

## AN EMPIRICAL STUDY ON FISCAL POLICY AND ECONOMIC GROWTH IN ROMANIA

**DOBROTĂ GABRIELA**

*PROFESSOR PHD. "CONSTANTIN BRÂNCUȘI" UNIVERSITY OF TÂRGU-JIU  
e-mail: gabi.dobrota70@gmail.com*

**POPESCU ANISIA-MARIA**

*Bucharest University of Economic Studies  
e-mail: anisia.popescu07@yahoo.ro*

**NEACȘU ALEXANDRU ADRIAN**

*GENERAL INSPECTORATE OF AVIATION OF M.A.I  
e-mail: adrian.neacsu1999@yahoo.com*

***Abstract:** The research carried out aims to identify trends in sustainable economic development by analyzing the correlation between fiscal policy, public debt, budgetary deficit, collected revenues and budget expenditures. The statistical analysis highlighted a model that demonstrates the influences exerted by the independent variables on economic growth. The ultimate goal is to provide an empirical framework for improving tax policy, considering the reduction of tax evasion, the increase of voluntary payment compliance and the assurance of sustainable economic development in Romania. The obtained results demonstrated that there is a positive correlation between government spending, public debt, budget deficit and gross domestic product, as well as the fact that Romania applied a procyclical fiscal policy.*

***Keywords:** tax policy, tax evasion, voluntary payment compliance, economic growth, regression analysis*

***Classification JEL:** E62, H21, O23, O47*

### **1. Introduction**

Fiscal policy is an essential element in macroeconomic policies, subject to intense debates in the context of an economic environment affected by significant crises and the lack of a viable set of recovery measures. In essence, fiscal policy is limited to the set of strategies, techniques, rules, mechanisms and government entities used to collect and use the state's financial resources in order to support public actions, having a significant impact on economic and social life. This involves both the management of taxes and fees and public expenditure, which are often key factors in guiding the government's financial policy.

The fundamental role of fiscal policy consists in creating a general framework for the economy, oriented towards the establishment of fiscal norms that contribute to the sustainable development of the business environment and implicitly to socio-economic progress. When economic instability negatively affects socio-economic life, state intervention becomes necessary to counteract the problems that have arisen, by implementing economic stimulation and recovery policies. Classical and Keynesian economic theories have sought to highlight the role of fiscal policies in managing public expenditures and stimulating economic recovery, considering contradictory hypotheses (such as the absence of fiscal measures limiting public spending, with direct negative implications on irrational consumption and high future financing costs, versus positive effects on the deficit and economic recovery). Thus, the Keynesian Theory supports a direct involvement of fiscal policy by promoting expansionary or contractionary policies in influencing macroeconomic performance. In support of the Keynesian theory, the "Law of increasing state activity" is also noteworthy, which supports the idea that an increase in public spending leads to the development of domestic economic activity and the realization of private investments (Ncanywa and Masoga, 2018). The application of an expansionary fiscal policy in

periods of recession and a restrictive fiscal policy in periods of economic boom can influence aggregate demand in the direction of increase or decrease. In contrast, neoclassical theory advocates maintaining the neutrality of fiscal policy, regardless of the phase of the economic cycle.

Trends in the implementation of fiscal reforms over time have been determined either by changes in organizational forms or by objectives pursued by governments (economic growth, unemployment reduction, maintaining the budget deficit within certain limits, stimulating investments, reducing public debt, etc.) or by economic and social conditions in different time periods (economic crises, social upheavals, pandemics, geopolitical conflicts, changes in international economic policies, etc.). However, the results of various researches do not converge towards a unanimously accepted opinion regarding the effects generated by fiscal shocks on macroeconomic variables. Especially for emerging countries, it is considered that fiscal multipliers generate low effects on GDP (Kraay, 2012; Ilezetzki, Mendoza and Vegh, 2013). A study carried out at the level of two countries with nominal rigidities and financial frictions demonstrated that the proportion of private debt expressed in foreign currency can be a determining factor of the size of the domestic fiscal multiplier (Hory, Levieuge and Onori, 2023).

In Romania, the post-communist period imposed essential changes in the fiscal system, in the context of transitioning from a centralized to a market economy. These changes involved a radical reform in the first decade after the 90s, revising the application of taxation and introducing new fiscal obligations.

In the period 2000-2010, reforms aimed at stimulating foreign investments and correlation with the European standards imposed by the EU accession process can be identified, noting the development of the Fiscal Code (amended with an extremely high frequency, a fact that demonstrated the lack of predictability and of stability of fiscal legislation, obviously with negative effects on the economic environment). The 2008 economic crisis significantly impacted Romania, leading to fiscal measures for generating additional tax revenues (adjustments in VAT rates, introduction of the lump-sum tax, modifications in tax structures). After 2010, fiscal reforms targeted both indirect taxes (VAT, excise duties) and direct taxes (income tax) and social contributions. Changes adopted in 2023 address corporate income tax, micro-enterprise income tax, VAT rates, income tax rates for individuals whose source is unidentified, income tax on salaries, introducing new fiscal obligations like the minimum turnover tax, additional turnover tax for banks, and sector-specific tax for the oil and natural gas industry.

Naturally, all these reforms sparked intense debates regarding the effectiveness and fairness of the tax system, the impact of promoted fiscal policies on income distribution, social equity, revenue collection, and their effects on the business environment.

The decisions at the end of 2023 aimed both at the efficient use of resources collected from the collection of taxes and fees and at combating tax evasion. However, the violation of the principles stated in the Fiscal Code regarding predictability and stability in the business environment, the increase in the tax burden (especially at the level of SMEs), turnover taxation, the reduction of certain facilities in important sectors, the granting of exemptions in the field of transfer resources from one category of expenses to another, etc., are just a few aspects intensively debated by specialists and practitioners, many considering that these will have an effect contrary to the expected one (economic decrease generated by the closure of activities at the level of many enterprises in the context of increasing obligations taxes, the increase in prices as a result of the phenomenon of tax repercussions, the reduction of consumption, the decrease of investments and the decrease of the competitiveness of Romanian enterprises, the increase of tax evasion).

This research aims to explore the impact of fiscal policies on long-term sustainability in the fiscal domain and, implicitly, on sustainable economic development. The conducted research can contribute to the development of knowledge in the field of taxation, considering an integrated analysis of ANAF digitization, tax evasion, voluntary compliance with payments, and sustainable economic development.

## 2. Literature review

Examining the research carried out by different specialists allows their structuring according to the object of the study. Arestis (2012) defines fiscal policy as an automatic macroeconomic stabilizer, involving the selective use of instruments with an impact on the balance of public spending and taxation. A broader perspective on fiscal policy, which considers it as a means of economic stabilization and promoting the development of society in a more equitable way, is supported by Bhattacharai and Trzeciakiewicz (2017), Gruber (2020), Mankiw (2021), Pasichnyi (2017), Miha (2023). Secondly, we can identify the studies that explore the correlation between economic development, fiscal revenues and government expenditures, where fiscal multipliers are considered determining factors in the modification of the gross domestic product: Romer, 2010; Pontus, 2016; Huidrom et al, 2016; Stockhammer, Qazizada, Sebastian Gechert, 2019; Boiciuc, 2015. However, the results obtained are contradictory, indicating a weak correlation between the shocks induced by the fiscal policy and the analyzed variables. At the level of emerging economies, a small influence of fiscal shocks and fiscal multipliers on economic activity is identified (Boiciuc, 2015). The effects of fiscal policy have been analyzed by meta-regression in works such as those of Gechert, 2015; Easterly, 2015; Heinemann, Moessinger, Yeter, 2018; Furman, 2016, suggesting that fiscal policy, along with other macroeconomic policies, needs improvement to ensure economic recovery. Other studies focused on the impact on the economic environment (Dobrotă, Voda, Dumitrașcu, 2021). These approaches come in the context where it is argued that an economic crisis does not resolve itself.

Other authors analyzed the correlation between fiscal policy and public debt (Bertola and Drazen, 1993; Perotti, 1999; Reinhart and Rogoff, 2010; Ahlborn and Schweickert, 2016; Hilton, 2021), identifying negative effects of public debt on economic growth in the conditions of an expansionary fiscal policy as well as the need to implement a high fiscal discipline that supports the efficient use of loans, especially for the financing of investment expenses, which can positively influence the GDP. Likewise, other research has also highlighted the manifestation of a positive impact of public debt on economic growth (Eberhardt and Presbitero, 2015; Ewaida, 2017; Huang et al., 2018). Barry and Devereux (2003) considered that the hypothesis of expansionary fiscal contraction is valid, in the context where there are real decreases in public spending, with a favorable impact on fiscal consolidation. Other authors have suggested that the influence of government spending on economic growth at the level of each phase of the economic cycle is not evidenced by its large variations (Alexiou and Nellis, 2016; Sáez et al, 2017). It should also be noted the concern for identifying the effect of government interventions on economic growth through fiscal leverage, public debt and state spending (Alzghoul et al, 2023).

In this context, it is noted that the concept of fiscal policy has acquired a variety of connotations over time. Synthesizing the plurality of definitions, it can be considered that it is circumscribed to the decisions of the governors regarding the collection and spending of financial resources, based on the instruments provided by the tax system, so as to achieve general strategic objectives, represented by economic stabilization and growth, income redistribution and stability sociale. Regarding the correlations between the analyzed indicators, the divergence between opinions is noted, with both positive and negative or even neutral correlations being identified. Obviously, the different results are generated by the different conditions in the countries on which the analyzes were carried out, by the different periods or by conjunctural influences.

## 3. Research methodology and results

The research aims to identify the trend that is the basis of sustainable economic development, in the context of the application of measures to reduce tax evasion, voluntary payment compliance and digitization of ANAF services. The following five variables will be taken into account: government spending  $cg_t$ , gross domestic product (growth rate)  $r_t$ , fiscal revenues  $vf$ , defined as the total receipts from taxes and fees, the gap between revenues and expenses  $\pi_t$  (budgetary deficit)

and external public debt. The effect of fiscal policies will be analyzed with a simple linear function, as follows:

$$y = f(X),$$

$y$  it is represented by the rate of economic growth, and  $X$  by the total model variables (TMV). The construction of the model begins by assuming that the variables are associated with a possible mathematical form, which represents the relationship between economic growth and the total number of model variables, respectively:

$$y_{ti} = \tau_0 + \tau \cdot TMV_t$$

The relationship between the dependent variable and the independent variables was analyzed through the lens of the multiple correlation coefficient  $r$  and the coefficient of determination  $r^2$ , calculated according to the formula:

$$R^2 = \frac{\sum_i (y_i - \bar{y})^2 - \sum_i (y_i - \hat{y}_i)^2}{\sum_i (y_i - \bar{y})^2}$$

Anova analysis provides the possibility of testing the overall significance of the independent variables considered. the existence and nature of the link between the dependent variable (gdp growth rate -  $rt$ ) and the independent variables (public expenditures -  $cgt$ ; tax revenues -  $vf$ ; external public debt -  $dpe$ ; budget deficit -  $dbug$ ) were verified.

The influence of the independent variables on the results was evaluated using the coefficient of determination  $r^2$ . to determine the intensity of the connection between the variables, the pearson correlation coefficient, denoted by  $r$ , was used (the correlogram revealed a linear relationship). validation of the regression model was performed using the f-test for  $r$  square change, which indicates changes in  $r$  square coefficient value (large  $r$  square coefficient value and significance level  $sig. f$  change  $< 0.05$ ) indicates model retention. The present study is limited to the issue of the effects of government spending, the budget deficit, tax revenues and public debt on economic growth in Romania through the prism of the applied fiscal policy. In this context, two research hypotheses can be formulated:

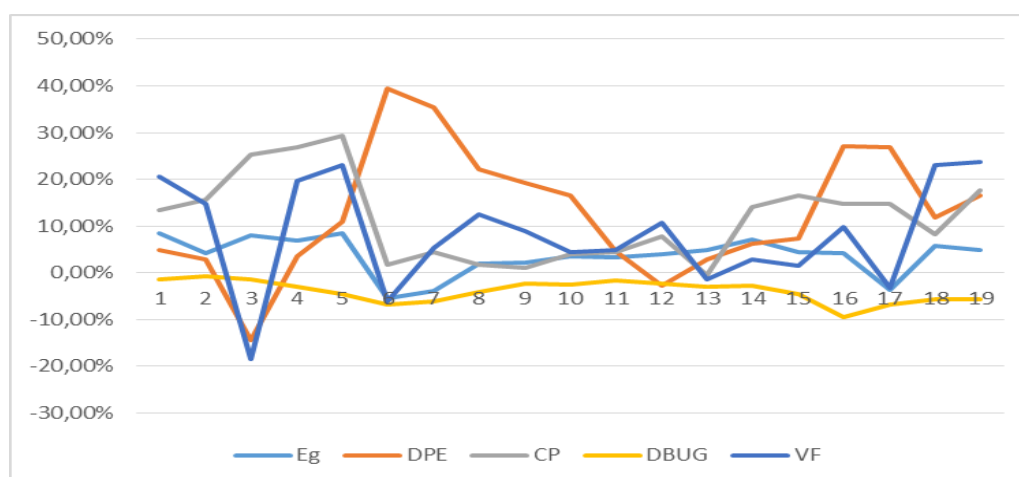
**H1:** There is a positive correlation between government spending, public debt, budget deficit and gross domestic product;

**H2:** Romania applied a procyclical fiscal policy.

The research allows a much clearer perception of the effects generated by fiscal policy on sustainable economic development, offering an empirical framework to both theorists and specialists in the fiscal field and authorities interested in the formulation and application of measures that generate positive effects in terms of reducing tax evasion, voluntary payment compliance, increasing budget revenues and ensuring sustainable development.

#### 4. Data and results

The Romanian economy registered significant changes after the 90s, being characterized by a sinusoidal aspect from the point of view of the rate of economic growth (-5.6 in 1990, -12.9 in 1991, -8.8 in 1992, +7.1 in 1995, -4.9 in 1997, -0.4 in 1999). Marked by a period of difficult transition, Romania faced high inflation and difficulties in carrying out structural reforms. Against the backdrop of economic and political turmoil, the gdp recorded a significant decrease. In the following years, there was a slight revival of the economy (1.6% in 2000, 4.6% in 2001), against the background of the adopted measures. In the analysis carried out, the annual data on the mentioned indicators, collected from the website [www.mfinante.ro](http://www.mfinante.ro), were used. In the analysis carried out, the annual data on the mentioned indicators, collected from the website [www.mfinante.ro](http://www.mfinante.ro), were used. They were expressed in real terms by adjusting them with the GDP deflator, the base period being 2003. The Hodrick-Prescott Filter was applied to identify the cyclical components of the analyzed indicators for the purpose of analyzing long-term trends. After 2004, the evolutions recorded by the analyzed variables highlighted sinusoidal trends (graph no. 1).



**Graph no. 1 Trends in the evolution of the variables analyzed in the period 2004-2022**

Estimation of the coefficients of the linear model by the method of least squares allowed the validation of hypotheses H1 and H2. The R (0.899), R<sup>2</sup> (0.808) values allowed measuring the degree of influence of the independent variables on economic growth. Moreover, a statistical analysis on the correlation between the evolution of GDP and that of public expenditures revealed a strong link between the two variables (R=0.979; R<sup>2</sup> = 0.960), a fact that demonstrates the existence of a procyclical fiscal policy. The fiscal policy promoted by the authorities is circumscribed by fiscal rules so as to ensure a real process of economic macro-stabilization. Their harmonization can improve the level of revenue collection, against the background of supporting the development of the business environment and stimulating investments.

From the research carried out, it emerges that fiscal policy, budget deficit, external public debt, public expenditure and tax revenues are interdependent and influence each other in the management of a state's financial resources, playing a crucial role in the health and economic stability of a country. A balanced and coordinated approach to these elements is essential to maintaining a sustainable and healthy financial situation for a national economy. In addition, the digitization process of ANAF (National Fiscal Administration Agency) can have a significant influence on the increase in the collection of public resources from taxes and fees, but also on the reduction of tax evasion. In general, the digitization of ANAF in Romania aimed to simplify and streamline tax processes, provide easier and faster access for taxpayers to tax information and services, and increase the capacity to monitor and control tax compliance.

Until now, the digitalization of ANAF in Romania has represented a continuous effort to modernize and adapt tax services through the use of digital technology. The implementation of this process was achieved through:

- the implementation of computer systems and online platforms to facilitate the tax declaration and payment process;
- the modernization of the IT infrastructure, so as to ensure the efficient processing of fiscal data and the facilitation of verification and control processes. The implementation of advanced IT systems, such as interconnected databases and data analysis technologies, has facilitated the effective monitoring and management of fiscal information;
- collaboration and exchange of information between public institutions and relevant organizations, such as banks or other entities, which supported a better coordination and management of tax information, contributing to the identification and combating of tax evasion.

However, there are still challenges in terms of the degree of adoption of digitization in all areas and levels of complexity of tax services. But, the following positive effects can be identified:

- ✓ digitalization can improve efficiency and transparency in the collection of taxes and fees. Digital processes can simplify and speed up tax payment procedures for taxpayers, making them more accessible and easier to understand;
- ✓ advanced IT systems can improve the monitoring and more efficient management of tax data, which can lead to quicker identification of inconsistencies and errors in tax returns.
- ✓ digitalization can strengthen fiscal supervision and control. By using advanced technologies, such as data analysis or artificial intelligence, ANAF can identify patterns and trends that could indicate potential cases of tax evasion;
- ✓ the implementation of more powerful and interconnected IT systems can help improve the exchange of information between different entities, such as financial institutions or other government bodies, which could strengthen the control and monitoring of income and expenditure.

In conclusion, the digitalization of ANAF can play a crucial role in making the collection of taxes and fees more efficient, especially by facilitating processes, improving transparency and managing tax data more efficiently. It can also contribute to reducing tax evasion by improving the ability to monitor and identify non-compliant tax behaviours.

## **5. Conclusions**

The research activity aims to identify the way in which fiscal policy measures can influence sustainable economic development, as well as the development of a model for assessing and forecasting fiscal sustainability, in the context of identifying a fiscal multiplier that allows tracking fluctuations in the rate of economic growth (growth rate GDP) in case of shocks in the macroeconomic indicators. The analysis considered the correlation: fiscal policy measures - level of taxation - efficient collection (voluntary compliance - tax evasion) - budget revenues - budget expenses - sustainable economic growth. The obtained results allowed the validation of the research hypotheses (H1 and H2). The fiscal policy adopted in Romania exerts a significant influence on the functioning and efficiency of the economy as a whole, affecting both taxpayers and consumers. A notable feature in Romania, in contrast to developed states, is the fact that the majority of budget revenues come from indirect taxes, (taxes on consumption and economic goods), thus emphasizing a considerable fiscal pressure on the workforce, real incomes and power of purchase. Fiscal policy in Romania did not remain constant in the long term, but on the contrary, it often changed, which prevented the registration of sustainable economic growth. Consequently, fiscal policies must be harmonized with fiscal rules in order to ensure the highest possible level of revenue collection for the general consolidated budget, against the background of supporting the development of the business environment and investments, so as to ensure a reduction of tax evasion. The continuation of the digitization process can represent an important factor in improving the degree of collection of budget revenues and in reducing tax evasion. In addition, Romania must apply anti-cyclical fiscal policies, as the cyclical policies applied in previous years have proven their inefficiency and negative effects on the entire economy.

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