multipliers are manifested. The non-functioning of the fiscal-monetary mix does not eliminate the multiplication effects of the fiscal-budgetary impulse, but only diminishes them, and the functioning of the mix generates inverse effects. Therefore, the average score (+) is judged to be justified;
- for *the economic cycle status factor*, the score 2 was attributed, as this factor was considered to have the most pronounced conjuncture, and this conjuncture (which would influence the size of the fiscal-budgetary multipliers) can be generated precisely by the evolution of the structural factors. If their evolution maintains the economic cycle in the state of stability, with expansion tendencies, the influence of the economic

cycle on the size of the multipliers is very low and vice versa. Therefore, given the temporary nature and the context of the influence of the state of the economic cycle on the variation of fiscal-budgetary multipliers, the attribution of the score 2 is justified.

4. Conclusions

We note that, in terms of the ratings attributed to the influence of each factor in the structural factors category on the multipliers, there is a steady state (two positive, two neutral and two negative). Regarding the cumulative scores on the three ratings in the structural factors category, the negative influence score is higher (9) the scores recorded by the other two influence ratings (5).

On the basis of the results of the two ways of assessing the structural factors on the size of the multipliers we find a tendency of negative influence of the structural factors on the size of the fiscal and budgetary multipliers in Romania for the period 2006-2017.

In the category of conjuncture factors, from the point of view of the qualities attributed to the influence of each factor on the multipliers, there is recorded a positive influence (a positive and a neutral one). Also, regarding the scores on the two qualifiers, the positive influence score is higher (3) the score scored by the neutral rating (2).

Based on the results of the two ways of assessing the short-term factors on the size of the multipliers, we find a positive influence on the fiscal and budgetary multipliers in Romania for the period 2006-2017.

In trying to introduce each of the fiscal and budgetary multipliers calculated by this way of analyzing and assessing the influence of the institutional factors on their size, it was found that there are no specific influences, but the resulting findings are general and valid for all of them. However, we do not exclude possible influences of the institutional factors on the size and amplitude of the multipliers, which could be identified by more refined methods of analysis and evaluation.

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