# THE IMPORTANCE OF THE FORECASTING METHODOLOGY IN ESTABLISHING AND EVALUATING THE NATIONAL ACTION DIRECTIONS

**Prof. Alexandru MANOLE PhD** *(alexandru.manole@gmail.com)*
*„Artifex” University of Bucharest*
**Emilia STANCIU Ph.D Student** *(emmmystanciu@gmail.com)*
*Bucharest University of Economic Studies*

**Abstract**

*Macroeconomic forecasting is indispensable in establishing action plans for any governance system, statistical and economic models and models as the tool for assessing the past and present situation and the starting point for future decisions. Recent research and reports indicate that Romania is currently on an upward, very favorable trend, and if measures are not taken urgently to consolidate this advantage and straighten vulnerabilities, we are likely to lose what we have achieved To achieve in recent years growth. The article highlights in the first place the progress we have made on some indicators in the recent period and the objectives for the next period.*

**Cuvinte cheie:** *forecasting, forecasting methodology, models, economic growth, economic indicator*

**Clasificarea JEL:** *E17, F43*

## Introducere

Economic management implies both macroeconomic, country and microeconomic, economic agent optimization of human and logistic resource allocation. Implicitly, for the development of any economic policy it is necessary to correctly assess the past and present situation, measurement that can only be done with the help of a well-developed instrument. An essential condition for the free market function is that the measures are taken in real time, otherwise financial stability is in most cases irreversibly threatened. All research in the economic field has led to the conclusion that the predictive methodology is vital to the economic aspect and the economic aspect is in a relationship of interdependence with the social and political aspects. Making the most appropriate decisions is a rather difficult task as computer resources now provide us with a great deal of information. Similarly, decision-makers need to consider the unpredictability, complexity, apparent correlation, and subjective perception of economic agents at all levels. So choosing the right methods, techniques and models is a difficult commitment with major implications. The socio-economic context is becoming wider and consequently the entire forecasting system has exponentially increased in complexity and has led sine qua non in the development of models involving simultaneously or combining a large number of economic variables. Studies have identified a number of macroeconomic issues today: fluctuations in economic activity, budget deficit, inflation, unemployment, living standards or balance of payments imbalances.

## Literature review

Acemoglu, Golosov and Tsyvinski (2011) evaluate the impact of power alternance on the economy. Anghelache and Sacală (2016) have developed a model for macroeconomic analyses. Anghel, Diaconu and Sacală (2015) develop a detailed structural analysis of Romania's GDP. Anghelache et.al. (2017) describe the key aspects of Romania's economy evolution at the end of 2016. Manole, Anghel, Badiu and Avram (2017) have outlined the proportions and correlations that characterize the national economy. Anghelache, Grabara and Manole (2016) forecast the evolution of the Romanian economy with an ARMA model. Azzimonti, Battaglini, and Coate (2016) consider the case of balanced budget rules through a cost/benefit approach. Savor and Wilson (2013) study the level of importance granted to macroeconomic risk by inventors. Anghelache (2015) develops on economic forecasting methodology. Baxter and Kouparitsas (2005) analyze the determinants of business cycle. Anghelache, Mitruţ and Voineagu (2013), Anghelache (2008), Anghelache et.al.(2007), Anghelache and Anghel (2016), Newbold, Karlson, and Thorne (2010) are reference works in macroeconomic statistics and analyses. Okhrimenko and Manaenko (2014) analyze the determinants of investment support. Riboni and Ruge-Murcia (2008) analyze certain characteristics of monetary policies. Anghelache, Anghelache and Anghel (2015) study the monetary evolution from the viewpoint of placements and resources. Bardsen, Nymagen, and Jansen (2005), Anghelache, Anghel, Manole and Lilea (2016) consider the application of econometrics in macroeconomic modeling, Pagliacci, Anghelache, Manole and Anghel (2016) focus on modeling the international trade of Romania. Popielas (2012) evaluates the investment services in the European Union from the harmonization perspective. Anghelache et.al. (2016) focus on statistical estimation. Dobrodolac (2011) develops on the usefulness of econometric forecasting tools in management. Gali, Lopez-Salido and Valles (2007) consider the effects of government spending on the consumption.  Motofei (2017) studies the economic growth characteristics in EU eastern area. Hastings, Madrian, and Skimmyhorn (2013) analyze the correlation between financial literacy, financial education, and economic outcomes. Piroi and Paunica (2015) consider the role of technology in improving the development of Romanian budgetary processes.

## Metodologia cercetării și date

- **Aspects regarding the use of statistical and economic methods and models in the activity of forecasting**

Statistical and economic models and models are indispensable tools for assessing economic trends through their diversified and mixed use, with specialists able to determine macroeconomic developments, taking into account dependent and independent variables.

The entire forecasting methodology aims to analyze the vulnerabilities, difficulties, past and present opportunities and create the best framework for action for the future. Priority measures and micro- and macro-economic action lines are established following these assessments.

It is desirable to apply predictive methods and statistically-econometric models as different as they are a starting point for the Government in the elaboration of budgetary constructions, constructions that have to consider eliminating or controlling as many hazardous situations as possible. Following the effective application of the forecasting methodology, real economic development directions can be developed, avoiding financial collapse and creating new development opportunities.

The econometric models that can be used to predict the evolution of an economic system can be: simple and multiple linear regression models, nonlinear regression models, models with simultaneous equations, time series analysis models. The starting point in an analysis that aims to determine the performance of an economic system is to establish the values of the main indicators. The determined value of the macroeconomic aggregates can be used to perform analyzes on the time evolution of indicators for a particular economic system. Macroeconomic indicators are also used in the comparative analysis of the performance of different economic systems. In this way, it is possible to determine the position of a certain national economy in relation to similar economic systems. It is very important for such comparisons to have unique systems of indicators. In this case, mention is made of the System of National Accounts or the studies developed at the level of specialized bodies at the level of the European Union, studies in which we have assessments of the Member States' economic performances, but also comparative analyzes between them or between them and other economic systems at the level globally.

The system of economic aggregates should also be regarded as an essential starting point in analyzes based on econometric models, analyzes whose objective is to predict the subsequent evolution of these indicators. Here, analyzes can be made based on regression models - simple and multiple - or with models with simultaneous equations or macroeconomic analyzes performed using time series. The latter are largely used at the level of national or regional economies, as macroeconomic analyzes have recently been based on specialized IT programs.

The combined use of outcome indicators and econometric models has enabled the creation of complex structures, analyzed in the form of studies on local, regional, national and international economic models.

- **Analysis of the evolution of the Romanian economy and forecasts for the next period**

According to the Draft Budget for 2017, approved on 31 January, an economic growth of 5.2% is projected for 2017 and an increase of over 5% over the period 2018-2020. This growth is significantly higher than projected at the level of EU countries (1.5% in the euro area and 1.6% on the total EU projected for 2017). Given the current global macroeconomic context (eg the refugee crisis, Brexite, the evolution of emerging countries such as Brazil and Russia, worsening the situation in Turkey, etc.), it is a real challenge for a country like Romania to achieve such results.

The main objectives for 2017 and the 2018-2020 horizon are to stimulate, continue, consolidate and maintain smart, sustainable and inclusive economic growth, allocate significant amounts to support public investment, create a predictable fiscal policy to support the business environment, simplify taxation ; To stimulate consumption by adopting salary measures for some categories of staff in the budgetary sector, alongside social measures to ensure protection and social security for elderly people, retirees, students and the most vulnerable categories; Improving debt management tools; Improving, enforcing and strengthening budgetary governance, increasing budgetary transparency and improving public spending.

For the year 2017, budget revenues are projected to account for 31.2% of GDP, 32.4% in 2018 and 32.8% in 2020. Budget expenditure projected for 2017 is 34.2% of GDP, reaching 34, 8% of GDP in 2020. If for the year 2016 a budget deficit of 2.41% of GDP was estimated (this trend being determined by the fiscal relaxation started in 2015-2016 obtained by approving the new tax code with salary increases and granting of some Social assistance rights plus measures such as raising the minimum wage, eliminating contributions for pensioners, not paying pensions below 2000 lei, adopting the law on the elimination of 102 taxes, increasing the value of the pension point), 2017 is estimated a level of the budget deficit, Of 2.96% of GDP. As mentioned above, it is estimated that for the year 2017 the economic growth will be 5.2% provided that the following conditions are met: domestic demand is the main factor of economic growth; The average annual growth rate of gross fixed capital formation is 7.2%; Expenditure on final consumption of the population to increase by 7.2%; To take measures to ensure better participation in the labor market so that in the year 2020 we have a 70% employment rate for the 20-64 year-old population, if we have an increase in the number of employees of 4.3% , And a fall in the unemployment rate of 4.3% at the end of 2017; Business environment to be supported; To apply tax incentives to exempt reinvested profits from tax; To stimulate innovation, R & D activities to create well-paid jobs, to encourage domestic capital, to attract foreign direct investment; Be exempt from corporate income tax in the first 10 years of activity, starting with 2017, taxpayers carrying out exclusively innovation, research and development activities.

The intention of the Government is to accelerate the pace of spending European funds to reach a rate of 72.5% by December 31, 2020 and 100% by December 31, 2023. If we report at European level, according to economic analyzes, it is forecast That the pace of economic growth in Europe will remain moderate, generally ascending to all Member States, but with variations from one country to another. Growth-promoting factors are the decline in unemployment (it is forecast that employment in the EU and the euro area will increase by 1.4% in 2017 - thus at a higher rate than any other year since 2008, due to the increases Wages, domestic demand, budget reforms) and the rebound in investment due to EU co-financing (investment is projected to increase by 3.1% in 2017 and by 3.5% in 2018), and private growth will be the main driver of growth. It is also estimated that the aggregate public deficit (from 1.8% of GDP in 2016 to 1.5% of GDP in 2017 and 2018) will continue to decline in the projected period (2017-2018), due to the fall Social transfers, falling unemployment, low interest rates) and the government debt-to-GDP ratio (from 91.6% in 2016 to 89.4% in 2018).

According to Romania's Country Report of 2017 presented in Brussels, 22.02.2017, a report assessing Romania's economy in the light of the annual analysis conducted by the European Commission, published on November 16, 2016, it was mentioned that Romania's economy had a cyclical upturn in The last two years. The economic growth of the country reached a peak in 2016, this relative to the post-crisis period (4.9%). Growth was mainly favored by strong domestic demand amid pro-cyclical fiscal policies. Forecasts for robust economic growth are projected to be 4.4% in 2017 and 3.7% in 2018.

A consequence of economic growth was the strengthening of the labor market. Significant wage increases have taken place, with unemployment nearing the pre-crisis figures, and are forecast to be continuously decreasing over the period 2017-2018.

So in 2016 fiscal policy became pro-cyclical. Account deficit is increasing, primarily as a consequence of tax cuts and rising costs. In 2016, it rose to 2.8% of GDP and is projected to further increase to 3.6% in 2017 and 3.9% in 2018. Economic projections show an increase in the structural deficit from below 1 % In 2015 to around 4% in 2017. It is also expected to see a deterioration in public debt, but well below the 60% ceiling set by the Maastricht Treaty.

Economic research indicates an improvement in financial stability and the banking sector. Despite the challenge of the high level of bad loans, there is a good level of capital and an increase in profitability.

Despite the fact that Romania has made some beneficial structural reforms, the disadvantage lies in the fact that some have stagnated and others are in danger of being canceled. For the first time in 2008, actual production has grown to its pre-year level and is expected to grow steadily. But if structural reforms do not adequately regulate tax compliance, reduce corruption or improve tax collection, we will maintain the potential for growth at a low level. The way in which the current fiscal structure is structured favors economic growth. Compared with the EU average, tax revenue increases more in line with consumer taxes and less taxes on income and earnings. The conclusion is that Romania has implemented measures since 2009 to achieve significant fiscal and budgetary consolidation, which has led to the achievement of the medium-term objective in 2014 and 2015, but the government is currently pursuing an expansionary fiscal policy, A policy that can deviate significantly from our goal and cancel out progress so far.

As worrying evidence of non-compliance with tax rules, it can be mentioned that Romania has the largest VAT receipts in the EU. The VAT revenue gap (the difference between the VAT revenue expected theoretically and the VAT actually collected) increased in 2014 by 3.4 percentage points. In order to combat this issue, the legislation on the registration and delisting of taxpayers for VAT purposes has been clarified and improved and VAT refund procedures have been modified.

All economic studies have indicated Romania's progress in implementing country-specific recommendations: simplifying administrative procedures for businesses and citizens, reducing informal healthcare payments, strengthening corporate governance of public enterprises, improving access to integrated services In rural areas, the implementation of the Master Plan of Transport (adopted in September 2016). Limited progress has been made in strengthening the independence and transparency of human resource management in public administration or prioritizing public investment.

Although consistent reforms have been initiated and implemented throughout the year 2016, there is a great potential for unused labor, which still holds a low level of economic growth. Although the public employment service has been improved and active labor market policies directed towards inactive groups have been promoted, we are still below the EU average in terms of employment and rates of work amongst women , The low-skilled, the young, the disabled and the Roma. Studies have shown that undeclared work is still widespread (undeclared work is about 15% -20% of GDP), which has a negative impact on the reduction of tax revenues and labor supply.

The government is still working to develop a minimum wage setting mechanism, the last salary that was last increased in February 2017. The poverty rate is declining but persists among young people, families with children, people with disabilities, Roma, rural population and people Inactive, as well as the phenomenon of social exclusion.

The level of public spending on investment is high, being among the first in the EU, but poor infrastructure, inefficient public procurement are major impediments to economic growth. There has been an acceleration in public administration reform in 2016, but this is far from complete. Although a new national anti-corruption strategy has been adopted by the Government to address effectively the prevention of corruption in public administration, measures have been taken to increase transparency and consultation with relevant authorities and stakeholders in the decision-making and legislative process, the proposed measures do not yet Fully implement in practice the principles and objectives of these strategies. Other relevant issues are the lack of consistent application of regulatory impact assessment tools or the strategic planning of policy, legislation and investment initiatives and court decisions. There is also a brake on investment due to delays in recent reforms.

## Conclusion

As a whole, Romania has made some progress in terms of employment, minimum wage setting, education, pensions, health, public administration and public enterprises in transport and investment. Limited progress has been made in terms of budgetary institutions' credibility, financial stability, compliance with tax obligations and tax collection. Therefore, preserving macroeconomic balances through adequate fiscal, fiscal, fiscal and monetary policy oriented towards stability, structural reforms and maintaining financial stability is a defining element of the next period. Relevant progress has been made in simplifying administrative procedures over the period 2013-2015 compared to the 2011-2013 period, which has been characterized by a lack of progress. Two strategies in the field, an action plan for entrepreneurship, the business environment and SMEs and a government program for the period 2013-2016 were adopted during this period. It is important to note that over the past 3 years, Romania has achieved results over the EU average in facilitating the creation of new businesses.

**References**


1. Acemoglu, D., Golosov, M. and Tsyvinski, A. (2011). Power fluctuations and political economy. *Journal of Economic Theory*, 146 (3), 1009–1041
2. Anghel, M.G., Diaconu, A. and Sacală, C. (2015). Analysis of the evolution of Gross Domestic Product by categories of users. *Romanian Statistical Review Supplement*, 10, 35-42
3. Anghelache, C., Manole, A., Anghel, M.G., Stanciu, E. and Ursache, A. (2017). Some Significant Macroeconomic Evolutions at the End of 2016. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7 (1), 213-224
4. Anghelache, C. and Anghel, M.G. (2016). *Bazele statisticii economice. Concepte teoretice şi studii de caz*, București: Editura Economică
5. Anghelache, C., Anghel, M.G., Manole, A. and Lilea, F.P.C. (2016). *Modelare economică, financiar-monetar-bancară şi informatică*, București: Editura Artifex
6. Anghelache, C. and Sacală, C. (2016). Theoretical model used for macroeconomic analysis. *Romanian Statistical Review Supplement*, 7, 57-60
7. Anghelache, C., Grabara, J. and Manole, A. (2016). Using the dynamic Model ARMA to Forecast the Macroeconomic Evolution. *Romanian Statistical Review Supplement*, 1, 7-17
8. Anghelache, C., Anghel, M.G., Jweida, I.J., Popovici, M. and Stanciu, E. (2016). Theoretical notions of statistical estimation. *Romanian Statistical Review Supplement*, 11, 120-126
9. Anghelache, C. (2015). *Previziune economică. Note de curs*, Bucureşti: Editura Artifex
10. Anghelache, C., Anghelache, G.V. and Anghel, M.G. (2015). The monetary evolution, placements and resources. *Romanian Statistical Review Supplement*, 4, 72-80
11. Anghelache, C., Mitruţ, C. and Voineagu, V. (2013). *Statistică macroeconomică. Sistemul Conturilor Naţionale*. Bucureşti: Editura Economică
12. Anghelache, C. (2008). *Tratat de statistică teoretică şi economică*, București: Editura Economică
13. Anghelache, C. şi colaboratorii (2007). *Analiza macroeconomică – Sinteze şi studii de caz*, București: Editura Economică
14. Azzimonti, M., Battaglini, M. and Coate, S. (2016). The Costs and Benefits of Balanced Budget Rules: Lessons from a Political Economy Model of Fiscal Policy. *Journal of Public Economics*, 136, 45-61
15. Baxter, M. and Kouparitsas, M.A. (2005). Determinants of business cycle Comovement: a robust analysis. *Journal of Monetary Economics*, 52 (1), 113–157

16. Bardsen, G., Nymagen, R. and Jansen, E. (2005). *The Econometrics of Macroeconomic Modelling,* Oxford University Press
17. Dobrodolac, T. (2011). Forecasting by econometric models as support to management. *Perspectives of Innovations, Economics & Business*, 7 (1), 72-76
18. Gali, J., Lopez-Salido, J.D. and Valles, J. (2007). Understanding the Effects of Goernment Spending on Consumption. *Journal of the European Economic Association*, 5 (1), 227–270
19. Hastings, J.S., Madrian, B.C. and Skimmyhorn, W.L. (2013). Financial Literacy, Financial Education, and Economic Outcomes. *Annual Review of Economics*, 5, 347–73
20. Manole, A., Anghel, M.G., Badiu, A. and Avram, D. (2017). Theoretical considerations regarding the main macroeconomic proportions and correlations. *Romanian Statistical Review Supplement*, 3, 169-181
21. Newbold, P., Karlson, L.W. and Thorne, B. (2010). *Statistics for Business and Economics*, 7th ed., Pearson Global Edition, Columbia, U.S
22. Motofei, C. (2017). Vectors of economic growth in the eastern area of the EU. *Theoretical and Applied Economics*, *24*(1 (610), Spring), 215-226
23. Okhrimenko, O. and Manaenko, I. (2014). Determinants Of Investment Support: Principles, Mechanisms, Efficiency. *Economics of Development*, 69 (1), 34-40
24. Pagliacci, M., Anghelache, C., Manole, A. and Anghel, M.G. (2016). The Econometric Model for the Economic and Financial Analysis of Romanian International Trade. *Romanian Statistical Review*, 3, 53-66
25. Piroi, M. and Paunica, M. (2015, June). How Technology can Help in Reducing Romania's Budget Deficit. In *Proceedings of The 15th European Conference on eGovernment ECEG 2015 University of Portsmouth* (p. 419)
26. Popielas, M. (2012). Harmonization Of Investment Services In The European Union - The Example Of Investment Funds. *Oeconomia Copernicana*, 3 (1), 73-88
27. Riboni, A. and Ruge-Murcia, F.J. (2008). The dynamic (in)efficiency of monetary policy by committee. *Journal of Money, Credit and Banking*, 40 (5), 1001–1032
28. Savor, P. and Wilson, M. (2013). How much do investors care about macroeconomic risk? Evidence from scheduled economic announcements. *Journal of Financial and Quantitative Analysis*, 48 (2), 343–375