# POSSIBILITIES OF USING TAX MULTIPLIERS FOR STABILIZATION IN TRANSITION ECONOMIES

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*Within this study, the possibilities of identification and estimation of tax multipliers that are adequate for a transition economy have been analysed. These multipliers can be regarded as macroeconomic policy stabilizers, while their application is coordinated with the objectives established within the development strategies. The authors discuss the problem of equilibrating monetary stabilizers with the tax ones, which are used namely in transition economies to achieve sustainable economic growth, basing on the example of the Republic of Moldova.*

*Key words: budgetary* multiplier, fiscal policy, monetary policy, sustainable growth.

***JEL Classification: G01, E52, H70.***

**Introduction**

The Republic of Moldova is for 25 years looking for a viable economic development model that would ensure growth over a long period. However, frequent imbalances and distortions between levers applied by governments to form a sound economic structure have led to the situation when even the classic channels of impulse transmission to the real economy are no longer effective. During the period of the Moldovan economy's evolution, the monetary policy out of the whole set of policies promoted by the state proved to be the most efficient. Unfortunately, the current situation demonstrates that in order to achieve the proposed inflation target, the restrictive version of these policies is promoted and in order to relaunch the economy, in view of several economists[4], an expansionary monetary policy is required. Thus, there is a need for a vigorous enforcement of tax policy levers, using the effects of its multipliers.

The necessity of correlating the monetary policy with the fiscal one in the process of managing the economy as a whole is a current issue, representing not only a local problem attributed to the Moldovan economy. The interest in finding the most effective fiscal incentives in relaunching the crisis economies has grown since the expansionary monetary policy promoted by most central banks[5] has not generated an increase in the confidence of private economic agents and consequently an increase in private consumption and investment. Although, represented by the Keynesian solution to relaunch economies affected by the crisis, the fiscal expansion no longer produces the same positive anticipated effects (growth in consumption, significant unemployment reduction, income growth in the economy) as they are conditioned by the reaction of private economic agents to tax incentives. For example, the tax cut decision may not automatically generate a significant increase in consumption (a condition for propagating the multiplier effect in the economy) in cases of pessimism or difficult access to credit resources, as is the case of the Republic of Moldova. As a result, fiscal multipliers tend to be sub-unitary, and their value decreases even more in periods of deep economic recession.

In this context, we propose to analyse in this article, which is the optimal variant of the macroeconomic policy mix and which are the automatic stabilizers that should be taken in consideration in low income countries, which has a different reaction than the typical one within various decisions to stimulate economic growth.

**Theoretical approach**

Tax policy objectives vary across countries, depending on economic conditions and needs, targeting both general economic goals such as social well-being, sustainable economic growth, poverty alleviation or reduction of unemployment, as well as specific ones such as reducing budget deficit and public debt, as well as combating tax evasion. In this sense fiscal policy is represented by the process of modelling tax instruments (taxes and public expenditures) to achieve specific objectives. In advanced countries, fiscal policy objectives are to increase aggregate demand by boosting consumer spending, while in underdeveloped countries the consumption of luxury items must be discouraged in order to encourage savings to increase the rate of economic development.

Fiscal policy designates state conception, measures and actions on taxes and their role in budget revenue formation and financing of budget expenditures, types of taxes, their perception and use as an instrument for stimulating economic growth. It is based on the criterion of fiscal efficiency, and namely the need for the highest return on possible

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financial and social spending. The central objective, which the fiscal policy tends to ensure, is the mobilization of as much as possible budget revenues, in the conditions of encouraging economic affairs, investments, while promoting equity in each person's contribution to income, with the provision of social protection.

In co-operation with fiscal policy to ensure economic growth, there is a co-optation of budgetary policy, which defines state conception and actions on budgetary revenues and expenditures, ways and means of mobilizing revenue, types and sizes of spending through which it would be possible to directly intervene against shocks and instability for economic recovery. The latter is based on the principle of a balanced overall consolidated budget. It is based on legal regulations that determine the sources of income, the purpose of their use on expenditure targets, regulations of the financial year.

As macroeconomic stabilization instruments, both fiscal and budgetary policies act simultaneously, each of which has a certain function: the fiscal policy - source stabilization, sampling and revenue generation methods, and the fiscal policy - expression of sizing and hierarchy of budget expenditure through specific actions and instruments.

The fiscal policy refers to budgetary and tax expenditures and is formed of 3 categories:

- Policies related to the procurement of goods and services by the government administration - the budget expenditures axis with an impact on aggregate consumption.
- Policies on perceived taxes - the real economy tax and, implicitly, the budget revenues – influencing the aggregate supply (the area of taxes on economic subjects) and aggregate demand (the area of taxes on the incomes of the population).
- Policies on social transfers - the axis of allocations with impact on consumption.

Instruments used by fiscal policy are diverse and can be estimated in both quantitative and qualitative parameters. Thus, budget expenditures, estimated as value can be analysed in terms of contribution to the economic growth as a multiplier effect for expenditures, while taxes can be correlated respectively with the effect of the fiscal multiplier, and the value of the budget deficit can be traced as a macroeconomic policy element as the budget multiplier effect . However, these multipliers do not have an immediate reaction to their actions, but have a delayed impact on the macroeconomic target, while automatic stabilizers or destabilizers that mitigate the immediate effects of fiscal or budgetary policy are provoked by these delays.

Automatic stabilizers are categories of budget revenues and expenditures, which change automatically, depending on the state of the economy, leading to the stabilization of the national income level. Direct effect stabilizers may include those that lead to an increase / decrease in the income of the population and implicitly to changes in aggregate demand, such as government transfers of a social nature and income tax. Automatic destabilizers are categories of budget revenues and expenditures that automatically change according to the state of the economy with the effect of destabilizing national income, such as increasing / decreasing inflation, which has a direct effect on budget expenditures or rising interest rates, which increases budget expenditures especially in case of a large state debt.

**Multipliers' effects in case of developed economies**

The different impact of fiscal incentives on economies is influenced, among other things, by the asymmetries existing in the economic agents' consumption / saving compartment, the degree of opening of the economy, the nature of the exchange rate or its flexibility. According to the Mundell-Fleming model, fiscal policy represents a proper instrument for stabilizing the economy only under a fixed exchange rate, as central bank intervention cancels the crowding-out effect on net exports. However, fiscal policy may not generate appreciation of the national currency as a result of a high pass-through effect - appreciation of the currency leads to a reduction in the inflation rate and limits the crowding-out effect by lowering the interest rate. Therefore, even in the context of an open economy and a flexible exchange rate, the expansionary fiscal policy can have a higher degree of efficiency. In addition, the appreciation of the currency may lead to an increase in consumption and investment by the effect on wealth, in the context of the increase in foreign currency earnings, which leads to the increase in foreign currency loans.

In general, the structural models used (for example, the SVAR one) have highlighted the existence of a higher short-term fiscal multiplier in the case of Germany than in other EU countries, ranging from 0.9 to 1.3. According to Barrell and Alvaro (2003), the higher size is explained by the relatively lower impact of domestic expenditure growth on imports. Based on VAR structural models, the public spending multiplier is generally sub-unitary, and their shock explains about 20% of the future GDP variation.

Another method to identify structural fiscal shocks was developed by Blanchard and Perotti (2002) who made a sharing of discretionary fiscal policy and the action of automatic stabilizers. According to them, the US GDP has a positive reaction to a public spending shock, and the associated multiplier is lower because the GDP components do not react in the same direction - private consumption is rising and private investment decreases.

Panel studies have often identified reduced tax multipliers and, in some cases, even negative multipliers such as Hemming and others (2002). In a study carried out by HM Treasury (2003) based on the European Commission's Quest model, the public spending cutter is subunit in all European countries included in the analysis - 0.3 in the UK, 0.4 in Germany and 0.5 in Italy, France and Spain. Nallari and Engozogo (2010) estimated a US government spending multiplier of 0.39 very close to that for G7 countries. In a study by the IMF (2008), it was estimated, based on a regression of a panel, the existence of sub-unit multipliers for both expenditure and charges. According to the study,

the credibility of the promoted macroeconomic policies and the degree of monetary accommodation are critical in determining the effectiveness of fiscal policy to stimulate the economy. Similar results were also obtained for emerging economies (including Asia), where public spending multipliers were around 0.6-0.7, showing a significant level of crowding-out effect on private investment.

The effectiveness of an expansionist and counter-cyclical tax policy does not only depend on the size of the fiscal package but also on its composition (tax cuts versus public spending). In general, the hypothesis of a higher impact on the cost of reducing tax is not tested. From the point of view of the long-term impact of fiscal policy, it is considered that this is mainly checked in the case of public investment, with the positive effects on aggregate supply. However, although the increase in public spending generates a higher output in the short term, it contributes to the long-term elimination of labour market distortions or by stimulating capital accumulation.

Nijkamp and Poot (2004) conducted a meta-analysis of 93 published studies on the impact of fiscal policy and concluded that the positive effects of conventional tax policy are limited. However, Spilimbergo and others (2009) have estimated that the existence of a public spending multiplier superior to tax cuts (1-1.5 for larger countries, 0.5-1 for medium-sized economies and no more than 0,5 for small and open savings). The values of the multipliers for taxes and transfers are about half of those for expenditures, and those for public investment are slightly higher than for other types of public expenditure.

Analysing 91 episodes of fiscal expansion in 21 OECD countries since 1970, Alesina and Ardagna (2009) highlighted the superiority of tax cuts based on tax cuts compared to those aimed at increasing public spending. Tax cuts generate an incentive for future investment, as spending increases lead to reduced investment. However, in times of economic crisis, the lack of economic confidence causes economic agents to increase their marginal propensity to save, which will reduce the size of multipliers, especially of the fiscal one.

Vegh Carlos et al. (2009) estimated fiscal multipliers for 20 developed economies and 25 emerging economies, using quarterly data from 1960-2007. The most important results were as follows:

- Reaction of output to public spending growth is lower and rather temporary in developing countries compared to developed economies ;
- Fiscal multipliers are higher for economies that have fixed and economically less open exchange rates (1.5 on long-term);
- In the case of economies with flexible exchange rates, the increase in public expenditure by 1% of GDP leads to a change in domestic insignificantly different production from zero, both in the short and long term;
- The GDP's response to expenditure growth is temporary in economies characterized by a high share of government debt;
- Fiscal multipliers in the case of the US are lower after 1980 compared to the previous period, both in the short and long term - 0.64 and 1.19 respectively. However, multipliers of public investment record the highest value;
- The multiplier of public spending on short-term is 0.24 for developed economies and 0.04 for emerging ones. The cumulative multiplier of government spending (cumulative change in GDP versus fiscal impulse change) is 1.04 for the first group of savings and 0.79 for the second group of economies.

According to OECD (2009), the multipliers calculated within models used in international practice record the following values:

- Short-term multipliers of government expenditures are over unitary and exceed the income ones, the first not being influenced by the prime-effect of saving growth;
- Of the income multipliers, the income tax is between 0.5 and 0.8 and the other forms of taxation are between 0.2 and 0.6;
- The profit tax multiplier is between 0.3 in the fiscal year and 0.5 at the end of the following year;
- The multiplier of social contributions is between 0.4 in the first year and 0.6 at the end of the second year of fiscal shock.

**Specifics of using fiscal policy in developing countries**

The role of fiscal policy in less developed countries differs from that of developed countries. In developed countries, the role of fiscal policy is to promote full employment without inflation through its powers in the area of public spending and taxes, while low income per capita countries are caught in the vicious circle of poverty. The vicious circle of low incomes, low consumption, low savings, low rates of gross capital formation and low incomes must be broken by appropriate fiscal measures. Tax policy in developing countries is thus used to achieve what is different from advanced countries.

The main objectives of the fiscal policy in a developing economy are as follows:

- mobilizing resources to finance development;
- promoting private sector growth;
- controlling inflationary pressures in the economy;
- promoting economic stability under conditions of employment opportunities;
- ensuring a fair distribution of income and wealth.

Thus, for emerging economies with a flexible currency regime, the multiplier is zero, the same value being observed for countries with a high level of public debt. Also, the fiscal multiplier is also low in the case of highly open economies, measured as the ratio between the total value of external trade and GDP.

**Estimation of fiscal multipliers' effects in Republic of Moldova**

*Unfortunately, macroeconomic stabilization was prioritized in Moldova, with the cost of the inefficiency of the tax system. As a result, the inefficiency of the tax system has forced the business sector to transfer to shadow economy. The quality of the fiscal system in the Republic of Moldova derives from the quality of economic growth and does not stimulate the functionality of the national economy. The tax structure in the Republic of Moldova is not optimal: indirect taxes are too low compared to direct taxes, and the contribution to state social insurance is very high, its prospects in terms of aging and population migration being even worse for the functional character of the national economy.*

Budgetary policy has a limited positive effect in the Republic of Moldova. Thus, the analysis identifies a slight positive correlation between the evolution of the budgetary expenditures and the economic growth in the Republic of Moldova over the last two years, demonstrating that the management of public expenditures requires effective restructuring measures. Figure 1. shows a lack of correlation between the budget expenditures and the economic growth in the Republic of Moldova during the period 2009 - 2014, the evolution being in line with the theory of endogenous growth.

The budget multiplier, which expresses the extent to which gross domestic product increases if government consumption increases with a monetary unit, can be given by the relation $1 / (1-c) = 1 / s$, where $c$ is the marginal share of consumption that shows how much is consumed by an additional income left to the population, and the marginal savings rate $(1-c)$ shows how much is saved from an extra income. Calculated for the Republic of Moldova, it is 0.41, which is much less than in the developed economies.

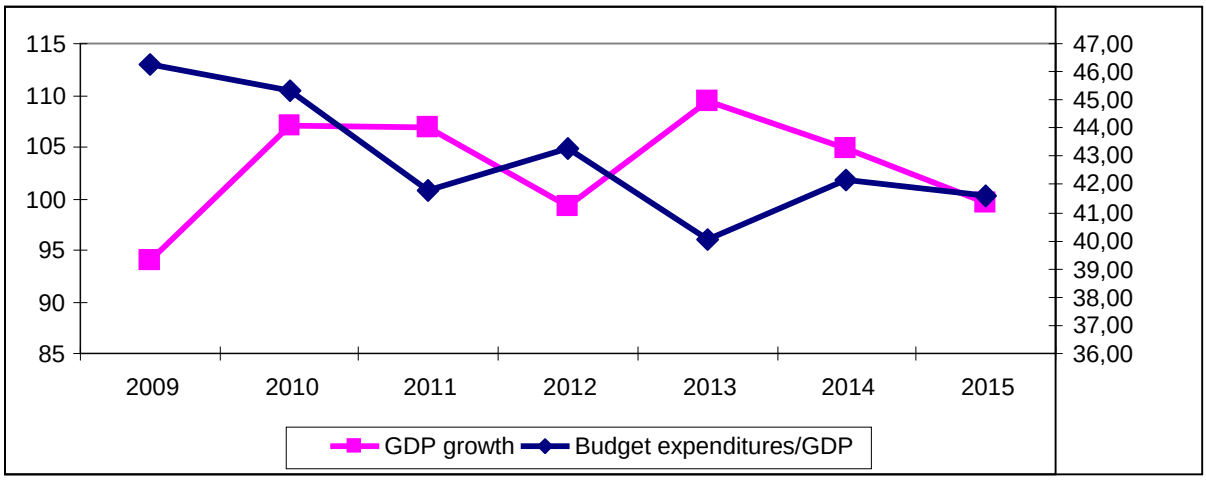



**Figure 1. Influence of budgetary expenditures on economic growth**

Source: Elaborated by authors on the basis of data from www.bnm.md

The quality of public expenditure management in the Republic of Moldova can be also improved by reducing the non-transparent activities that are very expensive. Given the substantial reduction in public finances, the government is unable to ensure the provision of a comprehensive list of public services. At the same time, the private provision of public goods and services could be an attractive solution in many areas (education, health care, other public services). However, the government is reluctant to encourage the entry of private economic agents in the area of public goods and services. Some important expenditure categories for sustainable economic growth - investment - remain volatile and vulnerable to possible cuts.

The analysis of the impact of fiscal policy points to an insignificant negative dependence between taxation and economic growth in the Republic of Moldova, the fiscal multiplier being equal to 0.34 (Figure 2).

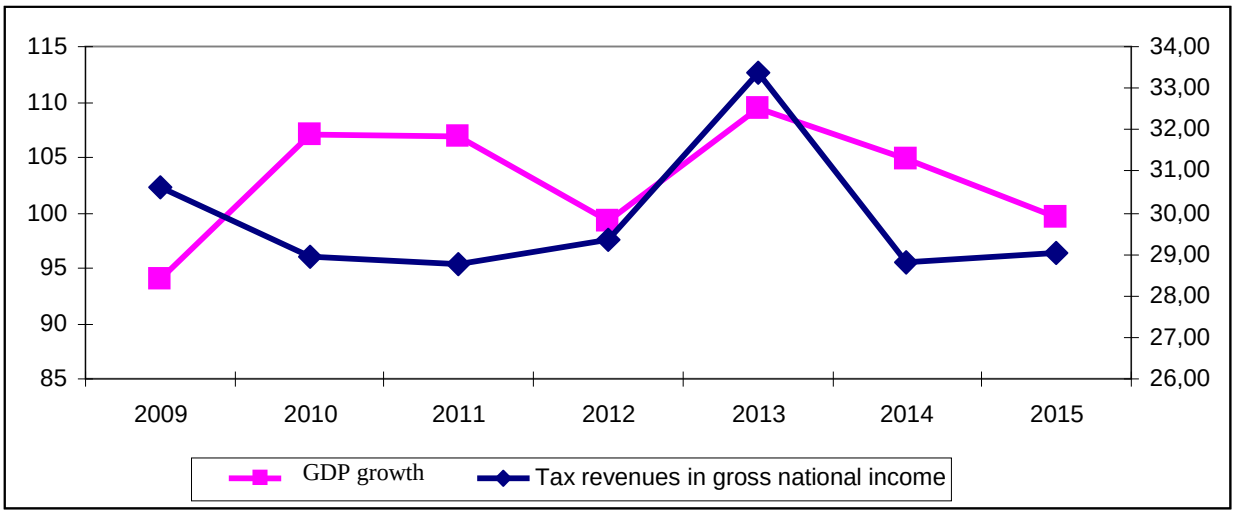
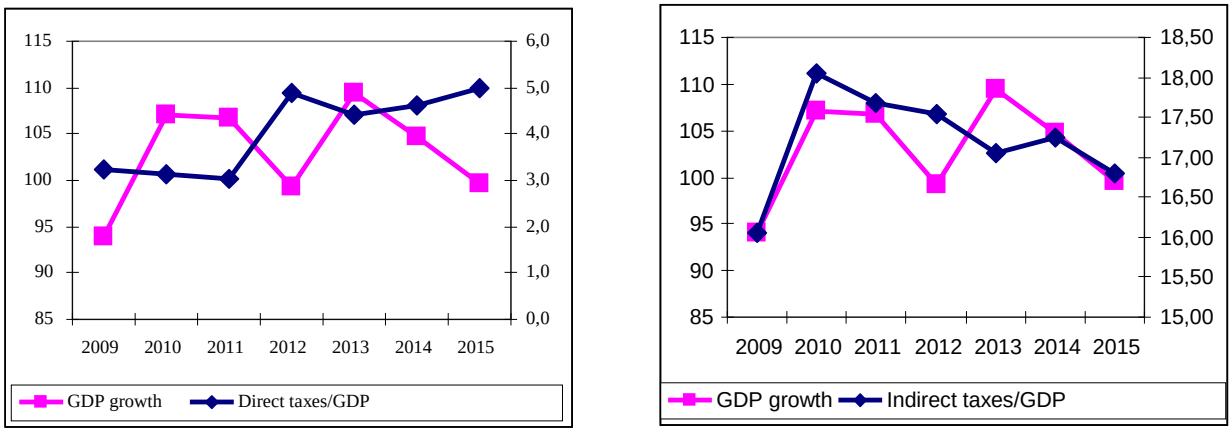



***Figure 2. Effects of fiscal policy on economic growth***

Source: Elaborated by authors on the basis of data from www.bnm.md

Direct taxes, which theoretically must strongly affect economic activity, have a neutral influence on GDP growth. (Figure 3 a) Theoretically, this trend is possible and is explained by the financing of productive expenditures from direct taxes. At the same time, a beneficial influence on the increase in the direct tax burden in total public revenues has exerted continued reductions in marginal income tax rates.




a b

**Figure 3. Influence of fiscal policy on economic growth in the Republic of Moldova according to types of taxes**

Source: Elaborated by authors on the basis of data from www.bnm.md

Figure 3 b. demonstrates the existence of a moderate negative link between indirect taxes and taxes and the GDP growth rate in the Republic of Moldova. From the graphical representation follows that indirect taxes and duties, which theoretically have to exhibit a neutral behaviour towards economic activism, strongly detract from the economic growth processes in the Republic of Moldova. From the analysis of the fiscal multiplier, it follows that a 1% reduction in direct taxation generates much lower economic growth compared to the loss resulting from the 1% reduction in indirect taxation in the structure of government revenue. In other words, those increases in government revenue from direct taxes are much lower compared to the losses registered by NPB from reduced indirect taxes (excise duties and VAT on indigenous products). In the Republic of Moldova the incidence of VAT has considerably shifted to imported goods and is less based on goods produced in the country. An economic policy that pursues economic growth as a fundamental objective must be matched by a certain structure of public expenditure and revenue capable of enhancing this growth. Unfortunately, this structure in Moldova is far from stimulating growth.

**Conclusions**

The goal of a macroeconomic stabilization policy is, in essence, to facilitate the adjustment of aggregate demand to the equilibrium when the "shocks" triggered a significant deviation. The stabilization policy is motivated by the argument that the deviations of demand and output from equilibrium can have a negative impact on long-term GDP.

In order to lead to the same increase in aggregate demand, a higher tax cut is needed compared to the increase in government spending. In order to increase the initial consumption of a certain size, it is necessary to reduce the tax rate by more than the respective size (part of the taxation affects savings rather than consumption).

Economic policies in its application are not accurate, i.e. the effect produced is always disproportionate in relation to the necessary effect, which leads to the maintenance, amplification or production of new disturbances. The effectiveness of stabilization policies is blocked by the rational expectations of economic agents, as they are public in terms of information.

The operationalization of automatic stabilizers involves the setting of economic sizes, which act as self-regulatory criteria to maintain the quantitative ratios between the targeted macroeconomic variables. The presence of automated stabilizers in the economy has the advantage of reducing the multiplier and therefore the economy does not react abruptly to any change of poles. They therefore contribute to mitigating cyclical fluctuations in the economy, giving it a great deal of stability. Generally, in developed countries, it is considered necessary to allow "automatic" fiscal stabilizers to operate to mitigate the effects of supply or demand shocks. However, apart from this point of view, there is no clear consensus among countries on the appropriate role of fiscal policy in macroeconomic stabilization.

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