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Public finances: introduction of a medium-term budgetary framework

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Public finances: introduction of a medium-term budgetary framework
EUROPEAN INSTITUTE OF ROMANIA
SPOS Project 2009 – Strategy and Policy Studies

Study no. 1

PUBLIC FINANCES: INTRODUCTION OF A MEDIUM-TERM BUDGETARY FRAMEWORK

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Bucharest
December 2009

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Foreword

The research - development program destined for the Strategy and Policy Studies – SPOS, launched by the European Institute of Romania in 2006 in order to support Romania in exerting its attributions as EU member state, has continued in 2009 through a new series of studies.

The topics approached have answered different requirements, of great interest from the perspective of the evolution of the Romanian economy and society, representing the result of both a consultation process as well as of national and European programmatic documents, and institutional requests, as they are perceived by representatives of the central administration present at the European affairs coordination meetings.

The studies provide founding elements for the main directions of action in order to bring to fulfillment some measures adopted at the European level (Public finances: Introduction of a medium-term budgetary framework; The Future of the European Community’s Resources and the Implications for Romania’s Contribution to the EU Budget and The Impact of the Implementation of the Energy-climate Change Package on the Romanian Economy), as well as perspectives of Romanian policies aiming to promote national reform measures in a European context (Flexicurity and social dialogue in Romania– Perspectives on the implementation of flexicurity principles in Romanian undertakings and Improving vocational competencies among graduates and youths: A chance for the future).

The current series of studies has benefited from contributions of a research team made up of:

Mr. Moisă Altăr, coordinator of the study, Ph.D. Professor, with experience in international projects and in the elaboration of the Romanian Quarterly Model (RQM), used by the Ministry of Finance in the analysis of fiscal – budgetary decisions.
Mr. **Lucian Liviu Albu**, Ph.D. Professor and Director of the Institute for Economic Forecasting, with an extensive experience in research for numerous macroeconomics and economic forecasting projects, at the national and international level.

Mr. **Ciprian Necula**, Ph.D. Lecture at the Academy of Economic Studies, Monetary department, with experience in numerous research projects in fiscal policy and macroeconomic forecasting, as well as author of specialized publications.

Mr. **Gabriel Bobeică**, lecturer, Pd.D. candidate at the Academy of Economic Studies, participant in numerous research projects as member in the research team and author of specialized publications in the field of monetary policy and econometric models.

Throughout the elaboration of the above mentioned study, the research team has enjoyed the active contribution of Mrs. Agnes Nicolescu as Project coordinator on behalf of the European Institute of Romania, as well as the support of a working group, consisting in representatives of the main central administration institutions with attributions in the field.

**Gabriela Drăgan**

Director general of the European Institute of Romania
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EXECUTIVE SUMMARY

In the context of the current economic and financial crisis, a phenomenon without precedent since the Great Depression between 1928 – 1933, public finances stand for a fundamental vector aimed to ensure macroeconomic stabilization and launch economic growth. This is clearly pointed out in the recovery programs nationally adopted by numerous countries, but also in those promoted by international organizations such as the European Union\(^1\) or the International Monetary Fund\(^2\).

A crucial element for ensuring the desired efficiency of fiscal and budgetary policies is the continuous enhancing of the quality of public finances. Currently, there is a major concern regarding increasing the quality of public finances both at a national level, but also for international institutions such as the European Commission, the International Monetary Fund, OECD, World Bank etc. Accordingly, the European Commission has set up a special work group which was given the task of delineating the concept of quality of public finances together with identifying the methodology and econometric techniques to measure the quality of national public finances. A first result achieved by this work group is the identification of those distinctive elements which define the multidimensional nature of the concept of quality of public finances, namely the size of the public sector (revenues, expenditures), the fiscal position and sustainability, the structure and efficiency of public of the revenue system and governance of public finances, together with the interconnectedness of these elements.

As highlighted by documents elaborated by the European Commission, the quality of public finances has a major impact on the business environment, on economic growth and social welfare. In the aforementioned approach of the European Commission, a central element of the concept of quality of public finances is fiscal governance. By this it is generally understood the assembly of the fiscal rules used by a country, as well as fiscal institutions, budgetary procedures and medium-term frameworks. The achievement of a sound fiscal governance is ensured by the existence of a fiscal strategy with strong scientific and praxeological grounds, clear rules enforced by law for fiscal and budgetary policies, and

\(^1\) "European Economic Recovery Programme,” november 2008.
\(^2\) "IMF Staff Position Note, dec. 2008: Fiscal Policy for the Crisis.”
an Independent Fiscal Council in charged with the supervision of the fiscal policy as a whole.

It is necessary that both the Government and the independent Fiscal Council firmly observe the principles that guarantee the coherence and effectiveness of fiscal policies.

Furthermore, the transparence and predictability of fiscal policy should be ensured. A crucial prerequisite for enhancing the quality and stability of the macroeconomic environment is that the business sector is informed with respect to the fiscal strategy, as well as any fiscal or budgetary decisions. Moreover, the principle of responsibility, the principle of efficiency and the principle of social equity etc should be promoted through appropriate methods. It is obvious that in order to create a coherent institutional and regulatory framework, both fiscal strategy and the medium term budgetary objectives need to be enforced by law, being passed by the Parliament.

The revision of the Stability and Growth Pact in 2005 has placed a special emphasis on the issue of increasing the quality of fiscal governance in Europe. Numerous studies signed by the European Commission, OECD, IMF, World Bank and other international institutions have highlighted the fact that a sound fiscal governance is a sine-qua-non prerequisite for ensuring the success of structural reforms. Moreover, it has been emphasized that countries with well established medium term budgetary objectives, with sound fiscal rules and independent fiscal institutions will benefit from stable budgetary positions and sustainable rates of growth.

In Romania, as well as in other countries of the European Union, there are deep concerns over increasing the quality of public finances and continually improving fiscal governance. Unfortunately, as revealed by a scoreboard of the quality of public finances in EU-27, made public by the European Commission in August 2009, Romania is placed on the 27th position with respect to fiscal governance. On a scale ranging from -30 to +30, where a score which lies between -30 and -10 reflects an ”extremely poor” quality of fiscal governance, Romania was attributed a score equal to -13.3.

Considering the quality of public finances in Romania, the European Commission has reaffirmed in June 2008 its recommendations for implementing a budgetary framework on the medium and long term and taking measures for improving the quality of public finances in every respect. The Commission’s advice is based on the fact that these measures would significantly contribute to strengthen the budgetary credibility and predictability and they will facilitate a better reflection of the long term growth strategy in the overall budget, according to the Lisbon agenda.
Moreover, this will contribute to a strong budgetary discipline and the use of additional revenues for reducing the deficit.

The issue of improving the fiscal governance in Romania is also addressed in the Memorandum signed in May 2009 by the Romanian Government and the European Union. The Memorandum includes a set of firm measure, such as:

- Preparing a new law on fiscal responsibility, aimed to ensure that the multi-annual budgetary programming is operational;
- Establishing an independent fiscal council that will elaborate macroeconomic forecasts, expenditures and revenues forecasts and any other elements necessary for budgetary planning.

It is worth mentioning that the implementation of a medium-term budgetary framework is an objective undertook by the Romanian Government through the Convergence Program in 2009.

Considering the strong need for enhancing the quality of public finances in Romania, the present study introduces a set of elements necessary for establishing the fiscal strategy and implementing a budgetary framework on the medium term. Moreover, the study analyses the elements that are essential to elaborate fiscal policies in such a manner that they provide stability to the budgetary processes and diminish their volatility.

The first part of the paper establishes the major directions for effective action that has to be taken for improving public finances in Romania, based on increasing their quality and that of fiscal governance.

Taking into consideration that a crucial direction for improving the fiscal governance and strengthening the role of public finances for macroeconomic stabilization and launching economic growth is given by the adoption of a medium term budgetary framework, section 2.1 addresses the most important aspects regarding this issue and highlights the means of actions that have to be taken in order to implement it. The present study takes into consideration the diverse experience of countries in the European Union that have successfully implemented a medium term budgetary framework.

The topic of implementing a medium term budgetary framework is tackled in close connection with emphasizing the need to elaborate a sound fiscal strategy and setting up an independent fiscal council that will supervise the way this strategy is being put into practice. Furthermore, the study analyses the stages that need to be fulfilled in order to successfully implement a medium term budgetary framework. Of utmost importance is the stage of elaborating a set of macroeconomic forecasts on scientific
grounds and which are based on a **system of operational econometric models** designed starting from the latest results achieved worldwide.

It is worth noting that the system of models is a crucial element for establishing fiscal strategies, for highlighting the fiscal risk factors, but also for ascertaining the impact of global shocks or of those originating in the domestic economy. Considering the fact that the Stability and Growth Pact places a special emphasis on **identifying the structural positions of the economy**, the system of models should allow an accurate estimation of the **potential GDP** and of the **cyclically adjusted balance (CAB)**, together with their dynamics.

**Section 2.2** addresses the problem of **long term fiscal sustainability**, analyzing the specific indicators and emphasizing their informational power. The concept of sustainability refers to the future implications of the adopted fiscal policies and choosing those policies that ensure budgetary solvency. The present paper establishes the conditions for sustainability, which can be deduced from the inter-temporal budgetary constraints. A special emphasis is placed on the methodology used by the international institutions to analyze fiscal sustainability.

A fundamental component of fiscal governance and of a successful implementation of a medium term budgetary framework is given by the existence of fiscal rules whose putting into practice must be firmly supervised. Additionally, both the Maastricht Treaty and the Stability and Growth Pact have as fundamental pillars the two fiscal rules, namely that regarding the budget deficit and that referring to public debt. **Section 2.3** addresses the **issue of fiscal rules**, reflecting the means of action and their contribution to strengthening fiscal discipline and budgetary stability. In addition, the section analyses the prerequisites a fiscal rule should fulfill in order to efficiently contribute to implementing fiscal policies, putting emphasis on measuring the performance of the budgetary system by means of an aggregate indicator, namely the Fiscal Rules Index.

The fiscal rules issue is in close connection with the **mechanism of automatic stabilization**, which ensures the correlation of the fiscal policy with the cyclical positions of the general system of the economy. It is a generally acknowledged fact that promoting the appropriate pro-cyclical or counter-cyclical fiscal policies, according to the cyclical position of the economy, is of utmost importance. **Section 2.4** analyses the mechanism of automatic stabilizers, reflecting their role in ensuring efficient macroeconomic policies. In order to assess the impact that different types of exogenous or endogenous shocks can have on the fiscal position, the section presents a model that emphasizes the role of automatic stabilizers for
ensuring a favorable evolution of GDP and inflation and for dampening out the supply and demand shocks.

A key element for a successful implementation of a medium term budgetary framework is given by the fiscal discipline. Within the European Union, the Stability and Growth Pact adopted in 1997 and revised in 2005, plays an essential role in ensuring fiscal discipline. Section 2.5 reviews the main provisions of the Stability and Growth Pact, revealing the mechanisms through which fiscal disciplined in attained in the European Union. A special emphasis is placed on the excessive deficit procedure, which, unfortunately, has been initiated on Romania, as well, starting with June 2009.

The firm implementation of a coherent macroeconomic strategy able to ensure the exit from the crisis period and launch economic growth is in close connection with an efficient correlation between monetary and fiscal policies. It is common knowledge that, in the case of no correlation between the two sides of macroeconomic policy, the fiscal policy can deteriorate price stability, as well as a discretionary monetary policy can alter the fiscal position of a country. Considering the importance of monetary and fiscal policy synchronization, section 2.6 extensively discusses this problem and highlights, based on a mathematical model, the directions in which actions are needed in order to ensure macroeconomic equilibrium.

Taking into consideration the fact that implementing a medium term budgetary framework raises new challenges with respect to identifying the structural position of the economy, the second part of the paper presents the econometric techniques employed to estimate the potential GDP and the output-gap, and consequently, the estimation of the cyclically adjusted balance (CAB).

It is generally agreed upon that the potential GDP and the output gap are a set particularly important macroeconomic variables for the design of fiscal policies. These are not directly observable variables. Consequently, it is important that these fundamental variables are estimated as precise as possible. Section 3.1 presents the results regarding the potential GDP and output gap estimation for the Romanian economy. In order to obtain an estimation characterized by a high robustness, the paper makes use of techniques based on production functions and on techniques based on econometric filters (Kalman filters, band-pass, wavelet etc.). The estimations of the output gap obtained through the production function approach and by employing econometric filters can be aggregated to yield an overall measure of the Romanian business cycle. The obtained results
show that during the period 2001 – 2008, the average growth rate of the potential GDP was 5.5%, which emphasizes the fact that this stage stands for a period of sustained economic growth of the Romanian economy.

Section 3.2 presents the results regarding the size of the Romanian cyclically adjusted balance (CAB). In order to estimate this indicator which is crucial in order to know the structural position of Romanian public finances, it was necessary to calculate the elasticity of budgetary revenues and expenditures with respect to the size of the output gap. The analysis revealed that, in the case of the Romanian economy, the semi-elasticity indicator of the budgetary account with respect to the output gap equaled, on average, 0.285 in the period 1998 – 2008, whereas the amplitude of the cyclical component of the budgetary balance amounted to 1% of GDP.

By employing the CAPEF-QM econometric model, elaborated by the Center for Economic and Financial Analysis and Prognosis, authors have put forward a set of scenarios regarding the medium term evolution of the structural position of the Romanian economy, and the results are being presented within section 3.3. The simulations take into consideration various evolutionary paths for the exogenous variables, yielding a benchmark scenario, an optimistic one and a pessimistic one. For all the considered scenarios, the output gap remains negative for the entire forecast horizon, 2009 – 2012, whereas the structural position of public finances is characterized by a continuously diminishing cyclically adjusted balance (CAB).

The final part of the paper analyses the specific problems associated with public finances in Romania, putting an emphasis on the effects of the current economic and financial crisis. Starting from the economic environment in the year 2009, the paper presents the evolution and macroeconomic trends foreseen for the period 2010 – 2012. Moreover, we present the economic impact of the agreement signed by Romania with international institutions in May.

The present study emphasizes the role of public finances in reducing the effects of the current financial and economic crisis that Romania is experiencing, as well as for ensuring the premises for launching economic growth. It is of utmost importance to increase the quality of public finances, of fiscal governance and to strengthen fiscal discipline through a better management of budgetary resources.

In order to enhance the quality of fiscal governance, institutional and legislative measures are urgently needed, as follows: a new law of fiscal accountability, setting up a long term fiscal strategy, transition to a multi-annual budgetary programming by implementing a medium term
budgetary framework, introducing strict fiscal rules, setting up an independent fiscal council and so on. In order to guarantee the effectiveness and efficiency of the adopted measures, it is crucial that the fiscal strategy and the medium term budgetary framework, as well as the independent fiscal council, are governed by law enforced by the Parliament.

The study underlines the fact that the implementation of a medium-term fiscal-budgetary framework requires the fulfillment of several important stages, and its design should take into consideration possible risk factors which may arise.

A first stage which needs to be accomplished refers to the identification of the type of budgetary framework about to be implemented according to the national institutional structure, existing human resources and the restrictions imposed on Romania, as member of the European Union.

Taking into consideration the advantages and disadvantages of each main type of medium-term budgetary framework presented in the paper, as well as the distinctive features of the Romanian economy, the authors recommend the use of a budgetary framework which is fixed with respect to the limit budgetary indicators and changeable with respect to the envisaged horizons. The adoption of such a medium-term budgetary framework will allow the change of the limit regarding the budgetary indicators only in extraordinary circumstances, based on the approval of the independent fiscal council. Moreover, the independent fiscal council would have the ability to analyze the budgetary impact of any proposal to modify the budgetary framework, especially in the pre-election periods.

As far as the independent fiscal council is concerned, it is recommended that it is made up of highly qualified specialists, with profound knowledge of Macroeconomics, with a vast experience in the fiscal field and have proved the potential to accurately interpret the economic and budgetary framework.

A sine qua non prerequisite for a successful implementation of a medium-term budgetary framework and an efficient functioning of the independent fiscal council is given by robust and highly accurate forecasts, for at least a three year horizon. To this purpose, it is required that a system of econometric models is elaborated according to high standards with respect to the quality of forecasts, and this system will allow a real time evaluation of the structural position of public finances. In addition, the system of models should allow for the fiscal risks measurements, as well as for the evaluation of the impact of various endogenous and exogenous shocks on the fiscal position. It is also recommended that the
system of national models is compatible with that used by the European Commission and by the International Monetary Fund.

A special attention is to be paid to the training of specialists which ensure that the budgetary framework is operational on the medium term, as well as exploiting and updating the system of models.

Once the medium-term budgetary framework is adopted, a scientifically-founded fiscal strategy with is required, allowing the projection of budgetary processes, the implementation of fiscal rules, especially of those referring to spending limits, as well as connecting the annual budgets to the medium-term budgetary framework.

The fiscal strategy which is about to be adopted should place a special emphasis on investments in human capital and on those aimed to develop the scientific and technological potential of the country – fundamental vectors for progress and nation welfare.

The fiscal strategy should be targeted at creating a national adaptable and efficient fiscal system. The national fiscal system is made up of the institutions, procedures and mechanisms that ensure the programming and implementation of budgetary policies. In fact, this represents the decisional environment in which agents plan their activity.

As the present study emphasizes, the National Fiscal System is based on the following fundamental pillars:

- The medium-term budgetary framework;
- The independent fiscal council;
- The fiscal rules;
- The budgetary procedures.

It is worth noting that each of the four pillars stands for a dynamic and complex system, with numerous direct and inverse connexions (feedbacks) with the other systems. The corroborated action of the four pillars determines the effectiveness and the efficiency of the national fiscal system and finally, the evolution path of the national economy, as a whole. It is necessary to stress out the fact that the four pillars have a complementary and synergetic action, neither of those being able to substitute the action of other pillars.

The experience of countries that have successfully adopted a strategy for creating a national flexible and efficient fiscal system has revealed that the four fundamental pillars must be implemented in the spirit of a unifying vision, as apposed to a fragmented one. In general, countries that have implemented the four fundamental pillars in a fragmented manner have failed in achieving fiscal reforms.
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It is obvious that the successful implementation of a coherent fiscal strategy should rely on several essential prerequisites, such as an accounting system in line with international standards, a coherent statistical system, the existence of a project-based budgeting ability, full authority granted to the Ministry of Finance with respect to budgetary proposals and so on.

The fiscal reform on which the national fiscal system relies should be elaborated with utmost attention and competence. The fiscal strategy that serves in achieving the reform must take into account the distinctive economic conditions in every country, existing institutions and traditions, as well as the experience of countries that have successfully implemented these reforms. Otherwise, there is the risk of creating non-functional institutions, which are not anchored in the economic realities of a given country.

Fiscal rules currently play a central role in the fiscal strategies adopted at the level of the European Union. It is worth mentioning that a successful implementation of the fiscal rules can only be achieved within a medium-term budgetary framework and based on budgetary procedures able to ensure fiscal discipline. It is obvious the adoption of strict fiscal rules should play a central role at the level of the fiscal strategy of Romania as well.

Considering the intellectual potential existing in Romania, the possibility to creatively make use of other countries’ experiences, the transfer of expertise ensured by the European Commission and other international financial institutions, we are certain that Romania will succeed in elaborating an efficient national fiscal system able to facilitate the economic and social progress of the country.
1. INTRODUCTION

In the context of the current economic and financial crisis, a phenomenon without precedent since the Great Depression between 1928 – 1933, public finances stand for a fundamental vector aimed to ensure macroeconomic stabilization and launch economic growth. This is clearly pointed out in the recovery programs nationally adopted by numerous countries, but also in those promoted by international organizations such as the European Union\(^3\) or the International Monetary Fund\(^4\).

A crucial element for ensuring the desired efficiency of fiscal and budgetary policies is the continuous enhancing of the **quality of public finances**. Currently, there is a major concern regarding increasing the quality of public finances both at a national level, but also for international institutions such as the European Commission, the International Monetary Fund, OECD, World Bank etc. Accordingly, the European Commission has set up a special work group which was given the task of delineating the concept of quality of public finances together with identifying the methodology and econometric techniques to measure the quality of national public finances. A first result achieved by this work group is the identification of those distinctive elements which define the multi-dimensional nature of the concept of quality of public finances.

![Figure 1.1. Quality of Public Finances – a multi-dimensional approach](image)

Source: *European Commission, 2008.*

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Figure 1.1 highlights the five major elements of the concept of quality of public finances, as follows: size of the government (revenues, expenditures), the level and sustainability of fiscal positions, the composition and efficiency of expenditure, the structure and efficiency of revenue system and fiscal governance, together with the manner in which all these elements interconnect.

As highlighted by documents elaborated by the European Commission, the quality of public finances has a major impact on the business environment, on economic growth and social welfare. In the aforementioned approach of the European Commission, a central element of the concept of quality of public finances is **fiscal governance**. By this it is generally understood the assembly of the fiscal rules used by a country, as well as fiscal institutions, budgetary procedures and medium-term frameworks. The achievement of a sound fiscal governance is ensured by the existence of a fiscal strategy with strong scientific and praxeological grounds, clear rules enforced by law for fiscal and budgetary policies, and an **Independent Fiscal Council** in charged with the supervision of the fiscal policy as a whole.

It is necessary that both the Government and the independent Fiscal Council firmly observe the principles that guarantee the coherence and effectiveness of fiscal policies.

Furthermore, the **transparency and predictability of fiscal policy** should be ensured. A crucial prerequisite for enhancing the quality and stability of the macroeconomic environment is that the business sector is informed with respect to the fiscal strategy, as well as any fiscal or budgetary decisions. Moreover, the **principle of accountability**, the **principle of efficiency** and the **principle of social equity** etc should be promoted through appropriate methods. It is obvious that in order to create a coherent institutional and regulatory framework, both fiscal strategy and the medium term budgetary objectives need to be enforced by law, being passed by the Parliament.

The rethinking of the **Stability and Growth Pact** in 2005 has placed a special emphasis on the issue of increasing the quality of fiscal governance in Europe. Numerous studies signed by the European Commission, OECD, IMF, World Bank and other international institutions have highlighted the fact that a sound fiscal governance is a sine-qua-non prerequisite for ensuring the success of **structural reforms**.

Moreover, it is generally agreed upon that countries with well established medium term budgetary objectives, with sound fiscal rules and
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independent fiscal institutions will benefit from stable budgetary positions and sustainable rates of growth.

In Romania, as well as in other countries of the European Union, there are deep concerns over increasing the quality of public finances and continually improving fiscal governance. Unfortunately, as revealed by a scoreboard of the quality of public finances in EU-27, made public by the European Commission in August 2009, Romania is placed on the 27-th position with respect to fiscal governance. On a scale ranging from -30 to +30, where a score which lies between -30 and -10 reflects an ”extremely poor” quality of fiscal governance, Romania was attributed a score equal to -13.3.

Figure 1.2 emphasizes by means of a pentagonal shape, the current situation in Romania of all five components that define the concept of quality of public finances. Except the components that reflect the size of the government and the structure and efficiency of revenue system, the quality of public finances in Romania is well below the European average.

Figure 1.2. The Quality of Public Finances in Romania

Source: Barrios and Schaechter, 2009.

5 The interval (-30, +30) was set so that the average computed for EU-15 is equal to 0. Assuming a normal distribution, the authors of the study recon that scores that lie between -30 and -10 indicate an "extremely poor" performance of the underlying indicator, values that range between -10 and -4 show a "poor" performance, values between -4 and +4 indicate an "average" performance and values between +10 and +30 show an "extremely good" performance.
Considering the quality of public finances in Romania, in June 2008, the European Commission has reaffirmed its recommendations for implementing a budgetary framework on the medium and long term and taking measures for improving the quality of public finances in every respect. The Commission’s advice is based on the fact that these measures would significantly contribute to strengthen the budgetary credibility and predictability and they will facilitate a better reflection of the long term growth strategy in the overall budget, according to the Lisbon agenda. Moreover, this will contribute to a strong budgetary discipline and the use of additional revenues for reducing the deficit.

The issue of improving the fiscal governance in Romania is also addressed by the Memorandum signed in May 2009 by the Romanian Government and the European Union. The Memorandum posits a set of firm measure, such as:

- Preparing a new law on fiscal accountability, aimed to ensure that the multi-annual budgetary programming is operational;
- Establishing an independent fiscal council that will elaborate macroeconomic forecasts, expenditures and revenues forecasts and any other elements necessary for budgetary planning.

It is worth mentioning that implementing a medium-term budgetary framework is an objective undertook by the Romanian Government through the Convergence Program in 2009.

Considering the strong need for enhancing the quality of public finances in Romania, the present study introduces a set of elements necessary for establishing the fiscal strategy and implementing a budgetary framework on the medium term. Moreover, the study analyses the elements that are essential to elaborate fiscal policies in such a manner that they provide stability to the budgetary processes and diminish their volatility.

The first part of the paper establishes the major directions for effective action that has to be taken for improving public finances in Romania, based on increasing their quality and that of fiscal governance.

Taking into consideration that a crucial direction for improving the fiscal governance and strengthening the role of public finances for macroeconomic stabilization and launching economic growth is given by the adoption of a medium term budgetary framework, section 2.1 addresses the most important aspects regarding this issue and highlights the means of actions that have to be taken in order to implement it. The present study takes into consideration the diverse experience of countries in the European Union that have successfully implemented a medium term budgetary framework.
The topic of implementing a medium term budgetary framework is tackled in close connection with emphasizing the need to elaborate a sound fiscal strategy and setting up an independent fiscal council that will supervise the way this strategy is being put into practice. Furthermore, the study analyses the stages that need to be fulfilled in order to successfully implement a medium term budgetary framework. Of utmost importance is the stage of elaborating a set of macroeconomic forecasts on scientific grounds and which are based on a system of operational econometric models designed based on the latest results achieved worldwide.

It is worth noting that the system of models is a crucial element for establishing fiscal strategies, for highlighting the fiscal risk factors, but also for ascertaining the impact of global shocks or of those originating in the domestic economy. Considering the fact that the Stability and Growth Pact places a special emphasis on identifying the structural positions of the economy, the system of models should allow an accurate estimation of the potential GDP and of the cyclically adjusted balance (CAB), together with their dynamics.

Section 2.2 addresses the problem of long term fiscal sustainability, analyzing the specific indicators and emphasizing their informational power. The concept of sustainability refers to the future implications of the adopted fiscal policies and choosing those policies that ensure budgetary solvency. The present paper establishes the conditions for sustainability, which can be deduced from the inter-temporal budgetary constraints. A special emphasis is placed on the methodology used by the international institutions to analyze fiscal sustainability.

A fundamental component of fiscal governance and of a successful implementation of a medium term budgetary framework is given by the existence of fiscal rules whose putting into practice must be firmly supervised. Additionally, both the Maastricht Treaty and the Stability and Growth Pact have as fundamental pillars the two fiscal rules, namely that regarding the budget deficit and that referring to public debt. Section 2.3 addresses the issue of fiscal rules, reflecting the means of action and their contribution to strengthening fiscal discipline and budgetary stability. In addition, the section analyses the prerequisites a fiscal rule should fulfill in order to efficiently contribute to implementing fiscal policies, putting emphasis on measuring the performance of the budgetary system by means of an aggregate indicator, namely the Fiscal Rules Index.

The fiscal rules issue is in close connection with the mechanism on automatic stabilization, which ensures the correlation of the fiscal policy with the cyclical position of the general system of the economy. It is a
generally acknowledged fact that promoting the appropriate pro-cyclical or counter-cyclical fiscal policies, according to the cyclical position of the economy, is of utmost importance. **Section 2.4** analyses the mechanism of automatic stabilizers, reflecting their role in ensuring efficient macroeconomic policies. In order to assess the impact that different types of exogenous or endogenous shocks can have on the fiscal position, the section presents a model that emphasizes the role of automatic stabilizers for ensuring a favorable evolution of GDP and inflation and for dampening out the supply and demand shocks.

A key element for a successful implementation of a medium term budgetary framework is given by the **fiscal discipline**. Within the European Union, the Stability and Growth Pact enacted in 1997 and revised in 2005, plays an essential role in ensuring fiscal discipline. **Section 2.5** reviews the main provisions of the **Stability and Growth Pact**, revealing the mechanisms through which fiscal disciplined in attained in the European Union. A special emphasis is placed on the **excessive deficit** procedure, which, unfortunately, has been initiated on Romania, as well, starting with June 2009.

The firm implementation of a coherent macroeconomic strategy able to overcome the crisis period and launch economic growth is in close connection with an **efficient correlation between the monetary and the fiscal policies**. It is common knowledge that in the case of no correlation between the two sides of macroeconomic policy, the fiscal policy can deteriorate price stability, as well as a discretionary monetary policy can alter the fiscal position of a country. Considering the importance of monetary and fiscal policy synchronization, **section 2.6** extensively discusses this problem and highlights, based on a mathematical model, the directions in which is optimum to act in order to ensure macroeconomic equilibrium.

Taking into consideration the fact that implementing a medium term budgetary framework raises new challenges with respect to indentifying the structural position of the economy, the **second part of the paper** presents the econometric techniques employed to estimate the potential GDP and the output-gap, and consequently, the estimation of the cyclically adjusted balance (CAB).

It is generally agreed upon that the potential GDP and the output gap are a set particularly important macroeconomic variables for the design of fiscal policies. These are not directly observable variables. Consequently, is important that these fundamental variables are estimated as precise as possible. **Section 3.1** presents the results regarding the **potential GDP and output gap estimation for the Romanian economy**. In order to obtain a
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highly robust estimation, the paper makes use of techniques based on production functions and on techniques based on econometric filters (Kalman filters, band-pass, wavelet etc.). The estimations of the output gap obtained through the production function approach and by employing econometric filters can be aggregated to yield an overall measure of the Romanian business cycle. The obtained results show that during the period 2001 – 2008, the average growth rate of the potential GDP was 5.5%, which emphasizes the fact that this stage stands for a period of sustained economic growth of the Romanian economy.

Section 3.2 presents the results regarding the size of the Romanian cyclically adjusted balance (CAB). In order to estimate this crucial indicator of the structural position of the Romanian public finances, it is necessary to compute the elasticity of budgetary expenditures and revenues with respect to the output gap. The analysis reveals that, for Romania, the semi-elasticity of the budgetary account with respect to the output gap equaled, on average, 0.285 in the period 1998 – 2008, whereas the amplitude of the cyclical component of the budgetary balance amounted to 1% of GDP.

By employing the CAPEF-QM econometric model, elaborated by the Center for Economic and Financial Analysis and Prognosis, the authors have put forward a set of scenarios regarding the medium term evolution of the structural position of the Romanian economy, and the results are being presented within section 3.3. The simulations take into consideration the different evolutionary paths for the exogenous variables, yielding a benchmark scenario, an optimistic one and a pessimistic one. Thus, according to the benchmark scenario, the GDP growth rate will equal -8.11% in 2009, 0.24% in 2010, 1.95% in 2011 and 2.75% in 2012. As far as the budgetary balance is concerned, this will amount to -7.25% of GDP in 2009, reaching -1.83% of GDP in 2012.

For all the considered scenarios, the output gap remains negative for the entire forecast horizon, 2009 – 2012, whereas the structural position of public finances is characterized by a continuously diminishing cyclically adjusted balance (CAB).

The final part of the paper analyses the specific problems associated with public finances in Romania, putting an emphasis on the effects of the current economic and financial crisis. On the grounds of the economic environment in the year 2009, the paper presents the evolution and macroeconomic trends envisioned for the period 2010 – 2012. Moreover, we present the economic impact of the agreement signed by Romania with international institutions in May this year.
2. DIRECTIONS FOR IMPROVING THE QUALITY OF PUBLIC FINANCES

2.1. Implementing the medium-term budgetary framework

For EU members, as well as for the majority of other countries, preparing the annual budget is the main step in the fiscal policy decision process within the macroeconomic context. Taking into account that many of the macroeconomic policy decisions have economic and budgetary implications far beyond their initial annual horizon, and in order to ensure budgetary coherence, since 1990, more and more states have adopted medium-term budgetary frameworks (MTBF) generally covering three or four years, including the budget year.

MTFB was introduced in the practice of public finances in various countries responding to the necessity of improving the fiscal discipline, together with the coherence, accountability and transparency of the budgetary process. Typically, MTFB was introduced in countries that faced high deficits or public debt, or encountered an economic downturn.

As it is known, Sweden experienced a period of financial and fiscal crisis at the beginning of the 90’s. Following the experienced economic situation, Sweden decided in 1997 to set up a MTFB based on three pillars:
- three-year nominal expenditure targets;
- 2 percent surplus on average, due to demographic considerations;
- balanced local government budgets.

In the beginning of the 1990’s, Finland also experienced a severe economic downturn. In response to the fiscal difficulties caused by the recession in the early 1990’s, Finland adopted since 1991 a series of fiscal measures, introducing in 1995 a multi-year expenditure framework. The framework appears to have contributed to fiscal stability and prudence. Finland’s current MTBF was introduced in 2003.

In the Netherlands, the MTBF was put in place in 1994, in order to annihilate the phenomena of fiscal indiscipline with respect to budgetary expenditure. The initial phase of the budgeting process takes place when a new government enters into office and formulates an overall budgetary policy for its entire four-year term. As no political party enjoys a majority in the parliament, a special attention is awarded to the process of defining a coalition agreement on the MTBF.
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In Spain, the MTBF was set up by the Budgetary Stability Law, in 2001. MTBF targets fiscal balance over the cycle for the general government, excluding the social security system. To avoid the complexities of defining the cyclical position, it establishes targets for three states of the economy: a fiscal balance for normal growth; a small public deficit for low growth; and a surplus for high growth.

One can find the roots of the MTBF in the United Kingdom in the so called “golden rule” and “sustainable investment rule,” both put into effect in 1998. The two rules represent the main pillars of the fiscal policy in the UK, specifying that the government is allowed to borrow only for investments, not for current expenditures. Technically, the golden rule is that, over the cycle, the average current balance should be balanced or better. Those rules are accompanied by a multi-annual (three years) programming, setting targets for the budgetary expenditures beyond the cyclical evolution of the economy.

Currently, the budget is prepared on a MTBF basis in the majority of the EU countries.

The experience accumulated until now emphasizes the advantages of the MTBF. First, MTBF increases the transparency of the fiscal policies, with direct implications on the information of the private agents. Second, MTBF consists of a set of perfected instruments for budgetary programming, public expenditures management, and implementation of the structural reforms. At the same time, MTBF allows a better analysis of the effects of fiscal policy decisions.

An important advantage of the MTBF is that it ensures the dynamic consistency of the fiscal policy decisions. Numerous studies highlighted the fact that, in general, the majority of the fiscal policy decisions are adopted for a short time horizon. The existence of the MTBF implies that the fiscal policy authority takes into account the consistency in time of the projected trajectories.

Although most of the EU members have put in place a MTBF, the results differ significantly from one country to another. While in countries such as UK, Spain, Sweden, or Finland the MTBF represents an important instrument for budgetary management, in other countries, especially in the new members, Romania included, the results are still unsatisfactory. Those countries haven’t succeeded in the creation of an organic symbiosis between the annual budgets and MTBF’s. More precisely, the annual budgets are not correlated with the multi-annual program of the MTBF.

Although the advantages of the MTBF are beyond any doubt, setting up in practice such a framework requires passing through an important
number of steps, and spending a substantial amount of time, human and monetary resources.

First, setting up a MTBF requires the existence of models able to forecast the principal macroeconomic indicators and to provide accurate information concerning the dynamic of GDP and its components, the evolution of prices, exchange rates etc. Also, it is necessary to determine the business cycle position of the economy.

Another requirement for setting up a functional MTBF is the existence of a clear medium term strategy for the public finances, including: the taxation system, public investment, the funding for the educational, health and R&D systems etc. Macroeconomic forecasts and the medium term strategy act as a basis for the prognosis concerning budgetary revenues and expenditures, budgetary deficit, public debt a.o.

The next step consists of setting the multi-annual targets for the budgetary resources available for the ministries or other public bodies. Starting from these targets, the ministries and other public bodies distribute the available budgetary resources to subordinate entities, for the given time horizon. Obviously, one can require the ministries and other public bodies to elaborate a multi-annual program starting from the limits of budgetary resources allotted to them. This program has to be in full concordance with the approved government and branch strategies. Ministries should assess the costs of various programs and activities from their own accountability area, should select between the alternatives concerning sectorial policy, and should design the multi-annual breakdown of the selected alternatives. The selection of the sectorial policies, as well as their distribution in time should be based on performance criteria, and on optimization computations. In order to ensure the coherence of the MTBF, the budgetary expenditures related to activities started in previous years should be considered in a distinct way from the ones related to new objectives.

MTBF also allows a better coordination between current and investment expenditures. The entire design of the MTBF should be conceived in such a way to enhance the budgetary performance, based on the objective and operational efficiency of the public expenditures.

The experience of the countries which implemented the MTBF with positive results shows that a first step in this direction is to introduce the Programmatic Budget Classification, which keeps track of the budgetary expenditures not only at the administrative bodies, but also on types of programs oriented towards well defined outputs and outcomes. In many countries, the evidence of these programs is correlated with the classification of the General Government Expenditures by Function and
Economic Category. The second step is to define the indicators which provide information about the resources required for every program, and the activities to be performed. The next step is to define the indicators which characterize the envisaged results obtained in a given program.

It is worth mentioning that, in general, defining the indicators which characterize the results obtained in various programs is a complex task, requiring a great amount of work. These indicators should be set up at the beginning of the program and should function for its entire duration. After setting up the structure of the approved programs and the suitable indicators, it is necessary to identify the required activities in order to attain the established goals. For every program, there is a series of **performance and efficiency indicators** to be calculated on the basis of the resources consumed and on the expected results. The efficiency indicators measure the relation between the expenditures and the expected results of each program.

Both at the branch level, as well as for the entire economy, the resources necessary for the implementation of all the desired programs exceed the available budgetary resources. After computing the efficiency indicators for every program, the selection process can be performed by solving an **optimal programming problem** in which the expenditure threshold appears as one of the restrictions.

The European Commission manifests a vivid interest in elaborating scientifically-founded methodologies allowing the assessment of budgetary expenditures’ efficiency indicators. This concern is related to the **necessity to increase the quality of public finances** in the European Union. The reshaped Growth and Stability Pact, the backbone of the fiscal policy in EU, adopted in 2005, emphasizes the role of the increased quality of public finances.

In support of this policy priority, a host of analytical and empirical work on the quality of public finances (QPF) has already been carried out in the EU. In 2004, the Economic Policy Committee decided to establish a Working Group on the Quality of Public Finances, serving as a key exchange on cross-country experiences.

The research conducted at the European Commission level highlights that the QPF is a multi-dimensional and extremely complex concept. The dimensions of the QPF concept can be approached considering their contribution to the economic growth process, and to the process of ensuring the fiscal stability of the country.

The European Commission methodology concerning the computation of an aggregate indicator to quantify the quality of public finances includes the following main aspects:
1) the size of government;
2) fiscal position and sustainability;
3) composition, efficiency and effectiveness of expenditure;
4) structure and efficiency of revenue systems;
5) fiscal governance.

To assess the level for each of the five dimensions of the QPF concept, European Commission experts selected 66 significant variables from a total of 400 potential indicators. The selection was based on a series of statistic and econometric tests.

Table 2.1.1 presents the number of indicators selected for each of the five components of the QPF concept.

<table>
<thead>
<tr>
<th>QPF concept components</th>
<th>Number of indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>QPF 1. The size of government</td>
<td>1</td>
</tr>
<tr>
<td>QPF 2. Fiscal position and sustainability</td>
<td>5</td>
</tr>
<tr>
<td>QPF 3. Composition, efficiency and effectiveness of expenditure</td>
<td>44</td>
</tr>
<tr>
<td>QPF 3.1 Composition of expenditure</td>
<td>4</td>
</tr>
<tr>
<td>QPF 3.2 Education</td>
<td>5</td>
</tr>
<tr>
<td>QPF 3.3 Health</td>
<td>5</td>
</tr>
<tr>
<td>QPF 3.4 R&amp;D</td>
<td>7</td>
</tr>
<tr>
<td>QPF 3.5 Public infrastructure</td>
<td>7</td>
</tr>
<tr>
<td>QPF 3.6 Public order and safety</td>
<td>9</td>
</tr>
<tr>
<td>QPF 3.7 General public services</td>
<td>7</td>
</tr>
<tr>
<td>QPF 4. Structure and efficiency of revenue systems</td>
<td>13</td>
</tr>
<tr>
<td>QPF 5. Fiscal governance</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
</tr>
</tbody>
</table>


Table 2.1.1 shows that 40 of the 44 indicators used by the European Commission to evaluate the structure and the efficiency of the public expenditures, are efficiency indicators.

The European Commission methodology can also be used to evaluate the efficiency of individual projects. **Non-parametric and parametric methods** can be distinguished. Both methods define the production possibility (efficiency) frontier, and measure (in-)efficiency as the distance to it. The difference between the two approaches lies in the way the efficiency frontier is determined. The non-parametric approach uses the
empirical data about inputs and outputs, taking into consideration their convexity, while the parametric method defines an \textit{ex-ante} specification for the production function, for example a Cobb-Douglas specification. A widely used non-parametric method is the Data Envelope Approach, pioneered by the Nobel laureates Gérard Debreu and Tjalling Koopmans, and developed by Charnes \textit{et al.} (1978).

Recently, (in June 2009) the members of the Quality of Public Finances Working Group issued a series of results about the size of the efficiency indicators in EU-27. With respect to the efficiency and composition of the budgetary expenditures, Romania is the 26\textsuperscript{th}, followed solely by Bulgaria. Sweden ranks first, followed by Finland and Denmark. When the components of the composition and efficiency indicator are analyzed, Romania is ranked the 23\textsuperscript{rd} for the efficiency of the education expenditure, the 26\textsuperscript{th} for the efficiency of health related expenditures, the 24\textsuperscript{th} for the R&D expenditures, the 27\textsuperscript{th} for the infrastructure, the 26\textsuperscript{th} for the public order, and the 25 with respect to the efficiency of public services. Also, it is worth mentioning that Romania is the 27\textsuperscript{th} in the classification concerning fiscal governance.

As the Table 2.1.1 highlights, the European Commission’s methodology assesses the fiscal governance indicator by looking at the following aspects:

- the existence of a MTBF;
- the strength of the fiscal rules and the way of using them;
- the existence of an independent fiscal agency, enforced by the parliament.

The information used by the European Commission methodology to evaluate the MTBF related indicator comprises the existence of such a framework, its legal base (by a law adopted in the parliament, or included in the constitution etc.), the methods used to identify and correct the deviations of the annual budgets from the multi-annual targets, the way the macroeconomic forecasts and those regarding public revenues and expenditures are elaborated etc.

As far as the revenues forecasts are concerned, the experience of various countries showed that, generally, these are optimistic, introducing in this way additional risk factors in the implementation of the MTBF.

The MTBF methodologies adopted by each country depends on the particular national conditions, institutions etc.

MTBFs already adopted in various countries can be classified using as criteria their time horizon, the way they cover all or just some of the
budgetary activities, the legal framework, more precisely if they are adopted by the parliament or only by the government etc.

An important criterion for MTBF’s classification is the continuity in time of the process. Using this criterion, we distinguish two categories:

- flexible MTBF and
- fixed MTBF.

Flexible MTBF allows annual revision of the general objectives, in order to adjust them according to the economy dynamics or the evolution of the fiscal policy.

Fixed MTBF can’t be changed until the end of the time horizon, excepting cases such as severe recessions, a government change etc.

Another classification divides the MTBFs in periodical and rolling. A periodical framework covers a defined period of time and the new framework is not to being drawn up before this period ends. In a rolling framework, a new year is added at the end of the period covered by the previous projections with the occasion of every annual update.

Combining the two criteria mentioned above, the following MTBF typology can be obtained:

- periodical flexible frameworks;
- rolling flexible frameworks;
- periodical fixed frameworks and
- rolling fixed frameworks.

While most of the EU national MTBFs are flexible rolling frameworks, UK and the Netherlands use periodical fixed frameworks.

Choosing the appropriate MTBF to implement in a specific country depends on a series of factors, such as the institutional and legal structure, traditions, the correlation mechanism between monetary and fiscal policies.

Irrespective of the MTBF type, its adoption by law has several advantages, because it represents the main instrument that ensures the implementation of the budgetary and fiscal strategy of a country. In the same time, a properly conceived MTBF, applied and enforced is a force vector which brings fiscal stability and fosters economic growth. MTBF has an important role in the implementation of the fundamental principles of a modern macroeconomic policy: transparency, accountability, equity etc.

In order to yield positive results, the design of a MTBF should obey numerous exigencies.

First, an appropriate implementation of a MTBF requires accurate forecasts for the macroeconomic indicators, which can be done only within a well defined and continuously improved system of macroeconomic models.
A special attention should be oriented towards improving the methods used to estimate the unobservable macroeconomic variables, such as the **potential GDP**. As it is known, using the potential GDP one can compute the **output-gap**, with a fundamental role in the design of macroeconomic policies, both fiscal, as well as monetary. Therefore, the modern robust programming econometric techniques are heavily preoccupied to improve the methods of reducing the influence of uncertainty on the output-gap and potential GDP estimation.

A fundamental indicator for ensuring fiscal sustainability is the **cyclically adjusted budget balance** (CAB). SGP gives CAB a central role in underlying the fiscal policy strategies that are able to ensure fiscal sustainability. Because CAB estimation methods uses as input the output-gap values, it is extremely important that the latter is estimated with accuracy.

A successful implementation of the MTBF also implies the existence of econometric techniques able to grasp the CAB dynamics, as a consequence to the developments in variables such as the economic growth rate, or the unemployment rate.

The existence of a scientific instrument for updating the forecasts, conducting sensitivity analysis, or assessing the risks of government guarantees is also required for a successful implementation of a MTBF.

Moreover, econometric models, such as the Vector Autoregressive class of models, able to pinpoint the effects of various shocks, should be added to the ensemble of methods and techniques required for the implementation of a coherent and efficient fiscal policy.

### 2.2. Long-term fiscal sustainability

The sustainability concept refers to the future implications of the present fiscal policies, more precisely, to the opportunity that the government continues to promote current policies without jeopardizing budgetary solvency.

The traditional approach of the fiscal sustainability starts from the government’s budget constraint, which can be written in nominal terms as follows:

\[
P_t g_t + (1 + R_t) B_{t-1} = B_t + \Delta M_t + P_t T_t ,
\]

(2.2.1)

where \( P_t \) is the general level of prices, \( g_t \) is the real government spending, including transfers, \( R_t \) is the average interest rate payed for the debt
contracted at the end of the period \( t-1 \), \( B_t \) is the nominal value of the bonds issued at the end of the period \( t \), \( M_t \) is the money supply at the beginning of the period \( t \), and \( T_t \) stands for the total real taxes.

By dividing (2.2.1) with the general level of prices \( (P_t) \) and the national revenue \( (y_t) \), we obtain the budget constraint, in real terms:

\[
\frac{b_t}{y_t} = (1 + \rho_t) \frac{b_{t-1}}{y_{t-1}} + \frac{d_t}{y_t}, \tag{2.2.2}
\]

where \( b_t \) is the real public debt, \( \rho_t = \frac{1 + R_t}{(1 + \pi_t)(1 + \gamma_t)} \) is the real interest rate adjusted with the economic growth rate \( (\gamma_t) \), and \( d_t \) is the primary budget deficit. Relation (2.2.2), which implicitly assumes that the maturity of the public debt is one year, governs the dynamics of the public debt to GDP ratio.

The dynamics of the public debt to GDP ratio is the key element of the sustainability of the fiscal policy. Fiscal policy is considered to be sustainable if the ratio of public debt in GDP is finite, and the financial markets are willing to absorb the level of the debt contracted by the government.

Trehan and Walsh (1991) consider that the budgetary process is sustainable if the present value of the future stock of public debt converges to zero. This is a no Ponzi game condition. If this condition is not satisfied, the government can, for example, reduce the present taxes without changing future taxes, and can also modify both present and future expenditures. Considering a constant \( \rho \) parameter, the solution of the equation (2.2.2) is

\[
\frac{b_t}{y_t} = \sum_{s=1}^{\infty} (1 + \rho)^{-s} \frac{d_{t+s}}{y_{t+s}}. \tag{2.2.3}
\]

The relation (2.2.3) reflects the inter-temporal budget constraint of the government. From (2.2.3) one can obtain the formal sustainability condition: the public sector is solvable when the present value of the future primary surpluses is equal with the current value of the public debt. This implies that, in the long term, the public debt is null. In other words, the public sector can’t be a net debtor in present value terms. This is a rather tight condition, which implies that at a certain future moment the primary balance becomes positive. A more relaxed condition can be obtained if the
level of the public debt to be obtained over a certain time horizon is fixed. In this case, the relation (2.2.3) shows how the present value of the future primary surpluses will reduce the debt to a level below the current one. These issues are especially relevant in the actual context, when the set of fiscal rules imposed to the EMU accessing countries set an upper limit for the public debt share in GDP.

**The IMF approach to fiscal sustainability**

From the point of view of the loan granted by IMF to Romania, the IMF approach to fiscal sustainability deserves a special attention.

Fiscal sustainability is an issue frequently addressed by IMF in its relations with member states, and also in the context of the IMF research on the fiscal transparence and vulnerability.

The first step in the IMF analysis on fiscal sustainability is a five year time horizon forecast, based on the most recent data and assuming that the actual economic policies are maintained. The result of this prognosis is labeled as the **base scenario**. This scenario highlights the details related to the key variables for the real, external, monetary and fiscal sectors: economic growth, investment and inflation rate; imports, exports, current account; money supply, domestic credit and interest rates; public revenues, and expenditures other than interest, and interest expenditures.

These macroeconomic projections, as well as other funds that can be obtained to cover the future deficits, are fed into the projection of the government’s debt dynamics, and the sustainability it is assessed. Although there are several criteria to evaluate the sustainability of fiscal policies, a large share of public debt in GDP is seen as a major concern, because it is always accompanied, on medium term, by a deterioration of the main macroeconomic variables (for example, low economic growth, increased inflation, high external debt and/or low international reserves).

If the public debt dynamics is not favorable, then an alternative scenario is drawn defining the adjustment path for the public debt share in GDP and a satisfactory evolution for the macroeconomic indicators. An adjustment plan for the primary deficit is being set up in order to attain the target for the public debt, considering the fiscal actions able to induce the appropriate adjustments. Also, the effects of the adjustments on the macroeconomic variables (especially on economic growth, and on interest rates, which has a capital influence on the sustainability) are to be evaluated. Finally, the adjustment scenario can be drawn only after a large number of iterations, many of these requiring a re-specification of the public debt target.
2.3. Fiscal rules

High budgetary deficits accumulated in the 70’s and in the 80’s in the majority of the developed countries led in the early 90’s to a decrease in the discretion of the fiscal policy, manifested through the introduction and the spreading out of the fiscal rules. The last 15 years witnessed a continuously increase in the number of the EU member states that had resorted to fiscal rules, expressed either by numbers, either by an explicit target for the fiscal variables.

The attractiveness of the fiscal rules as a way to limit the excesses of the government with respect to public expenditures and budgetary deficits lies in the apparent simplicity of a rule based fiscal framework. Once a fiscal rule is adopted, it is relatively easy to assess the performance of the government in coping with it, although it can be established beyond any doubt the efficacy of such a rule. This happens mainly because it is difficult to evaluate if the fiscal variables reactions is a response to policy measures, or to the developments in macroeconomic variables, such as GDP, employment, inflation etc. Therefore, in some cases, an apparent conforming to a rule is just the consequence of favorable economic conditions.

The arguments for restricting the discretion of fiscal policy rely on three types of adverse effects of the government policies: (a) excessive deficits; (b) the increased variability and (c) the pro-cyclicality of the fiscal policy. The benefits that come from restricting the behavior of fiscal policy gravitate around two major themes: fiscal discipline and a better coordination between monetary and fiscal policies.

Excessive deficits. The persistent increase of the public debt in many of the developed countries after the 70’s brought into attention the fact that governments are inherently oriented towards high deficits and public debts. Public debt accumulates because governments fail to internalize the cost of additional debt and postpone the fiscal adjustments inline with the cyclical evolution of the economy.

The variability of the fiscal policy. Political cycle literature (for example Alesina and Tabellini, 1990; Alesina et al., 1997) identify two types of political reasons that stand behind a discretionary fiscal policy: accepting high deficits in electoral years and the changes in the preferences of the political parties that have the power – the so-called partisan cycle. Empirical studies show that: the fiscal policy changes are significant; the welfare cost associated with these changes is relatively high, and the extent...
to which the government uses discretionary fiscal policy measures depends on the institutional constraints.

**The pro-cyclicality of the fiscal policy.** The fiscal policy response to the economic fluctuations has to be counter-cyclical: budgetary surplus in the boom periods, and deficit in recession. But, in many cases, the fiscal policy is pro-cyclical, meaning that in the boom periods the expenditures grow faster than the revenues. Because the elasticity of expenditures with respect to economic activity is lower than that of the revenues, the growth of expenditures in the economic expansion period will lead, eventually, to excessive deficits in the recession periods.

Another argument for constraining fiscal discretion by introducing a rule based framework, is the necessity to coordinate fiscal policy with monetary policy. The discretionary fiscal policy measures destroy “monetary engagement.” If the policy objectives are different (for example: the central bank is preoccupied by inflation, while the fiscal authority follows a certain level of the economic activity, superior to the potential), the competition between the two authorities: monetary and fiscal, can lead to sub-optimal equilibrium levels for inflation and for aggregate output.

In a broad sense, fiscal rules refer to all the legislative and procedural elements underpinning the making of budgetary policy (Ayuso-i-Casals* et al.*, 2007). In a much narrower sense, fiscal rules set numerical target or ceilings for the budgetary aggregates: revenues, expenditures, budgetary deficit, CAB, public debt etc. according to Kopits and Symansky (1998), numerical fiscal rules represent permanent constraints on fiscal policy, expressed in terms of a synthetic indicator of fiscal performance. As Ayuso-i-Casals* et al.* (2007) point out, this definition excludes fiscal targets that are subject to regular revisions, which is typical in most of the MTBFs in force in many European countries.

The set of available fiscal rules applied in the economic practice is relatively vast, the differences being given by: the budgetary variable targeted, coverage and institutional design. The rules that pursue the strength of the fiscal discipline set targets for the fiscal deficit or for the public debt. The rules that envisage revenues and expenditures are designed to re-equilibrate the structure of the budget, to stop the uncontrolled increase of some expenditure categories etc. Fiscal rules can cover the entire government sector, or a component of it, such as social security. A survey produced by the Working Group on the Quality of Public Finances (WGQPF) in 2006 showed that around 2/5 of the fiscal rules in force in the EU member countries are budget balance rules, around 1/4 impose
restrictions on borrowing and debt, 1/4 target expenditures, and 1/10 revenues. The same study suggests that most of the deficit and public debt rules apply to the regional and local budgets, while the majority of the expenditure ones refer to central and social security budgets. Two thirds of the expenditure rules set ceilings for the level or for the growth rates of those in nominal terms, the rest being defined in real terms, or as share in GDP (Ayuso-i-Casals et al., 2007).

Fiscal rules operate both at national, and at supra-national level. At supra-national level, the fiscal rules for the EU member states are set by the Stability and Growth Pact.

Buti et al. (2003) analyze the quality of fiscal rules in the EU, employing the criteria identified by Kopits and Symansky (1998), and Inman (1996), for the design, implementation and enforcement.

Kopits and Symansky (1998) consider that an ideal fiscal rule should be well-defined (clear, simple, transparent, consistent, and flexible), should allow its effective implementation (by incorporating ex ante and ex post enforcing mechanisms, and also, the opportunities for an efficient monitoring process), and should be enforceable (with respect to decision, amendment and sanctions).

The criteria mentioned above were developed to assess the quality of domestic fiscal rules, at a national level. In order to be applicable at a supra-national level, their design and implementation should be altered with respect to at least two aspects:

- national sovereignty and subsidiarity. Fiscal rules should be as neutral as possible with respect to the heterogeneous social preferences of the countries. This impede the adoption of rules which implicitly, or explicitly, comprise mentions to the role or the size of public sector in the economy;
- tradeoffs between various criteria, such as simplicity and flexibility, simplicity and adequacy, flexibility and enforceability.

Inman (1996) considers that an efficient fiscal rule should target ex post and not the ex ante deficit; should be impossible to be temporarily suspended or abrogated by simple majority of the parliament; should offer free access to the information to all interested parts, to indicate eventually slippages; and should provide substantial penalties.

The implementation of the SGP sanctions is relatively difficult because, in the absence of a federal authority, it is politically hard to impose sanctions on a sovereign country. Thus, a set of rules in a multi-national
context forces taking into account the reputation effects of the early warning mechanisms, and of the excessive deficit procedures.

To summarize information about the coverage and the strength of the numerical fiscal rules, Ayuso-i-Casals et al., (2007) design a Fiscal Rule Index, comprising the following aspects:

- statutory basis of the rule: statutory or legal base of the rule, and room for setting or revising objectives;
- body in charge of monitoring respect of the rule;
- body in charge of enforcement of the rule,
- enforcement mechanism of the rule, and
- media visibility of the rule.

By replacing the information on the strength of individual fiscal rules by information on the properties of each fiscal rule with respect to stabilization, the authors obtain the Fiscal Rule Cyclicality Index.

The studies of the European Commission (2006, 2007, 2008a, 2008b) show that a high level for the Fiscal Rules Index determines the increase of the budgetary performance, reduction of expenditures, and public debt shares in GDP.

### 2.4. Automatic stabilization mechanism

The entire set of the fiscal rules in the European Monetary Union (EMU) relies on the automatic stabilization mechanism (cyclically induced changes in budgetary revenues and expenditures), once the member states attained the medium term fiscal positions according to the SGP. Adhering to the medium-term budgetary target allows enough space for the automatic stabilisers to work freely without exceeding the 3% of GDP deficit ceiling. This non-discretionary approach should, at least in principle, guarantee that the behaviour of the actual budget balance is always counter-cyclical and hence, contributes to economic stability.

Fiscal policy rules relying on automatic stabilisers provide several clear advantages. State-contingent revenues and expenditures, such as unemployment benefits cushion the economic fluctuations without any informational or implementation delays. Moreover, the impact of automatic stabilizers is short, and if they operate symmetrical over the business cycle, they don’t deteriorate the structural position of the budget.

Using the automatic stabilizers as a rule, and the discretionary measures as an exception, raises questions about the automatic stabilization process, highlighted by Buti, and van den Noord (2003). Is the actual size of the automatic stabilizers sufficient? Considering an optimal monetary
policy, is the action of the automatic stabilizers sufficient for producing an optimum fiscal position, both at national, as well as at the Euro area level? Are automatic stabilisers always stabilising?

To analyse the effects of automatic stabilizers on aggregate output and on inflation, under different types of shocks, we follow the model of Buti, and van den Noord (2003):

\[ y^d = \phi_1 \cdot d - \phi_2 (i - \pi^e) - \phi_3 \cdot \pi - \phi_4 \cdot y + \epsilon_d, \]  

(2.4.1)

\[ y^s = \omega (\pi - \pi^e) + \epsilon_s. \]  

(2.4.2)

Relation (2.4.1) is a IS type curve, where aggregate demand, \( y^d \), is a function of the share in GDP of the budgetary deficit, \( d \), real interest rate, \( (i - \pi^e) \), and a temporary demand shock, \( \epsilon_d \). Although aggregate output is also influenced by the current account, to preserve the simplicity of the model, the feedback effect manifested by the rest of the monetary union is not explicitly modeled. As a consequence, the current account depends only on the aggregate output, \( y \) (absorbtion effect) and on inflation (competitiveness effect). \( \phi_3 \) and \( \phi_4 \) measure the openness of the economy. Relation (2.4.2) is a Lucas- Phillips supply function, where aggregate supply, \( y^s \), depends on the inflation surprise, \( (\pi - \pi^e) \), and on a supply shock, \( \epsilon_s \), that can be permanent or transitory. All the variables are expressed as deviation from their long term values.

If the fiscal authority conducts a neutral discretionary policy, letting the automatic stabilizers freely operate, the budgetary deficit reduces to its cyclical component:

\[ d = -t \cdot y, \]  

(2.4.3)

where automatic stabilizers are included in the sensitivity parameter \( t \). This specification allows a parcimonious expression of the complex action of the automatic stabilizers on both components of the budget. However, equation (2.4.3) fails to reflect the impact that various budgetary components have on the deficit.

Monetary authority act according to a Taylor type rule:

\[ i = \lambda (\pi + \beta \cdot y), \]  

(2.4.4)

where \( \beta \) reflects the relative importance awarded by the monetary authority to the economic growth, respective of price stability objectives. The parameter \( \lambda \) reflects the degree of activism of the monetary policy and
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expresses the degree to which an individual economy can influence the monetary union variables. A large economy exerts a significant influence on the decision of the single central bank, which translates into a larger value for $\lambda$. In what follows it is assumed that the equilibrium level of the interest rate ensures that, in the medium term, inflation is on target.

Starting from the behavioural relations defined above, we obtain $y$ and $\pi$:

$$y = \frac{1}{\mu}[\omega \cdot \varepsilon_d + (\phi_2 \cdot \lambda + \phi_3)\varepsilon_s], \quad (2.4.5)$$

$$\pi = \frac{1}{\mu}[\varepsilon_d - \omega(1 + \phi_1 \cdot t + \phi_2 \cdot \lambda \cdot \beta + \phi_4)\varepsilon_s], \quad (2.4.6)$$

where $\mu = \omega(1 + \phi_1 \cdot t + \phi_4) + \phi_2 \cdot \lambda(1 + \beta \cdot \omega) + \phi_5$. Obviously, for a **temporary demand shock**, a high value of $t$ stabilizes both the output and the inflation. A high degree of openness (large $\phi_3$ and $\phi_4$) and a low value for $\omega$ atenuate the demand shocks. In case of a **temporary supply shock** (a shock which doesn’t affect potential output), relations (2.4.5) and (2.4.6) demonstrates that automatic stabilizers reduce output volatility, but produce a larger deviation of $\pi$ from its long term value.

If the **supply shock** is **permanent** (the supply shock $\varepsilon_s$ is included in the potential output change), the expression of the new output-gap is:

$$y - \varepsilon_s = -\frac{\omega}{\mu}[(1 + t \cdot \phi_1 + \phi_3) + \phi_2 \cdot \beta \cdot \lambda], \quad (2.4.7)$$

$$\pi = \frac{\varepsilon_s}{\mu \cdot \omega}[(1 + t \cdot \phi_1 + \phi_3) + \phi_2 \cdot \beta \cdot \omega]. \quad (2.4.8)$$

A large value for $t$ will increase the deviation from the new value of the potential GDP, de-stabilizing both output and inflation. If the central bank is interested only in inflation, perfect inflation stabilization process ($\pi = \pi^*$ in any moment) implies, in case of a permanent supply shock, perfect output stabilization (output shifts instantaneously from the old to the new potential level).

The previous analysis considers that the degree of automatic stabilization is exogenous. This hypothesis is plausible because the automatic stabilizers are, usually, the ex post result of the social preferences related to efficiency and equity. However, in the EMU, the fiscal policy is responsible for the attenuation of the national shocks, and the fiscal systems
and social security to be designed taking into account the degree of automatic stabilization should be taken into account. While the fiscal authorities desire the highest degree of stabilization, considering the EMU budgetary rules, in its cyclical evolution, the budgetary deficit can’t exceed the threshold of 3% of GDP. It is possible, however, that governments do not accept budgetary surpluses in the expansion periods.

To endogenize the degree of automatic stabilization, we assume that the loss function for the fiscal authority is:

\[ L = d^2 + \delta \cdot y^2 , \]  \hspace{1cm} (2.4.9)

where \( \delta \) reflects the relative preference of the fiscal authority between output and deficit. The specification of the loss function in relation (2.4.9) allows one to obtain an expression for the optimal level of taxation, \( t^* \), Minimizing the loss of the fiscal authority:

\[ t^* = \frac{\delta \cdot \omega \cdot \phi_1}{\omega (1 + \phi_3) + \phi_2 (\lambda + \beta \cdot \omega) + \phi_4} . \]  \hspace{1cm} (2.4.10)

The higher the preference for stabilising output, the larger \( t^* \). A small country, characterized by a low value of \( \lambda \), will select a greater value for the automatic stabilization coefficient, because it benefits less from the stabilization process. In an open economy, this effect is compensated by a higher stabilization from the external trade.

Counterintuitively, the higher the efficiency of the fiscal policy, \( \phi_1 \), the higher \( t^* \). Via the feedback effect on the budget, a more powerful impact on demand helps to lower the cyclical component of the budget balance.

**Automatic stabilization through supply channels**

Although the traditional view on automatic stabilization places a special emphasis on demand channels, there is also an alternative view, considering that, thorough the supply channels, automatic stabilizers have, in the short run, an adverse influence on the attenuation of the cyclical developments.

To analyze the interactions between market flexibility and cyclical stabilization, the model highlighted above can be extended to incorporate the supply side effects of the automatic stabilizers. Van den Noord (2003) and Buti (2003) assume that the slope of the output supply depends positively on the tax rate.
This hypothesis corresponds to a unionized labor market, with a high degree of wage rigidity and a progressive fiscal system. One can show, that if an imperfect labor market employee transfers the cyclical variation in their fiscal burden at least partially to the employer (the so-called “real wage resistance”), the slope of the labor supply (increasing with respect to real wage) depends on the taxation rate. Aggregate output has the following expression:

\[ y = (1 - \gamma \cdot \varepsilon \cdot t)\omega(\pi - \pi^*) + \varepsilon' . \]  \hspace{1cm} (2.4.11)

The parameter \( \varepsilon \) models the degree of progressivity/redistribution of the aggregate fiscal and social system, and \( \omega \) is a positive and constant parameter. If the real wage resistance is present (a positive \( \gamma \)), the output reaction to a surprise in inflation is lower when \( t \) is larger. In other words, in countries with large public sectors and high taxation, a value of inflation greater (lower) than that expected leads to a less (more) intense reaction of the output, which corresponds to a steeper supply curve in the output inflation space. In case of a positive inflation surprise, as employers demand more labour to increase production, they will have to pay higher wages to cover for the higher prices, but also to account for the fact that real reservation wage moves up as taxes increase progressively as means-tests kink in; this tends to limit the rise in production.

In this context, the fiscal policy rule can be written as:

\[ d = -\varepsilon \cdot t \cdot y . \]  \hspace{1cm} (2.4.12)

When considering the supply side effects, the properties of the automatic stabilizers change as they depend in this case on a critical level.

If a supply shock occurs, like in the previous model, a greater taxation rate shifts the inflation rate to a greater extent. In a country with a fiscality above the critical level, the output deviates from the equilibrium value more than in a country with a lower taxation rate. If a demand shock occurs, while the output is closer to its potential level, as \( t \) is greater, beyond the critical value of \( t \), the increase in the taxation level has a destabilization level for inflation.

The critical level of the tax rate has the following analytic expression:

\[ t^* = \frac{\phi_1 - (1 + \phi_2 \cdot \lambda \cdot \beta + \phi_3)\gamma}{2 \cdot \phi_1 \cdot \gamma \cdot \varepsilon} . \]  \hspace{1cm} (2.4.13)
The critical level of the taxes beyond which the automatic stabilizers produce adverse effects depends, among other variables, on the relative preference of the central bank between inflation and output, $\beta$. A central bank preoccupied mainly with price stability neutralizes the adverse effects automatic stabilizers have on supply, reducing consequently the incentives for fiscal reforms intended to reduce taxation. As relation (2.4.13) shows, the critical taxation level depends also on the openness of the economy: a more open economy is equivalent with a lower fiscal multiplier and a supply curve which is steeper than the demand curve. Hence, it is more likely for an open economy to face the adverse effects of fiscal stabilization, compared to a closed economy, when an equal taxation and progressivity level are considered.

The fiscal burden in EMU member countries ranges typically between 40% and 50%. Buti and van den Noord (2003) find $t^* = 0.4$ for the larger countries of the euro area, suggesting that for the countries situated in the upper level of the interval, the taxation level is sub-optimal. In order to obtain an improvement in the stabilization properties of the automatic stabilizers, an economy with an initial taxation level $t = 0.5$, must reduce it with 10 percentage points. For small open economies, $t^*$ lies between 0.2 and 0.3. In these conditions, the reduction in the government size will improve fiscal stabilization. As a consequence, the small open economies in the EMU have powerful incentives to reform their fiscal systems.

To conclude, automatic stabilizers affect the value of output and inflation in the long run, both from the demand and the supply side. If the fiscal burden is significant, exceeding the critical level, the combined effect can be destabilizing on output and inflation when a supply shock occurs, and destabilizing on inflation in case of a demand shock.

2.5. The role of Stability and Growth Pact in ensuring European fiscal discipline

Fiscal discipline is an important feature of the EMU, preserving sound public finances it is considered to be a sine qua non pre-requisite for ensuring price stability and an economic growth which creates additional employment. Giving up the exchange rate as instrument by becoming a member of the EMU implies letting the automatic stabilizers operate at national level to offset the asymmetric shocks and increase the role of national budgetary policies in supporting stability oriented monetary policies. The main reason underlying the SGP is that the “medium-term
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The objective of budgetary positions close to balance or in surplus will allow all Member States to deal with normal cyclical fluctuations while keeping the government deficit within the value of 3% of GDP\(^6\).

The EU fiscal framework generally applies to all member states, with several provisions applicable only to the EMU members. The EU fiscal policy operates on three levels:

- Excessive Deficit Procedure, as a component of the European Commission Treaty;
- Growth and Stability Pact;
- Code of Conduct, comprising guidelines for a correct implementation of the SGP.

Those three elements taken together define rules and mechanism for an efficient coordination of national fiscal authorities, and promote public finances sustainability in the European countries. The fiscal policy framework is legitimated by the fact that it is designed by the interplay of the national governments. Consequently, the importance of the long run budgetary discipline is being acknowledged, many decisions being aimed to improve the monitoring process on the fiscal policy and to promote a long term approach to budgetary planning.

The Stability and Growth Pact was adopted in June 1997 by the Amsterdam European Council, being enforced starting with the 1\(^{st}\) of January 1999. SGP consolidates the provisions in the articles 99 and 104 from the European Commission Treaty regarding fiscal discipline in the EMU.

SGP includes both a preventive, as well as a corrective arm. The preventive side of the SGP refers to setting and obtaining adequate medium term objectives. The preventive arm of the SGP refers to ensuring a fiscal policy as close to optimum as possible, in order to obtain stability, but, in the same time, to offer sufficient space for the automatic stabilizers to function. The corrective arm consists in simple rules, designed to produce a minimum level of fiscal discipline and anchoring expectations.

Formally, SGP relies on:

- a political commitment by all parties involved (Commission, Member States, Council) to the full and timely implementation of the budget surveillance process;

---

- **preventive elements**, aiming at preventing budget deficits going above the 3% reference value. To this purpose, Council Regulation 1466/97 reinforces the multilateral surveillance of budget positions and the co-ordination of economic policies. It foresees the submission by all Member States of stability and convergence programmes, which are examined by the Council, and also the possibility to trigger the *early warning mechanism* in the event that a significance slippage in the budgetary position of a Member State is identified;

- **dissuasive elements** which in the event of the 3% reference value being breached, require Member States to take immediate corrective action and, if necessary, allow for the imposition of sanctions.

Every member state should prepare a stability programme for the ECOFIN Council and for the Commission, containing the necessary information for multilateral surveillance: the **medium term objective** of close to balance or in surplus, the hypothesis taken into account with respect to the **expected macroeconomic developments** and main indicators, a **description of the policy measures** to be adopted or proposed to be adopted with the aim of achieving the targets set by the stability programs and an analysis of the **way these hypothesis affect budgetary position and public debt**. The EU members which are not EMU members prepare convergence programs, with a similar content. The information related to the path for the budgetary balance, public debt and the main macroeconomic hypothesis, are supplied on an annual basis and must cover the previous, the current, and, at least, the next three years.

As a component of the multilateral surveillance process, ECOFIN Council monitors the implementation of the stability programs, based on the information provided by the member states and on the evaluation of the Commission and the Economic and Financial Committee, in order to identify the actual or future deviations from the objectives undertaken in the medium term projections.

If the ECOFIN Council identifies significant deviations of the current budgetary position from the medium term objective, an early warning is issued, in order to prevent an excessive deficit. Also, a recommendation is addressed to the member state, specifying the need to draw necessary correction measures (for example, the recommendation addressed by the European Commission to Romania on 12th of June 2009).
Excessive deficit procedure

According to the Article 104 of the European Commission Treaty, member states are obliged to avoid excessive deficits, defined as exceeding 3% of GDP. The article also provides the procedure to be followed in order to identify and evaluate excessive deficits, including the possibility to impose penalties or fines. GSP details the excessive deficit procedure, stipulating deadlines for the ECOFIN Council to decide if an excessive deficit situation exists or not, on the base of the reports and opinions expressed by the Commission. If an excessive deficit is identified, the Council, at the initiative of the Commission, elaborates recommendations for the member state in cause, also specifying a deadline for taking corrective actions.

Currently, the excessive deficit procedure is underway for 11 member states, for 9 of them being initiated in 2009.

The Treaty also provides the possibility to impose penalties and fines on a member state that fails to correct its excessive deficit. The penalties consist first in a non-bearing interest deposit, up to 0.5% of GDP. If the member state persists in the excessive deficit situation, this deposit is forfeited as fine.

Table 2.5.1. Excessive deficit procedures underway

<table>
<thead>
<tr>
<th>Country</th>
<th>Date of the Commission report</th>
<th>Council Decision on existence of excessive deficit</th>
<th>Current deadline for correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>13 May 2009</td>
<td>7 July 2009</td>
<td>2012</td>
</tr>
<tr>
<td>Romania</td>
<td>13 May 2009</td>
<td>7 July 2009</td>
<td>2011</td>
</tr>
<tr>
<td>Lithuania</td>
<td>13 May 2009</td>
<td>7 July 2009</td>
<td>2011</td>
</tr>
<tr>
<td>Malta</td>
<td>13 May 2009</td>
<td>7 July 2009</td>
<td>2010</td>
</tr>
<tr>
<td>France</td>
<td>18 Feb. 2009</td>
<td>27 April 2009</td>
<td>2012</td>
</tr>
<tr>
<td>Latvia</td>
<td>18 Feb. 2009</td>
<td>7 July 2009</td>
<td>2012</td>
</tr>
<tr>
<td>Ireland</td>
<td>18 Feb. 2009</td>
<td>27 April 2009</td>
<td>2013</td>
</tr>
<tr>
<td>Greece</td>
<td>18 Feb. 2009</td>
<td>27 April 2009</td>
<td>2010</td>
</tr>
<tr>
<td>Spain</td>
<td>18 Feb. 2009</td>
<td>27 April 2009</td>
<td>2012</td>
</tr>
<tr>
<td>UK</td>
<td>11 June 2008</td>
<td>8 July 2008</td>
<td>Financial year 2013/14</td>
</tr>
<tr>
<td>Hungary</td>
<td>12 May 2004</td>
<td>5 July 2004</td>
<td>2011</td>
</tr>
</tbody>
</table>

The difficulties faced in the SGP implementation process finally led to its reform:

- the political commitment of the member states with respect to SGP decreased, the actions taken by some countries diverging from the undertaken budgetary targets;
- it was relatively difficult to establish clear and reliable budgetary objectives and, at the same time to take into account the implicit economic conditions;
- some member states failed to put into practice sound budgetary policies in the periods of sustained economic growth, which deteriorated the structural position of the deficit and also reduced the maneuver space for automatic stabilization in the forthcoming periods characterized by a lower growth rate;
- the SGP mechanisms and procedures failed to function properly in some critical moments.

SGP reform has four major directions: (a) an increased focus on public debt and its sustainability; (b) a re-definition of the medium term objective; (c) taking into consideration a wider spectrum of factors and circumstances, and (d) early preventive actions. As many of the most intense SGP critics referred to the lack of economic arguments for the adopted and implemented fiscal rules, the reformed Pact concentrates more on the national economic circumstances, with respect to both its preventive, as well as corrective arms. The SGP changes are summarized in Table 2.5.2.

### Table 2.5.2. Main SGP changes

<table>
<thead>
<tr>
<th>Initial</th>
<th>Reformed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preventive arm</strong></td>
<td></td>
</tr>
<tr>
<td>Medium term objective:</td>
<td></td>
</tr>
<tr>
<td>CAB</td>
<td>CAB, net of one-off and temporary measures</td>
</tr>
<tr>
<td>Applicable to all Member States: balance of - 0.5% to surplus</td>
<td>Country-specific: range between -1% of GDP and surplus</td>
</tr>
<tr>
<td>Adjustment path:</td>
<td></td>
</tr>
<tr>
<td>At least 0.5% of GDP (euro area)</td>
<td>Average of 0.5% of GDP depending on the state of the business cycle (euro area and ERM II)</td>
</tr>
<tr>
<td><strong>Corrective arm</strong></td>
<td></td>
</tr>
<tr>
<td>Exceptional circumstances</td>
<td></td>
</tr>
</tbody>
</table>


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Severe economic downturn
Growth rate: principally less than -2% /
less than -0,75%

Negative growth or negative output gap for a sustained period of low growth
Other relevant circumstances:
Extent of government investment relative to the government deficit, medium-term economic and budgetary position, other factors which are relevant in the opinion of the Member State concerned
Systemic pension reforms

<table>
<thead>
<tr>
<th>Deadlines</th>
<th>General extension of the deadlines for procedures and for the correction of the excessive deficit by allowing for the repetition of procedure steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear deadlines for procedure steps and in particular for the correction of the excessive deficit</td>
<td></td>
</tr>
</tbody>
</table>


The changes in the preventing arm ensure that the medium term objectives are set according to the fiscal and economic situation of the member states: public debt share in GDP, growth rate for the potential GDP, and public finances sustainability. This approach allows countries with a low public debt to GDP ratio and a high growth rate of the potential GDP to run small structural deficits.

According to the reformed SGP, the medium term objective should:
- provide a safety margin with respect to the 3% deficit limit;
- ensure a rapid reduction of the debt ratio and to guarantee the sustainability of public finances; and
- guarantee sufficient room for public investment.

Also, the reshaped SGP differentiate between the adjustment path followed by various countries to achieve the medium term objective.
The changes in the corrective arm include a less restrictive delimitation for the conditions that define an excess over the reference value of 3% as being exceptional. The excessive deficit procedure is no longer linear, there is the possibility to repeat some steps if adverse economic developments occur.

The way SGP functions has important implications both for Romania’s current as well as future fiscal positions.

As for the specific medium term objective is concerned, the 2009 version of the Romanian Convergence Program (Romanian Government, 2009) assumes that the structural deficit will reach 0.9% of GDP in 2012, ensuring that symmetrical operation of the automatic stabilizers limit the volatility. This level will allow a safety margin to avoid exceeding the 3% budget deficit ceiling, in the event of potential shocks with negative impact on the rate of economic growth.

The fundamental objective of the Romanian Government is to ensure macroeconomic stability and to support the process of sustainable economic growth by:

- promoting a combination of consistent macroeconomic policies, by maintaining prudential budgetary and salary policies;
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- creating a binding fiscal and budgetary framework on a medium term;
- improving the revenue administration through the tax administration reform and the reduction of the collection costs;
- broadening the tax base in sectors such as the environment, the state enterprises and the agriculture;
- substantially improving the efficiency of public funds spending, by formulating clear priorities, especially for the investment projects, through the horizontal coordination of the economic policies.

The analysis elaborated by the DG ECFIN on the Romanian Convergence Program (DG ECFIN, 2009) assesses the main risks for the achievement of the medium term objective: domestic and external macroeconomic developments, or the implementation of the planned expenditure reduction.

During the 2005-2008 period, characterized by an unprecedented expansion of the demand, the fiscal position in Romania was pro-cyclical. As Figure 2.5.1 shows, the periods with positive output-gap correspond to the periods with high deficit, meaning that the government failed to exploit the opportunities offered by the increased growth rate to reduce the structural balance, through expenditure consolidation.

The pro-cyclicality in the Romanian fiscal policy is seen by the National Bank as a major risk for the disinflation process (Inflation Report August 2007), and it triggered the recommendations of the European Commission (European Commission, 2007, 2008a, 2008b) to adopt a fiscal position that is opposed to the business cycle.

Thus, the first Convergence Report of Romania, together with the economic and fiscal position, formed the basis for the comments on the Romanian economy of the 2007 edition of the study on the European public finances (European Commission 2007). The ECOFIN Council analyzes the current structural deficit and its perspectives, the medium term objective, effective deficit and the possibility of exceeding the 3% limit, and also, the necessary adjustments efforts. The Council recommends Romania a fiscal position against the economic cycle.

The European Commission considers that Romania pursued a pro-cyclical fiscal policy with headline deficits rising from 1.2% of GDP in 2005 to 5.4% of GDP in 2008, amidst an average real GDP growth of 6.3%. This was due to a large extent to overall weak budgetary planning and execution, which resulted in recurrent budgetary slippages. In this context, the effective implementation of the envisaged measures to improve
budgetary management and fiscal governance, notably by introducing a **medium-term budgetary framework**, is crucial to restore the credibility and improve the observance of the planned deficit targets.

### 2.6. The coordination between monetary and fiscal policies

Contemporary empirical evidence shows that interest rate affects both investment, but also money demand. Thus, both the monetary, and the fiscal policy, determine aggregate demand.

Complex analyses on macroeconomic policy identify three aspects of the policy mix: the influence on the aggregate demand and supply composition, the possibility that fiscal policy undermines the control exerted by the monetary authority on inflation, and strategic interactions between policies.

We will further detail two of the three above.

**The composition effect**

The policy mix influences the aggregate output through the following mechanism: the result between the monetary and fiscal policy influence the interest rate, which changes investment, in relation with public spending. Moreover, a change in the domestic interest rate influences the exchange rate, and, consequently, net exports.

In the case of a non-ricardian closed economy, an increase of the real government expenditures leads to a combination between investment and savings, the crowding-out effect. The magnitude of this effect depends on factors such as the sensitivity of the savings, the access to international resources, and the substitution between capital investment and government bonds.

In the case of an open economy, the increase of the domestic interest rate following an expansionary fiscal policy measure will produce capital inflows, partially or fully financing (when the capital account is fully liberalized) government expenditures, reducing the crowding out effect. Capital inflows will reduce the contribution of the net exports to GDP, yielding what is known as twin deficits situation.

Without an explicit welfare criterion, the models that analyze the composition effects are unable to explore when a certain architecture for macroeconomic policies is optimal or not.
Strategic interactions between monetary and fiscal policies

It is possible for the monetary and fiscal authority to display non-cooperative behaviors, especially when they have conflicting objectives. The behavior of the fiscal authority can affect the ability of the monetary policy to achieve the inflation objective. Strategic interactions between monetary and fiscal policies are the result of the way the two policies set their objectives. The corresponding loss functions can differ by the variables they include, by the values of the objectives set for these variables, or by their relative importance.

The loss functions are:

\[
L^F = \frac{1}{2} \pi_i^2 + \frac{\alpha}{2} (y_i - y_i^*)^2, \tag{2.6.1}
\]

for the fiscal authority, and

\[
L^M = \frac{1 + \varepsilon}{2} \pi_i^2 + \frac{\alpha}{2} (y_i - y_i^*)^2, \tag{2.6.2}
\]

for the monetary authority,

where \((y_i - y_i^*)\) is the output gap after adopting the monetary and fiscal policy measures, while \(\alpha\) and \(\varepsilon\) characterize the relative importance of output gap and inflation in the fiscal, and monetary policy design. Both authorities minimize the corresponding loss function in (2.6.1) and (2.6.2), under the constraint:

\[
y_i = (\pi_i - \pi^e_i) + u_i, \tag{2.6.3}
\]

where \(\pi^e_i\) is the expected inflation rate, and \(u_i\) is a supply shock.

If the two authorities act independently, their inflation objectives are:

\[
\pi_F^* = \frac{\alpha}{1 + \alpha} \left[ \pi^e_i + (y_i^* - u_i) \right], \tag{2.6.3}
\]

for the government, and

\[
\pi_M^* = \frac{\alpha}{1 + \alpha + \varepsilon} \left[ \pi^e_i + (y_i^* - u_i) \right], \tag{2.6.4}
\]

for the central bank. In (2.6.3) compared to (2.6.4), if \(\varepsilon > 0\), then \(\pi_F^* > \pi_M^*\).
To model the cooperation between monetary and fiscal authorities we assume that they have a common loss function, defined as an average of the loss functions in (2.6.1) and (2.6.2):

\[ L = \delta L^M + (1 - \delta) L^F , \delta \in (0,1). \]  

(2.6.5)

In this case, the inflation objective is:

\[ \pi_* = \alpha \left[ \pi^*_{e} + (y^*_i - u_i) \right]. \]  

(2.6.6)

From (2.6.6) results \( \pi^*_F > \pi^*_M \). The inflation objective in the cooperation case is between the objectives in the case of independent action.

Monetary and fiscal policies are fundamental instruments for the attenuation of cyclical evolution in the economy. In a monetary union, monetary policy is centralized, while fiscal policy is conducted at a national level, being independent. This asymmetry, combined with the monetary-fiscal interactions pose serious difficulties for the implementation of the fiscal policy in the context of a monetary union.

Because the member states preserve their fiscal autonomy, while monetary policy is common, EMU is built on the sound basis of fiscal discipline. Numerous SGP and Maastricht Treaty provisions refer to the budgetary autonomy of the EMU member states. The Treaty sets the criteria related to the budgetary deficit and public debt to be fulfilled for adopting the common currency, being a selection instrument, while the SGP has the role of ensuring fiscal discipline in EMU.
3. ASSESSING THE STRUCTURAL POSITION OF PUBLIC FINANCES IN ROMANIA

3.1. Potential GDP and output-gap

Potential GDP is a measure of the economy’s productive capacity, reflecting “full-employment” GDP, the level of GDP attainable when the economy is operating at a high rate of resource use. Potential GDP can also be defined as the level of output corresponding to a balanced state of the economy characterized by stable inflation (i.e. consistent with NAIRU). The potential GDP and the output gap (i.e. the difference between actual and potential output) attracted sustained interest by researchers over a long period of time. As early as Okun (1962), it was pointed out the importance of these variables in assessing the cyclical position of the economy. Nowadays the potential GDP is widely employed for macroeconomic modeling, policy analysis, assessment of fiscal sustainability, and quantifying the structural budget balance. Output gap estimations are used in central bank’s monetary policy response function such as in the Taylor rule (Taylor, 1993) or in the inflation targeting framework (Svensson, 1999).

In the long-run, the level of potential output depends on the growth of the productive capacity of the economy, which in turn depends on total factor productivity and the growth rates of physical capital and of the potential labor force. Thus, the potential output reflects the optimum potential supply of an economy and facilitates an estimate of non-inflationary growth. In the short run, it reflects the potential impact of economic growth on macroeconomic stability indicators, such as inflation. A positive output gap is associated with excess demand, which may lead to inflationary pressures. Orphanides (2002) argues that during the 1970s the Fed estimated the output gap to be much more negative than in reality, which led to policy actions that overheated the economy.

Due to the fact that potential output is not observable, researchers are forced to rely on uncertain estimates, computed using statistical methods and theoretical models. There is a wide range of methods for estimating potential GDP, beginning with analysis of time-series data and trend-based analysis, to more complex assessments based on the production function and structural equations. Various statistical methods have been proposed to estimate the potential output as a trend of the actual level of output. One of the easiest ways is to consider a moving average of actual output as the
potential GDP. The HP filter, proposed by Hodrick and Prescott (1997), is widely used. Other methods include band-pass filters (Baxter and King, 1999; Christiano and Fitzgerald, 2003), wavelet-based filters, and unobserved components models (Harvey and Jaeger, 1993), estimated using the Kalman filter. The multivariate statistical approach to potential GDP estimation consists in connecting the output-gap with other macroeconomic variables, such as inflation (Phillips curve) or unemployment (Okun’s law). Laxton and Tetlow (1992) extended the HP filter to a multivariate setting and computed potential output linked to inflation fluctuations. Kuttner (1994) considered potential output as an unobserved stochastic trend and applied the Kalman filter to extract it, using simplified output and inflation equations.

The main drawback of the pure statistical methods approach is the lack of economic content. The production function approach can be employed in order to take into account the economic structure. In this approach, an aggregate production function is estimated and then normal amount of inputs are substituted in it to calculate the potential output. Another structural estimation of the potential GDP consists in econometrically estimating or calibrating large-scale DSGE models and extracting a model-consistent output-gap. This approach was employed by Edge et al. (2008) for the U.S. economy and by Smets and Wouters (2003) for the Euro Area. One has to be careful in assessing the estimated output gap using this method, since it is sensitive to the model parameters, particularly to alternative specifications of the monetary policy rule.

Since there is no ideal method for measuring the output-gap, researchers usually employ different methods instead of relying on a single measure. Various studies compared the estimation techniques and concluded that there are similarities in the shape, but divergences on the magnitude of the output gap estimates (Cerra and Saxena, 2000; Cotis et al., 2003; Billmeier, 2004). As Bjornland et al. (2005) points out, professional judgment is needed to analyze and interpret the economic significance of the results. Darvas and Vadas (2002) reviewed some univariate de-trending methods which can be applied in the estimation of the potential output and of the output gap. Since all the methods have weaknesses, the authors derive a consensus estimate of potential output by weighting the results from these statistical methods. The weights are derived based on revisions of the output gap for all dates by recursively estimating the models. The conclusion is that consensus estimate can provide a useful indicator for the position of the economy, especially for transition countries that might have more volatile macroeconomic dynamics, and are more often subject to structural shifts.
Due to the lack of data, to the structural breaks present in it, or to numerous structural shifts our economy faced in its short post-revolutionary history, the literature concerned with the estimation of potential GDP and other structural macroeconomic variables for Romania is scarce. There are, however, a number of noticeable studies, among which we must mention Bucșa (2001), Stănică (2005), Dobrescu (2006), and Galatescu et al. (2007)\textsuperscript{7}.

In this section of the study we use an eclectic approach for the estimation of potential GDP and of the output-gap for the Romanian economy. First, we estimate the levels of potential employment and capital stock and combine them using the production function method to obtain potential GDP. Second, we estimate the output gap by a consensus measure using different econometric filters.

**Production function (PF) approach** models explicitly the dependence of the output on the production factors, therefore reflecting the supply side of the economy. Based on the definition of potential GDP as a measure of the productive capacity of the economy, the PF methodology estimates potential output in a natural manner, replacing the inputs in the production function with their potential level.

The specification of the production function generally relies on two simplifying assumptions: constant returns to scale and constant elasticity of substitution between the production factors.

Estimating the potential output in an economic framework built around the production function has a series of advantages, since: (1) allows explicit growth accounting, detailing the sources of growth in terms of capital, labor and total factor productivity (TFP) contributions; (2) creates the opportunity of establishing a meaningful link between policy reform measures and actual outcomes; (3) supports forecasting, or scenario building on growth prospects, by making explicit assumptions on the evolution of demographic, institutional and technological trends; (4) uses (as other structural methods) a larger information set, information which is then interpreted through the relations between variables suggested by the economic theory.

The main drawback of the production function approach is that the potential level of the TFP is obtained by applying statistical detrending techniques to the “Solow residual,” which is generally computed by

\textsuperscript{7} Among the work dedicated to the estimation of the potential GDP in Romania we must also mention the joint efforts of the DOFIN, Ministry of Finance and National Commission for Economic Forecasting, conducted in the process of preparing the Convergence Program.
inverting the production function. In this way, the production function approach inherits, eventually, the vulnerabilities of the statistical method used to detrend the technical progress factor. A common feature of these filtering techniques is that they may give poor approximation at the end of the sample. In addition, the PF often delivers the same result as a basic statistical filter of the GDP.

The PF approach requires the estimation of the potential levels of employment and capital. The potential level of employment is usually computed on the basis of trend participation rate and NAIRU. While the trend participation rate is obtained by a filtering technique, NAIRU is obtained through a more elaborated methodology, but is still influenced by incertitude. Assuming full capacity utilization, the potential level of capital is considered to be equal to the actual one. The capital stock is commonly computed as the accumulation of quarterly national account investment flows by assuming an ad-hoc constant rate of capital depreciation, although several corrections are sometimes introduced.

We assume for the Romanian economy a Cobb-Douglas (C-D) aggregate production function with constant returns to scale. The Cobb-Douglas specification for the production function is widely used by the major economic institutions as OECD (Beffy et al., 2007), European Central Bank (Cahn and Saint-Guilhem, 2007) and the European Commission (Denis et al., 2006). The C-D production function represents the output \( Y \) as a combination of factor inputs – labor \( L \) and capital \( K \) – and of TFP \( A \), which includes the degree of excess capacity, adjusted for the level of efficiency:

\[
Y = A \cdot L^\alpha \cdot K^{1-\alpha}, \tag{3.1.1}
\]

where the output elasticities of labor and capital are represented by \( \alpha \) \((0 < \alpha < 1)\), and \((1-\alpha)\) respectively.

From (3.1.1) and its potential counterpart, it is obvious to see that

\[
y - \tilde{y} = (a - \tilde{a}) + \alpha \cdot (l - \tilde{l}) + (1 - \alpha) \cdot (k - \tilde{k}), \tag{3.1.2a}
\]

where lowercase symbols represent logs \( i.e. \ y = \log Y \), and hats indicate the potential level.

Thus, the output gap computed using the PF approach built on a C-D specification is the weighted average of the TFP, employment and physical capital gaps. Unlike the labor input and TFP, the capital input does not need to be cyclically adjusted to create a “potential” level. Although use of the
capital stock varies greatly during the business cycle, the potential flow of capital services will always be related to the total size of the capital stock, not to the amount currently being used (CBO, 2004). With the capital used at full capacity, the output gap is given by

\[ y - \bar{y} = (a - a) + a \cdot (l - I), \quad (3.1.2b) \]

Under the PF method assumptions, the output gap is influenced explicitly by the employment and the TFP gaps, and implicitly by the capital stock, through the TFP gap.

We set the output elasticity in respect to labor to 0.65, a value consistent with those employed in similar studies (Denis et al., 2006; Dobrescu, 2006; Galatescu et al., 2007). There are two alternatives to the ad-hoc setting of the production function parameter \( \alpha \): econometric estimation and direct computation using the data from National Accounts. As Galatescu et al. (2007) show, trying to estimate capital and labor contributions to the output in the C-D production function doesn’t yield economically meaningful results in the case of Romania. As it concerns using the National Accounts information, \( \alpha \) is computed as the ratio between the compensation of employees and the gross valued added. The average value of the compensation of employees gross value added ratio computed for yearly data on the time span 2000-2008 for the Romanian economy is 0.44. However, as Bergoeing et al. (2002) suggest, measured labor compensation fails to account for the income of most self-employed and family workers. They also point out that a high capital share (implied in the hypothesis of constant returns to scale by a low labor share) implies implausibly high rates of return on capital.

We define the labor input as employment, multiplied by the average number of actual weekly hours. The potential level for the labor input can be estimated as

\[ \bar{L} = N \cdot \bar{q} \cdot (1 - \bar{u}) \cdot \bar{H} \quad (3.1.3) \]

where \( N \) stands for the population of working, \( \bar{q} \) for the trend participation rate, \( \bar{H} \) for the trend in the number of actual weekly hours worked, and \( \bar{u} \) for NAIRU. To ensure a higher degree of robustness to the results, we estimate the trends for the participation rate and the number of hours using a principal component consensus of the HP and Kalman filters.

The approaches broadly adopted in the definition and modeling of NAIRU either distinguish a series of labor market variables as being potential empirical determinants of the NAIRU, either employ a number of
statistical methods in which the time series properties of the macroeconomic variables in question are used to identify NAIRU. Since it allows a better economic interpretation of the results, we choose to follow the structural approach of Denis et al. (2006), relying on Kuttner (1994) bivariate model. Kuttner’s model associates to a classical decomposition a regression whose regressors include unobserved quantities such as the gap and its lags.

Using the employment data available for Romania involves overcoming several difficulties. The first problem is related to the presence of a structural break in the series (Figure 3.1.1).

Figure 3.1.1. Structural break in the employment data

![Figure 3.1.1. Structural break in the employment data](image)

Source: EUROSTAT, own calculations

We addressed this issue in a two-step procedure. First, we removed the seasonal component for each series, before and after the structural break point. Then, by assuming that the growth rate of the seasonally adjusted variable in the structural break point is zero, we re-constructed backward the values using the growth rates of the seasonally adjusted series before the structural break.

Another feature to be dealt of when using Romanian employment data is that there are two series for the unemployment rate, reflecting different methodologies: ILO (International Labor Office) unemployment rate, representing the ratio between the number of ILO unemployed and
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active population; registered unemployment rate, representing the ratio between the number of unemployed (registered at the agencies for employment) and civil economically active population (unemployed + civil employment). While the ILO unemployment rate is calculated on a quarterly basis, the registered unemployment rate is calculated monthly, but using the last annual civil employment available data. There is no clear relation between the values of the two series such as to obscure the methodological differences. Moreover, both series present an outlier value, occurring in 2002Q1 as a result of a change in the legislation (Law No. 416/2001 concerning minimum guaranteed wage). The outlier has a much greater impact on the registered unemployment rate, than on the ILO rate. Taking this into consideration, and also the fact that the denominator for the registered unemployment is updated only on a yearly basis, we decided to use further the ILO unemployment rate.

Figure 3.1.2. Actual and NAIRU unemployment

![Graph showing actual and NAIRU unemployment rates]

Source: NIS, EUROSTAT, own calculations

In our model the ILO unemployment is decomposed in a structural component (NAIRU estimate) and a cyclical component that can be interpreted as unemployment rate gap. Wage inflation is connected to the unemployment rate gap by a Phillips type curve. The cycle is specified as a stationary AR(2) process. The structural component is modeled as a random walk stochastic process with drift. The drift is also stochastic.
The equations of the model described above are estimated with maximum likelihood on quarterly data over the period 1999Q1 to 2009Q1. The series were seasonally adjusted using the X12 ARIMA procedure in Demetra. Figure 3.1.2 displays the values obtained for NAIRU using the bivariate Kalman filter, and, also, for comparison reasons the values obtained by applying a HP filter (NAIRU-HP) and a Kalman univariate filter (NAIRU-KU). The values obtained with the bivariate Kalman filter range between the values computed using the two univariate methods.

The estimated values of NAIRU range between 6.48% in 2008Q4 and 7.52% in 2002Q1. Beginning with 2006Q1 the size of NAIRU situated below the value of 7%.

It is possible to elude some of the difficulties raised by the employment data in the case of Romania by considering the labor input variable in the production function as the number of employees. Accordingly, the potential level of the labor input is computed by applying a filtering technique. A number of arguments favor the use of employment data instead of the number of employees. First, it is obvious that employment data include those who contributed to the creation of the domestic production, but are not included in the number of employees because they don’t fit the statistical definition of the employee (they don’t have an individual labor contract). Second, a structural method involving a Phillips curve applied to employment data is more suitable than a detrending method applied to the number of employees data, since the resulting potential GDP corresponds more to the definition as the level where no inflation pressures emerge. Third, using only the number of employees reveals little information on the sources of the labor input gap.

The proper concept of capital in the context of the production function methodology is given by the flow of services of capital in constant prices. The use of the gross capital stock as input in the production function implies the following assumptions: (1) the flow of capital services is a constant proportion of an estimate measure of the capital stock; (2) the rate of change of capital services coinciding over time with the rate of change of the capital stock as estimated by cumulating measurable investment; (3) the aggregate capital stock is made up of assets that generate the same marginal revenues in production.

One of the major problems of using the PF method to estimate the potential GDP for the Romanian economy is the lack of an adequate data series for the capital stock. As relation (3.1.2b) shows, the severity of this problem is greater for the potential output than for output gap.
In the absence of official statistics, the fixed capital stock in Romania can be estimated using the Perpetual Inventory Method (PIM). The PIM method consists in accumulating past capital formation and deducting the value of assets that have reached the end of their service lives. The basic requirements to apply the PIM to estimate the gross capital stock are: (1) an initial benchmark estimate of the capital stock; (2) statistics on gross fixed capital formation extending back to the benchmark, or if no benchmark is available, back over the life of the longest-lived asset; (3) information on capital depreciation, implicitly comprising: asset price indices, information on the average services lives of different assets, and information on how assets are retired around the average service life (mortality functions). The PIM approach we employed can be formally stated as:

\[ K_t = K_{t-1} \cdot (1 - \delta) + I_t = K_0 \cdot (1 - \delta)^t + \sum_{j=1}^{t} I_j \cdot (1 - \delta)^{t-j}, \quad (3.1.4) \]

where \( K_t \) represents the capital stock at time \( t \), \( K_0 \) is the initial capital stock, \( I_j \) the gross fixed capital formation, and \( \delta \) the depreciation rate. The value of the capital stock is thus dependent on the path of the gross fixed capital formation, on the initial capital stock, and on the depreciation rate. Statistics on gross fixed capital formation are available since 1990, annual data, with a methodology shift from ESA 1979 to ESA 1995 in 1998, and since 1998, quarterly data. For the depreciation rate we choose a constant value, similar to the one generally used in the literature (see e.g. Denis et al., 2006), namely 5 percent annually. Following Denis et al. (2006), we set the initial moment for the capital stock to be 1995, and the value of the physical capital to be twice the GDP in that moment. According to the PIM methodology, the initial capital stock is less, and less important as the initial moment is more in the past. For an annual depreciation rate equal to 5%, setting the initial moment in 1995 means that, at the end of 2008, only a half of the initial capital is still in use. However, an initial moment very distant in the past is feasible only when a reliable gross fixed capital formation series is available.

Summarizing, our implementation of the PIM methodology can be stated as:

\[ \frac{K_t}{Y_t} = 2, \quad t = 1995; \]

\[ K_{t+1} = (1 - \delta) \cdot K_t + I_t, \quad \text{where } \delta = 0.05, \quad t = 1996; \]

\[ K_{t+1}^Q = (1 - \delta_Q)K_t^Q + I_t^Q, \quad \text{where } (1 - \delta_Q)^t = 1 - \delta, \quad t > 1996. \]
The annualized capital stock series from 1998 is presented in Table 3.1.1. To assess the performance of the capital stock calculation methods we employed, we also present the annual capital-output ratio.

**Table 3.1.1. Capital stock estimates**

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital stock (mln. RON 2000 prices)</th>
<th>Capital output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>177.270,08</td>
<td>2.22</td>
</tr>
<tr>
<td>1999</td>
<td>182.564,79</td>
<td>2.32</td>
</tr>
<tr>
<td>2000</td>
<td>188.388,90</td>
<td>2.33</td>
</tr>
<tr>
<td>2001</td>
<td>195.402,19</td>
<td>2.29</td>
</tr>
<tr>
<td>2002</td>
<td>203.530,04</td>
<td>2.27</td>
</tr>
<tr>
<td>2003</td>
<td>212.811,37</td>
<td>2.25</td>
</tr>
<tr>
<td>2004</td>
<td>223.757,98</td>
<td>2.18</td>
</tr>
<tr>
<td>2005</td>
<td>237.471,11</td>
<td>2.22</td>
</tr>
<tr>
<td>2006</td>
<td>255.472,37</td>
<td>2.22</td>
</tr>
<tr>
<td>2007</td>
<td>281.237,00</td>
<td>2.30</td>
</tr>
<tr>
<td>2008</td>
<td>313.121,86</td>
<td>2.39</td>
</tr>
</tbody>
</table>

Source: own calculations

In the interval 1998-2008 the capital-output ratio in the Romanian economy varies from 2.18 to 2.39. The values for the capital stock presented in Table 3 are comparable with those we would have obtained if we used other methods, based on various assumptions regarding the initial value of the capital stock.

**Table 3.1.2. Capital output ratio estimates**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Min</th>
<th>Max</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergoeing <em>et al.</em> (2002)</td>
<td>2.23</td>
<td>2.42</td>
<td>2.32</td>
</tr>
<tr>
<td>Denis <em>et al.</em> (2006)</td>
<td>2.18</td>
<td>2.39</td>
<td>2.27</td>
</tr>
<tr>
<td>Harberger (1978)</td>
<td>2.33</td>
<td>2.57</td>
<td>2.45</td>
</tr>
<tr>
<td>IMF (2003)</td>
<td>1.98</td>
<td>2.30</td>
<td>2.11</td>
</tr>
</tbody>
</table>

Source: own calculations

Table 3.1.2 summarizes the results obtained by employing the methodologies similar to Bergoeing *et al.* (2002), Harberger (1978), and IMF (2003).

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8 Quarterly data are available upon request.
Public Finances: Introduction of a medium-term budgetary framework

In our version of the Bergoieng et al. (2002) methodology we consider the time span 1998-2008, and we determine $K_{1998}$ such as $K_{2002}/Y_{2002} = 1/11 \cdot \sum_{t=1998}^{2008} K_t/Y_t$. Harberger (1978) methodology assumes that the economy evolves on the „balanced growth path,” implying that the growth rates of the capital stock and of real GDP are equal. We consider the time span 1998-2008, and we determine $K_{1998}$ such as $(K_{2008}/K_{1998})^{1/10} = (Y_{2008}/Y_{1998})^{1/10}$. Similar to IMF (2003) we estimate the initial capital stock using the ratio of the Romanian to Euro Area per capita GDP (at PPS) in 2000, 23%. Departing from the IMF methodology, we consider that only one third of the difference in per capita GDP it can be explained by different real capital endowments, the rest being explained by other factors, such as human capital, institutions setting etc. Assuming a capital share of about $1/3$, we obtain

$$\frac{(K_{2000}^{RO}/Y_{2000}^{RO})}{(K_{2000}^{EA}/Y_{2000}^{EA})} = \left[3 \cdot \left(\frac{Y_{2000}^{RO}}{L_{2000}^{RO}}\right)\right]^2 = 0.6888^2 = 0.4744$$

meaning that in 2000 the Romanian capital-output ratio is 47.44% of the one for Euro Area. The value of 4.44 for the Euro Area capital-output ratio yields a value of about 2.11 for Romania. It’s worth mentioning that computing backwards the values of the annual capital stock the capital-output ratio for 1992 is 1.44, close to the value of 1.3 in the IMF (2003) report.

Within the production function framework, potential output refers to the level of output which can be produced with a “normal” level of efficiency of factor inputs. The trend efficiency level is measured as a principal component consensus of the HP and Kalman filtered Sollow residual:

$$a_t = \ln(Y_t) - [\alpha \ln(L_t) + (1-\alpha) \ln(K_t)]$$

Potential output is derived by inserting potential capital stock and potential labor into the production function equation. Figure 3.1.3 represents the output gap obtained in the production function analysis using quarterly data for the period 1999Q2-2009Q1. After a period of positive output gap, between 2006Q1 and 2008Q3, the output gap plunges to a negative value of around -7 percent in 2009Q1. Output gap reached its maximum value in 2008Q3, 3.8%.
Obviously, the shape of the output gap in the last quarters is determined by the actual macroeconomic context, characterized, among others, by the sharp decrease in the external demand, the drop in the governmental expenditures, and the blockage of non-governmental credit.

**Figure 3.1.3. Output gap estimates using the PF approach**

Table 3.1.3 offers the annualized values for the output-gap, potential GDP and the growth rate of the potential GDP.

The growth rate of the potential GDP for the period 2001-2008 situated between 5.1% and 6.3%, with an average of 5.8%. Our findings are similar to those obtained in similar studies, suggesting for the Romanian economy in the last years a potential GDP growth rate of about 6 percent (Dobrescu, 2006; Galatescu et al., 2007).
Table 3.1.3. Annualized potential GDP estimates using the PF methodology

<table>
<thead>
<tr>
<th>Year</th>
<th>Output-gap (%)</th>
<th>Potential output (mln. RON 2000 prices)</th>
<th>Potential growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-0.65</td>
<td>81,516,98</td>
<td>-</td>
</tr>
<tr>
<td>2001</td>
<td>-0.22</td>
<td>85,672,75</td>
<td>5.10</td>
</tr>
<tr>
<td>2002</td>
<td>-0.74</td>
<td>90,462,06</td>
<td>5.59</td>
</tr>
<tr>
<td>2003</td>
<td>-1.28</td>
<td>95,739,85</td>
<td>5.83</td>
</tr>
<tr>
<td>2004</td>
<td>1.04</td>
<td>101,472,4</td>
<td>5.99</td>
</tr>
<tr>
<td>2005</td>
<td>-0.97</td>
<td>107,798,6</td>
<td>6.23</td>
</tr>
<tr>
<td>2006</td>
<td>0.86</td>
<td>114,233,4</td>
<td>5.97</td>
</tr>
<tr>
<td>2007</td>
<td>1.02</td>
<td>121,125,9</td>
<td>6.03</td>
</tr>
<tr>
<td>2008</td>
<td>2.19</td>
<td>128,235,2</td>
<td>5.87</td>
</tr>
</tbody>
</table>

Source: own calculations

As we have mentioned before, one of the advantages of using the production function to estimate the potential output consists in **assessing separately the contribution of the labor, capital and total factor productivity to potential output growth**. Figure 3.1.4 illustrates the contributions of production factors to the quarterly potential GDP growth, computed relative to the same quarter of the previous year, for the period 2000:Q2-2009:Q1.

Until 2007:Q2, the TFP growth was the main source of potential GDP growth. The TFP contribution first increases from 3.1 in 2000:Q2 to 3.85 in 2004Q3, decreasing smoothly after, to 1.9 in 2009:Q1. Since 2007:Q3, the capital growth becomes the main driving factor of GDP growth. Excepting the last two quarters, the capital contribution to potential GDP growth displays an increasing path, ranging from 0.76 in 2000:Q2, to 3.83 in 2008:Q3. In this time the annual investment ratio, calculated as the ratio between the gross fixed capital formation and GDP, ranged from 18.8% in 1999 to 35.7% in 2008.

The 2008:Q4 and 2009:Q1 quarters witnessed a decline in the contribution of the physical capital to the potential output growth, as the result of the deteriorating macroeconomic environment, characterized among others by a sharp decline in the year on year growth rate of the gross fixed capital formation from 24.3% in 2008Q3 to 2.78% in 2008Q4, and - 0.3% in 2009Q1.
The contribution of labor to GDP growth had a relatively stable path in the interval 2000:Q2-2005:Q4, followed by a decline ending with a negative contribution of -0.17 in 2009Q1. The evolution of employment is determined by the demographic conditions and by the labor market conditions. The main factor was the growth rate of the average hours worked, decreasing from 1% in 2002:Q2 to -0.4% in 2009Q1. The negative contribution of the labor input to the potential GDP growth in the last quarters can be also explained by the increase in NAIRU.

Table 3.1.4 presents the part of the annual potential output growth for the period of 2001-2008 which can be assumed by each factor.
The contributions of the production factors to potential economic growth estimated in this study are similar to the projections for the 2002-2005 period in IMF (2003), where the capital contribution is around 3 pp, and that of TFP is around 1.9.

The estimates of potential GDP and output-gap are greatly influenced by uncertainty and, therefore, require considerable judgment (de Brouwer, 1998; Bjornland et al. 2005). This issue presents a considerable challenge for the policymakers, since different measures of these unobservable variables provide contradictory information on the position of the economy. Orphanides (1998) stress out that if policymakers mistakenly adopt policies based on wrong estimates of the output gap, they inadvertently induce instability in economic activity.

To ensure the robustness of the estimates obtained using the production function methodology, our main objective in this section is to provide alternative output gap estimations employing different statistical approaches. The need to use various econometric filtering methodologies arises due to the fact that one tool may not be robust enough to the specificities of an emerging economy. Since all the methods have weaknesses, we employ four of these methods to compute the output gap, and use the four estimates to compose a consensus measure of the output gap using the methodology outlined in Darvas and Vadas (2002): the Hodrick-Prescott filter (Hodrick and Prescott, 1997), the Kalman filter (Kalman, 1960; Kalman and Bucy, 1961) implemented for an unobserved component model (Watson, 1986; Harvey, 1989), band-pass filter (Baxter and King, 1999), as well as the wavelet transform based filter (Swagel and
Scacciavillani, 2002; Darvas and Vadas, 2003). The details of those techniques are beyond the scope of this study. A detailed description can be found in Darvas and Vadas (2003), or Altăr, Necula and Bobeică (2009b). However, it worth noting that the Kalman filter suffers less than other techniques, e.g. Hodrick-Prescott filter, from end-point problems.

We employed the quarterly GDP data series for the period 1998:Q1-2009:Q1. Figure 3.1.5 depicts the output gap estimates using the four econometric methods mentioned above.

**Figure 3.1.5. Output gap estimates using econometric filters**

![Graph of output gap estimates using econometric filters](image)

Source: own calculations

Although the amplitude of the estimates varies, the shapes of the curves describing the output gap from four methods are comparable. Using the Kalman filter estimate of the unobserved component model, the period of the business cycle resulted to be 8.14 years. Although the other estimates do not allow for an analytic computation of the length period, a visual inspection of the graph also indicates a period around 8 years. These results are consistent with de definition of a business cycle consisting of periodic components whose frequencies lie between 2 and 8 years per cycle (Burns and Mitchell, 1946; Hodrick and Prescott, 1997; Baxter and King, 1999).

The most challenging task is the evaluation of the estimations resulted from these methods. Considering the weak stability of the various...
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econometric methods of output gap estimation, a problem which was encountered in all the countries, a synthetic index for the output gap should be constructed. Therefore, we will compute a consensus estimate using the methodology outlined in Darvas and Vadas (2002). The consensus estimate consists in weighting the individual estimates with weights proportional to the inverse of revisions of the output gap for all dates estimated for recursive samples. Therefore, the methods that lead to more stable results are given more weight.

**Figure 3.1.6. Consensus output gap estimate**

![Figure 3.1.6. Consensus output gap estimate](image)

Source: own calculations

The stability analysis of the estimations obtained using the four methods has shown that the most stable estimation is provided by the Kalman filter estimate. Also, the output gap estimation using the Band Pass filter (BP) proved to be stable enough. Based on the stability analysis performed for the four estimations, the weights for the synthetic index (“consensus output gap estimator”) were chosen equal to 32.97% for the Kalman filter (KM), 29.7 % for the Band Pass filter (BP), 25.45 % for the Hodrick-Prescott filter (HP) and 11.88% for the wavelet transform (WT). Figure 3.1.6 depicts the consensus estimate of the output-gap.

The shape of the consensus output gap trajectory is similar to that obtained thought the production function methodology. However, the amplitude of the cycle is quite different. Between 2006:Q1 and 2008:Q4, the output gap was positive reaching a maximum of 6.47% in 2008:Q3.
Due to the actual macroeconomic conditions, the output gap was negative, around -2.5%, in 2009:Q1. The amplitude in 2009:Q1 is much lower that the value obtained using the production function methodology of around -7%.

Table 3.1.5 presents the annual consensus output gap estimate, the consensus potential GDP, and the potential GDP growth. The results of the consensus estimate of the output gap using various non-theoretic statistical methods are similar to the result obtained using the PF methodology. The higher values for the output gaps in 2007 and 2008 are reflected in lower growth rates of the potential GDP.

<table>
<thead>
<tr>
<th>Year</th>
<th>Output-gap (% of potential GDP)</th>
<th>Potential output (mln. RON 2000 prices)</th>
<th>Potential growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-3,24</td>
<td>83.700,23</td>
<td>1,96</td>
</tr>
<tr>
<td>2001</td>
<td>-1,04</td>
<td>86.379,98</td>
<td>3,20</td>
</tr>
<tr>
<td>2002</td>
<td>-0,39</td>
<td>90.139,76</td>
<td>4,35</td>
</tr>
<tr>
<td>2003</td>
<td>-0,58</td>
<td>95.068,21</td>
<td>5,47</td>
</tr>
<tr>
<td>2004</td>
<td>1,54</td>
<td>100.971,90</td>
<td>6,21</td>
</tr>
<tr>
<td>2005</td>
<td>-0,34</td>
<td>107.121,81</td>
<td>6,09</td>
</tr>
<tr>
<td>2006</td>
<td>1,57</td>
<td>113.441,05</td>
<td>5,90</td>
</tr>
<tr>
<td>2007</td>
<td>2,44</td>
<td>119.449,69</td>
<td>5,30</td>
</tr>
<tr>
<td>2008</td>
<td>5,18</td>
<td>124.590,09</td>
<td>4,30</td>
</tr>
</tbody>
</table>

Source: own calculations

The rate of potential GDP growth for 2000 – 2008 situated between 1.96% and 6.21%, with an average of 4.75%. If we concentrate only on the period analyzed by the PF methodology also, 2001-2008, we obtain an average annual growth rate of the potential GDP of 5.1%.

Potential output and output gap are matters of utmost importance for the decisions taken by the policymakers in normal periods: monetary policy actions dealing with excess demand, fiscal policy actions to interfere (or not) with automatic stabilizers, but especially in the periods characterized by financial, economic, and trade distress. Hence it is essential to reduce the uncertainty present in the estimation. In this section of the study we assembled a battery of theoretical and statistical methods, both structural, as well as non-structural, in order to obtain a reliable estimate for the cyclical position of the Romanian economy. Our
methodology combines the production function method with econometric filtering techniques: Hodrick-Prescott, Kalman, band-pass and wavelet transform. Thus, the potential output and output gap estimates benefit from the advantages of both methods.

Although the four statistical estimates have been combined into a consensus measure using an explicit methodology, further aggregation of this measure with the estimate obtained using the production function methodology is beyond the scope of the present study, and should be subject to further research and expert judgment. As a rule of thumb, an equal weighting scheme might be used to obtain a single estimate of the output gap.

### 3.2. Cyclically adjusted budget balance – a fundamental indicator for the structural position of the public finances

The structural or cyclically adjusted budgetary balance is defined as the fiscal balance that would arise, provided output was at its potential level and therefore not reflecting cyclical aspects in economic activity. Hagemann (1999) defines the structural fiscal balance as the residual balance after removing the balance of the estimated budgetary consequences of the business cycle. Therefore, the calculation of the structural fiscal balance is useful, as it provides a clearer picture of the underlying fiscal situation by abstracting from the impact of the business cycle. As a result, it can be used to guide fiscal policy analysis. One approach to examine the impact of discretionary fiscal policy over the cycle is to link the fiscal policy position, generally measured as the change in the structural fiscal balance, to the cyclical conditions measured by the output gap. Econometric investigation covering the period from the mid-1990s to 2006 shows that the fiscal policy has on average been pro-cyclical in the Euro Area and in the EU (European Commission, 2006).

The importance of assessing the structural fiscal balance has increased after Romania entered the European Union. The structural fiscal balance does play a key role in the European Union surveillance procedures, especially in the Stability and Growth Pact. Although, the condition of the Pact concerning the ratio of government deficit to GDP refers to the actual rather than the structural deficit, the cyclically adjusted budget balance id employed within the SGP framework to measure the position of the fiscal policy. Also, the structural balance is used by The European Commission in assessing whether the prevailing fiscal situation in individual EU countries is sufficient to comply with the requirements of the Stability and Growth
Pact, whether it is strong enough to provide for a safety margin that the actual budget deficit does not exceed the threshold of 3% of GDP during a recession. On the other hand, the Euro Area and the ERM II member states should adopt a country-specific medium-term budgetary objective that should be in a range between -1% of GDP and “in balance or surplus”, measured in cyclically adjusted terms, net of one-off effects and temporary measures.

Although several methodologies have been proposed (Giorno et. al., 1995; Hagemann, 1999; van der Noord, 2000; Bouthevillain et al., 2001; Congressional Budget Office, 2004; Girouard and Andre, 2005), there is no generally accepted method of quantifying what part of the current budgetary balance reflects short-term transitory influences caused by cyclical factors and what part is due to structural measures taken by fiscal authorities. Generally, the measurement of the cyclically adjusted budget balance proceeds in three steps. The first step involves the estimation of the potential GDP, of a reference path for real GDP to that could be obtained in the absence of cyclical fluctuations. The difference between the actual output level and estimated potential output provides a measure of the output gap. Budget revenues and expenditure are also sensitive not only to output-gap but to changes in the composition of aggregate demand (i.e. a composition effect). The measurement of the composition effect requires the existence of an equilibrium composition of aggregate demand. However, unlike potential output, there is no equivalent for the equilibrium structure of aggregate demand. This issue argues for usage the output gap as the benchmark for cyclical adjustment. The second step concerns the econometrical estimation of the elasticities of different components budget revenues and expenditures with respect to output gap. In the last step the output gap and the government revenue and expenditure elasticities are combined to compute what government revenues and expenditure would have been had output been at the reference path level. The structural fiscal position may also be affected by temporary shocks, not directly linked to business cycles, including one-off fiscal measures, creative accounting, classification errors, etc. (Girouard and Price, 2004; Koen and van den Noord, 2005).

The potential GDP is unobservable and is sensitive to the method of estimation. Although a variety of methods exists for calculating potential output none of them are without shortcomings. For this reason all output gap estimates, and hence also the corresponding measures of the cyclically adjusted budget balances, are subject to considerable uncertainty. Langedijk and Larch (2007) assessed the sensitivity of the EU fiscal framework to variations in output gap estimates and concluded that the uncertainty
surrounding output gap estimates is a serious issue since it can give rise to an inappropriate policy response. Therefore, one should not rely on a single measure to compute the output gap. Hence, we will employ further a robust estimation computed as the simple average of the two output-gap estimates obtained in the previous section.

In this section, we propose a robust approach to the estimation of the structural fiscal balance for the Romanian economy, by employing quarterly and annual data for the period 1998:Q1 – 2008:Q4. For quarterly data we will employ a methodology similar to that of Giorno et al. (1995) and van der Noord (2000). In order to check the robustness of the estimates, we will also use annual data and a methodology similar to that outlined in Girouard and Andre (2005). The main weakness of the cyclical adjustment method used in the EU fiscal surveillance framework is the assumption of constant tax elasticities (European Commission 2006, 2007, 2008). Constant tax elasticities are an acceptable approximation in the short-term. However, in some years tax elasticities can depart quite substantially from their “normal values” (European Commission 2008; Wolswijk, 2007). Therefore, in this paper we relax the assumption of fixed elasticities hypothesized in OECD and European Commission methodologies and allow for varying tax elasticities along the business cycle.

This approach involves the estimation of elasticities with respect to output for the various government revenue and expenditure categories. These elasticities, together with the estimated output-gap are then used to calculate the structural (i.e. not affected by cyclical conditions) tax revenues and expenditures. Every elasticity is decomposed in a number of components that can be estimated using the available data and specific econometric techniques. The OECD methodology computes for every government revenue and expenditure category a single elasticity for the whole period. Therefore, the estimated elasticities may be expected to reflect, at best, the average cyclical responsiveness of these revenue and expenditure items over a sample period. Actual quarter-to-quarter behavior may be more erratic as specific tax bases may react atypically over the cycle. In this study we will compute a different elasticity for each quarter in the data set. Further details can be found in Altăr, Necula and Bobeică (2009a).

The elasticity of the tax income with respect to the tax base is determined by the structure and the evolution of the Romanian tax system:

- in the case of the Personal Income Tax is given by the wage elasticity of the personal income;
in the case of the Social Security Contribution it is constant and equal to 1 across the sample since the contribution rate is flat and there are no deductions;

- in the case of the Corporate Income Tax it is constant and equal to 1 since it is assumed that corporate income tax receipts are proportional to their tax base, corporate profits;

- in the case of Indirect Taxes it is constant and equal to 1 since it is considered that indirect tax income is proportional to the main tax base, consumer expenditure;

- in the case of Current Primary Expenditures it is equal to the share of unemployment-related spending in total government spending since the elasticity of government expenditure reflects cyclical variations in unemployment-related spending and an unitary elasticity is assumed between unemployment-related expenditure and unemployment.

For the estimation of the wage elasticity of the personal income tax, following the OECD and European Commission methodology, we consider a representative household consisting of a full-time male worker, a working spouse and two children. Since the average gross wage of a female was, over the analyzed period, 85% of the average gross wage of a male, we considered that in the representative family the secondary earner has a wage income equal to 85% of those of the principal earner. The OECD methodology employs a parametric log-normal distribution to assess the variation in wage income across households. To better account the large proportion of individuals earning the minimum wage we followed a slightly different approach. For each year in the sample a location-shifted log-normal income distribution function was estimated. The estimation of the location-shifted log-normal distribution function was performed based on three inputs: the minimum wage level for each period, the average gross wage for each period, the 90-th percentile of the actual distribution.

Figure 3.2.1 depicts the estimated location-shifted log-normal distribution of the actual wage distribution in 2006, the last year in the sample that we had available data regarding income distribution. Tha distribution obtained for 2006 was also used for 2007 and 2008.
In the Romanian case, the wage elasticity of the personal income tax varied between 1.57 and 2.09. After the flat rate regime was introduced there was a significant reduction in wage income elasticity, although it remained above 1, due to the existence of personal deductions.

The elasticity of the tax base with respect to output gap is quite complex, depending on whether the base is income, profits, consumption because their behavior vary across business cycles. Usually, these elasticities are estimated using regression equations including: GDP, potential GDP, employment, potential employment, NAIRU, private consumption etc. As we mentioned before, two unemployment series are available in Romania: ILO and registered unemployment. NAIRU is an input for the methodology used to estimate CAB, by the elasticity of the current expenditures with respect to unemployment rate. Therefore, we consider that it is more relevant in this case to use the registered unemployment series, which includes the persons receiving unemployment benefits. For this series NAIRU was estimated using a model similar to the one described in the previous section, yielding similar results.

The annualized values of the output elasticities of budgetary revenues and expenditures, for the period 1998-2008, are presented in Table 3.2.1.
### Table 3.2.1. Annualized values of the output elasticities of budgetary revenues and expenditures

<table>
<thead>
<tr>
<th>Year</th>
<th>Output elasticity of personal income tax ( t )</th>
<th>Output elasticity of social security contribution</th>
<th>Output elasticity of corporate income tax</th>
<th>Output elasticity of indirect tax</th>
<th>Output elasticity of current primary expenditure</th>
<th>Budget balance semi-elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>0.951</td>
<td>0.751</td>
<td>1.208</td>
<td>0.970</td>
<td>-0.126</td>
<td>0.293</td>
</tr>
<tr>
<td>1999</td>
<td>0.957</td>
<td>0.751</td>
<td>1.172</td>
<td>0.970</td>
<td>-0.133</td>
<td>0.315</td>
</tr>
<tr>
<td>2000</td>
<td>1.093</td>
<td>0.751</td>
<td>1.248</td>
<td>0.970</td>
<td>-0.106</td>
<td>0.298</td>
</tr>
<tr>
<td>2001</td>
<td>1.096</td>
<td>0.751</td>
<td>1.205</td>
<td>0.970</td>
<td>-0.078</td>
<td>0.274</td>
</tr>
<tr>
<td>2002</td>
<td>1.158</td>
<td>0.751</td>
<td>1.198</td>
<td>0.970</td>
<td>-0.083</td>
<td>0.275</td>
</tr>
<tr>
<td>2003</td>
<td>1.120</td>
<td>0.751</td>
<td>1.204</td>
<td>0.970</td>
<td>-0.094</td>
<td>0.275</td>
</tr>
<tr>
<td>2004</td>
<td>1.106</td>
<td>0.751</td>
<td>1.212</td>
<td>0.970</td>
<td>-0.102</td>
<td>0.281</td>
</tr>
<tr>
<td>2005</td>
<td>1.004</td>
<td>0.751</td>
<td>1.196</td>
<td>0.970</td>
<td>-0.123</td>
<td>0.283</td>
</tr>
<tr>
<td>2006</td>
<td>0.965</td>
<td>0.751</td>
<td>1.200</td>
<td>0.970</td>
<td>-0.109</td>
<td>0.285</td>
</tr>
<tr>
<td>2007</td>
<td>0.965</td>
<td>0.751</td>
<td>1.208</td>
<td>0.970</td>
<td>-0.088</td>
<td>0.273</td>
</tr>
<tr>
<td>2008</td>
<td>0.965</td>
<td>0.751</td>
<td>1.201</td>
<td>0.970</td>
<td>-0.084</td>
<td>0.284</td>
</tr>
<tr>
<td>Average</td>
<td><strong>1.034</strong></td>
<td><strong>0.751</strong></td>
<td><strong>1.205</strong></td>
<td><strong>0.970</strong></td>
<td><strong>-0.102</strong></td>
<td><strong>0.285</strong></td>
</tr>
</tbody>
</table>

Source: own calculations
The results are similar to those obtained for the OECD member countries. The OECD cross-country average estimate is 1.03 with a standard deviation of 0.4, for the personal income tax, 0.81 with a standard deviation of 0.22, for the social security contribution, 1.26 with a standard deviation of 0.43, for corporate income taxes, 0.89 with a standard deviation of 0.35 for indirect taxes, and -0.29 with a standard deviation of 0.26 for current primary expenditures (van den Noord, 2000). The average estimated budget balance semi-elasticity to the output gap is 0.285. The OECD cross-country average estimate is 0.49 with a standard deviation of 0.2 (van den Noord, 2000).

The cyclical component of each revenues or expenses category \( B_{ij}^C \) is computed using the estimated output gap and the estimated output elasticity \( \alpha_j \):

\[
B_{ij}^C = B_{ij} \cdot \alpha_j \cdot output\_gap, \tag{3.2.1}
\]

where \( B_{ij} \) represents the effective level of each budgetary category.

Figure 3.2.2 depicts the dynamics of the cyclical components of the revenues and expenditures for the time span 1998:Q1-2008:Q4.

**Figura 3.2.2. Cyclical component of budgetary expenditures and revenues**

Source: *MFP, own calculations*
The paths followed by the cyclical components of the budgetary revenues and expenditures display a mirroring dynamics, but with significant differences in amplitude. Thus, in the periods characterized by positive output-gap the revenues have a positive cyclical component, while the expenditures, as a result of the reduced employment benefits paid, a negative cyclical component. The situation is reversed in the periods when the economy functions below the potential level.

The cyclical component of the budgetary balance is obtained by adding the cyclical parts of the budgetary components. The *cyclically adjusted budget balance* (CAB) is obtained by subtracting the cyclical component from the actual budget balance. Table 3.2.2 reports the estimates for the annualized structural budget balance.

**Table 3.2.2. Estimated structural budget balance using quarterly data**

<table>
<thead>
<tr>
<th></th>
<th>Actual balance (% in GDP)</th>
<th>Cyclical Balance (% in GDP)</th>
<th>Structural balance (% in GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>-3.59</td>
<td>-0.76</td>
<td>-2.84</td>
</tr>
<tr>
<td>1999</td>
<td>-1.85</td>
<td>-0.99</td>
<td>-0.85</td>
</tr>
<tr>
<td>2000</td>
<td>-3.96</td>
<td>-0.77</td>
<td>-3.18</td>
</tr>
<tr>
<td>2001</td>
<td>-3.19</td>
<td>-0.18</td>
<td>-3.00</td>
</tr>
<tr>
<td>2002</td>
<td>-2.60</td>
<td>-0.16</td>
<td>-2.44</td>
</tr>
<tr>
<td>2003</td>
<td>-2.23</td>
<td>-0.27</td>
<td>-1.96</td>
</tr>
<tr>
<td>2004</td>
<td>-1.18</td>
<td>0.35</td>
<td>-1.53</td>
</tr>
<tr>
<td>2005</td>
<td>-0.79</td>
<td>-0.19</td>
<td>-0.60</td>
</tr>
<tr>
<td>2006</td>
<td>-1.64</td>
<td>0.34</td>
<td>-1.98</td>
</tr>
<tr>
<td>2007</td>
<td>-2.50</td>
<td>0.49</td>
<td>-2.99</td>
</tr>
<tr>
<td>2008</td>
<td>-5.40</td>
<td>0.99</td>
<td>-6.39</td>
</tr>
</tbody>
</table>

Source: *own calculations*

Figure 3.2.3 displays the dynamics of the cyclical and structural balances for 1998 – 2008.
The amplitude of the cyclical budget balance is around 1% of GDP. The structural balance varied between -0.60% to -6.39% of GDP. After a period of constant improvement in the structural fiscal position, with a descending trend of the structural balance, the last period was characterized by a significant increase of the cyclically adjusted deficit. The fiscal balance worsened in the context of the actual crisis, the cyclically adjusted budget deficit approaching 6.5% of GDP. There will be a challenge to reach the medium term objective of a structural fiscal balance of -1.93% for 2011, and -0.9% for 2012 as stated in the Convergence Programme (Ministry of Public Finance, 2009).

CAB is an unobservable key variable for the policy decisions. Hence, the importance of obtaining an estimation with a lowest possible degree of uncertainty. In this section of the study we employed a methodology that allows achieving this goal by using a robust and stable measure of the potential GDP.

**3.3. Medium term scenarios for the structural position of the Romanian economy**

This section concentrates on the future developments in the Romanian economy, by elaborating a series of scenarios designed to explore the possible dynamics of key variables, such as potential GDP and CAB. The scenarios are implemented in the CAPEF-QM model (Altăr, Necula and Bobeică, 2008). CAPEF-QM is a semi-structural model of the Romanian economy.
economy, allowing to: (1) produce forecasts for both the short- and medium-term outlook for the Romanian economy in a consistent framework, (2) conduct policy analysis, and (3) run scenarios and simulations.

The model consists of six interconnected blocks (Figure 3.3.1): supply-side, demand, wages and prices, external sector, monetary and financial sector, and government sector.

**Figure 3.3.1. CAPEF-QM Structure**

![CAPEF-QM Structure Diagram](source)

The features of the CAPEF-QM model are common to the principal models used by various financial institutions. A first characteristic is that the model has a detailed structure capturing the main components of the Romanian economy, allowing in the same time, the elaboration of pertinent forecasts and scenarios.

Another CAPEF-QM feature is that it embodies a "neoclassical synthesis", a combination of Keynesian short-run analysis and neoclassical long-run analysis popularized by Samuelson (1967). More precisely, the short run dynamics are estimated to conform to empirical evidence, while the long-run relationships are derived from theoretical optimization. The supply side of the model determines the long-run equilibrium, while in the short run output is determined by the demand side, which means that there is a sluggish adjustment of prices and quantities towards equilibrium. The model is backward-looking, so expectations are treated implicitly by the inclusion of current and lagged values of the variables.

The econometric methodology used is the cointegration framework, where the error correction mechanisms (ECM) are estimated
in two steps. In the first step, the long-run relations are derived from underlying theory and estimated by blocks, when strong interactions among variables appear or cross-equation constraints in the parameters need to be imposed. The dynamic equations, however, are estimated equation by equation, considering possible endogeneities and imposing the long-run coefficients obtained in the previous step.

**Figure 3.3.2. The forecasted dynamics of quarterly GDP**

Source: *CAPEF-QM model*

Another important feature of the model relies in the use of a production function to capture a vertical long-run aggregate supply curve. The neoclassical component of the model determines the long-run equilibrium using the production factors and the technological progress. In this way, the long-run economic growth rate is independent of the prices of the inflation rate. If a macroeconomic shock occurs, the goods and services market imperfections, as well as the labor market imperfections prevent an immediate return of the macroeconomic variables to their steady-state values. The economy will slowly converge to the long-term equilibrium. The persisting transitory disequilibrium will be characterized by output gap, and by unemployment gap. To ensure convergence, the equations governing the dynamics of the variables include a series of adjustment mechanisms. The behavioral relations comprise terms that adjust the dynamic behavior to deviations from the equilibrium. The model also allows the estimation of the convergence speed.
Three scenarios were simulated using the CAPEF-QM model: a base scenario, a pessimistic scenario, and an optimistic one. The quarterly GDP paths for each scenario are depicted in Figure 3.3.2.

Table 3.3.1. Scenarios on the evolution of the structural position of the Romanian economy

<table>
<thead>
<tr>
<th></th>
<th>Base scenario</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>GDP growth rate (%)</td>
<td>7.10</td>
<td>-8.11</td>
<td>0.24</td>
<td>1.95</td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>Potential GDP growth rate (%)</td>
<td>4.30</td>
<td>1.94</td>
<td>1.08</td>
<td>0.86</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>Output-gap (%)</td>
<td>5.18</td>
<td>-5.18</td>
<td>-5.97</td>
<td>-4.95</td>
<td>-3.09</td>
<td></td>
</tr>
<tr>
<td>Actual budgetary balance (% of GDP)</td>
<td>-5.40</td>
<td>-7.52</td>
<td>-5.26</td>
<td>-3.00</td>
<td>-1.83</td>
<td></td>
</tr>
<tr>
<td>Cyclical balance (% of PIB)</td>
<td>1.56</td>
<td>-1.55</td>
<td>-1.79</td>
<td>-1.49</td>
<td>-0.93</td>
<td></td>
</tr>
<tr>
<td>CAB (% of PIB)</td>
<td>-6.96</td>
<td>-5.97</td>
<td>-3.47</td>
<td>-1.51</td>
<td>-0.90</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pessimistic scenario</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>GDP growth rate (%)</td>
<td>7.10</td>
<td>-8.84</td>
<td>-2.08</td>
<td>1.55</td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>Potential GDP growth rate (%)</td>
<td>4.30</td>
<td>1.57</td>
<td>0.35</td>
<td>0.20</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Output-gap (%)</td>
<td>5.18</td>
<td>-5.60</td>
<td>-7.88</td>
<td>-6.64</td>
<td>-4.27</td>
<td></td>
</tr>
<tr>
<td>Actual budgetary balance (% of GDP)</td>
<td>-5.40</td>
<td>-8.14</td>
<td>-5.81</td>
<td>-3.00</td>
<td>-2.18</td>
<td></td>
</tr>
<tr>
<td>Cyclical balance (% of PIB)</td>
<td>1.56</td>
<td>-1.68</td>
<td>-2.36</td>
<td>-1.99</td>
<td>-1.28</td>
<td></td>
</tr>
<tr>
<td>CAB (% of PIB)</td>
<td>-6.96</td>
<td>-6.46</td>
<td>-3.45</td>
<td>-1.01</td>
<td>-0.90</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Optimistic scenario</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>GDP growth rate (%)</td>
<td>7.10</td>
<td>-7.68</td>
<td>1.06</td>
<td>2.60</td>
<td>3.85</td>
<td></td>
</tr>
<tr>
<td>Potential GDP growth rate (%)</td>
<td>4.30</td>
<td>2.34</td>
<td>1.60</td>
<td>1.48</td>
<td>1.46</td>
<td></td>
</tr>
<tr>
<td>Output-gap (%)</td>
<td>5.18</td>
<td>-5.11</td>
<td>-5.62</td>
<td>-4.58</td>
<td>-2.34</td>
<td></td>
</tr>
<tr>
<td>Actual budgetary balance (% of GDP)</td>
<td>-5.40</td>
<td>-7.02</td>
<td>-5.12</td>
<td>-3.00</td>
<td>-1.60</td>
<td></td>
</tr>
<tr>
<td>Cyclical balance (% of PIB)</td>
<td>1.56</td>
<td>-1.53</td>
<td>-1.69</td>
<td>-1.37</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td>CAB (% of PIB)</td>
<td>-6.96</td>
<td>-5.49</td>
<td>-3.43</td>
<td>-1.63</td>
<td>-0.90</td>
<td></td>
</tr>
</tbody>
</table>

Source: CAPEF-QM model
Table 3.3.1 reports the values for the main structural indicators of the Romanian economy. All the three scenarios were simulated under two constraints: the actual budgetary balance in GDP is under the 3% value in 2011, and in 2012 the medium term objective of 0.9% is achieved. Obviously, the results of the scenarios are different if the two constraints are not imposed. The Figure 3.3.3 depicts the annual dynamics for the growth rate of the potential GDP, output-gap, cyclical balance and CAB, under the three scenarios.

The potential GDP growth rate has a descendent path, induced by the reduction in the investment growth rate, reaching a relatively stable level of 0.75% for the base scenario, 1.5% for the optimistic scenario, and 0.2% in the case of the pessimistic one. For the entire forecast horizon the output-gap is negative, reaching a minimum value of -8% in 2010 in the case of the pessimistic scenario. The optimistic scenario indicates a recovery of the activity to the potential level in the second half of 2013. The level of the economic activity under potential leads to negative values for the cyclical balance for the entire forecast horizon, yielding a minimum of -2% of GDP in 2010.

**Figure 3.3.3. The dynamics of the structural variables**

![Graphs showing the dynamics of structural variables: (a) Potential GDP growth rate, (b) Output-gap, (c) Cyclical budget balance, (d) Structural budget balance.]

Source: *CAPEF-QM model*
Taking into consideration that, as we mentioned above, the evolution of the model was restricted to ensure an achievement of the medium term objective set by the Convergence Program, the structural position of the public finances displays an improvement tendency, CAB ranging between -6% in 2009 to the target level of -0.9% of GDP in 2012.
4. PROBLEMS OF THE PUBLIC FINANCES IN ROMANIA. THE EFFECTS OF THE CRISIS

4.1. Domestic economic framework

At the beginning of 2009, due to the materialization of the risks announced, the European Commission has revised its forecast for the Member States for the first time before the term, launching an intermediate forecast.

The new projection accentuates the global economy decline, already foreshadowed in the autumn forecast. The output and the international trade recorded strong decreases in the rhythms, reaching negative values. The investors and consumers confidence also decreased strongly. Output has dropped in several developed economies also due to the domestic demand decrease, which was stronger than expected. The evolution of the global financial and economic crisis, in the last months of 2008, increased the uncertainty of the perspectives regarding economic growth in both developed and emergent economies. In 2008, the GDP growth slowed down in almost all the countries all over the world.

As for as Romania is concerned, the economic evolution was favourable during the first 9 months of 2008, when the growth rates of the majority of the economic sectors accelerated; afterwards, the negative effects of the global economic and financial crisis began to manifest.

The real economy evolution in the first quarter of 2009 has been strongly affected by the economic and financial crisis, which has started to manifest in Romania since the third quarter of 2008, and more pronounced in the fourth quarter. Thus, after a 2.9% GDP growth in Q3 2008 as compared to Q3 2007, in Q1 2009 GDP – in real terms – decreased by 6.2% as compared to Q1 2008. In Q2 2009, the GDP decrease was more pronounced, namely -8.7% as compared to Q2 2008.

The reduction of the activity registered in the first quarter is evident in the industrial (-11.1%) and agriculture, sylviculture and fisheries (-10.9%) and also services (-4.1%) sectors. The construction sector maintained a positive evolution, with a 4.7% growth. In the second quarter, all the sectors of the economy decreased, the most pronounced being the construction sector (-24.2%).

The domestic demand dropped in Q1 by 13.7%, due to the decrease of the households’ final consumption expenditures (-12.3%) and of the decrease of the gross capital formation (-36.7%), of which gross fixed
capital formation (investments) decreased by 0.3. The evolution of the net exports has been a consequence of a more pronounced decrease of the imports (-31.4%) as compared to the exports (-19.6%), leading to a positive contribution of 9.7 percent to the real GDP growth.

In Q2, in general, both the domestic and external demand maintained their decreasing trend, the most affected component being the gross fixed capital formation, which recorded a contraction of 25.6%. The net exports continued to have a positive contribution to the real GDP growth, namely of 9.1 percent.

As regards the impact of the economic crisis on the labour market in Romania, several effects are relevant.

The first and the most rapid effect was on the job creation. As a consequence, the vacancy rate strongly decreased since Q4 2008, reaching 1.53% as compared to 2.06% in Q3 2008. In Q1 2009 the vacancy rate reached 1.27% and afterwards 0.89% in Q2 2009. From the economic activities point of view, the lowest labour force demand was recorded in the extractive industry, energy sector, trade and real estate transactions, and from the territorial point of view, the North-West and South – East regions were the most affected.

The second effect was on labour productivity. The constraints from the Labour Code and the reduced flexibility of the labour market lead to the impossibility of a rapid RIF; in consequence, in industry (where we have published data) the labour productivity decreased by 1.5% in Q4 2008 as compared to Q4 2007 and by 1.7% in Q1 2009 as compared to the corresponding period of 2008; it should be mentioned that starting with March 2009, the Romanian industry has started to recover, recording a growth in productivity; in Q2 2009, the labour productivity was 8.4% higher than in Q2 2008.

As regards the unemployment, the first effects have started to occur in December, when the registered unemployed (26.5 thousand persons) have been well above the unemployment growth in this month due to the seasonality effect. In Q1 2009, the registered unemployment increased by 110.2 thousand persons. At the end of June, the registered unemployment increased by 35.3 thousand persons as compared to March, and in July by 23.6 thousand persons as compared to June. At the end of July, the registered unemployment has been almost by 200 thousand persons above the level of November 2008 (195.6 thousand persons).

In order to show the behaviour on the labour market, it is relevant to compare the ILO unemployment (total unemployment) with the registered unemployment; the result of this comparison is that following the
difficulties on the labour market induced by the economic crisis, more unemployed stopped looking for a job on their own. Taking into consideration that the main difference between the ILO and the registered unemployment comes from the unemployed who are looking for a job on their own, it seems that in Q1, all the unemployed asked for a job at the National Agency for Employment; in Q1, total ILO unemployed increased by 98 thousand persons, and the registered unemployed by 110 thousand persons.

<table>
<thead>
<tr>
<th>(thous persons)</th>
<th>ILO unemployed increase</th>
<th>Registered unemployed increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>98</td>
<td>110.2</td>
</tr>
<tr>
<td>- male</td>
<td>64</td>
<td>76.1</td>
</tr>
<tr>
<td>- female</td>
<td>34</td>
<td>34.1</td>
</tr>
</tbody>
</table>

Source: NIS, NCEF.

The impact of the economic crisis on the employment was characterized, from the structural point of view, by two trends: the increase of the number of employees in the hidden economy and the more pronounced decrease of the employment in the non-wage occupation, phenomenon explained by liberal jobs and the micro enterprises, which have been more affected.

The available data for Q1 (AMIGO survey) show that as compared to Q1 2008, in Q1 2009 the employment increased by 0.9%, the average number of employees by 0.4% and the number of persons employed in non-wage activities decreased by 3.6%.

At the same time, the average number of employees in the official economy decreased by 1.8% in Q1 2009, as compared to the corresponding quarter of 2008. In value terms, the percentage gap of 2.2 points between the total number of employees dynamic (AMIGO survey) and the number of employees in the official economy (Labour Force Balance), might represent an increase of the average number of employees in the hidden economy in Q1 2009 of about 110 thousand persons.

The evolution of the female unemployment starting October, when the first dysfunctions have started to manifest in the Romanian economy, shows the following trends:
at the beginning of the economic crisis women have been less affected, their share in total ILO unemployment being 35.4% in Q1 2009 (64 thousand persons more than in Q4 2008);

- the net inflows in the registered unemployment for women at the end of March 2009 were 34.1 thousand persons as compared to December 2008, while for men the increase is double (76.1 thousand persons).

As for as the **registered unemployed** in Q2 is concerned, where we have statistical data, there can be seen a switch in the trend for female unemployment. Thus, in Q2, there is an increase of the net inflows in unemployment for women, recording an increase of their share in total from 43.1% at the end of March to 53.6% at the end of June, namely an addition of 18.9 thousand as compared to only 16.4 thousand for male unemployment.

This evolution is to be correlated with the evolution of the number of employees and also with the economic performances recorded in different sectors. The light industry, an activity with almost integrally female labour force, has reduced the output volume with over 25% in the first 5 months as compared to the corresponding period of 2008. Only in "clothing articles" the number of employees decreased in April and May by almost 10 thousand persons, and another 3.5 thousand persons have been RIFed in textile and leather industries. The trade activity is another area affected by the crisis through the reduced demand and is characterized by predominant female labour force. In this case, the decrease of the number of employees in April and May was about 12 thousand persons.

From the structural point of view, in Romania, the **budgetary expenditures** trend during 2007-2008 was opposite to the EU trend, reveiling the pro-cyclical character of the budgetary policy and the aggravation of fiscal sustainability.
### Table 4.1.2. The evolution of the public expenditures

<table>
<thead>
<tr>
<th>(%)</th>
<th>The structure of the expenditures (%)</th>
<th>Percentage changes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total expenditures</strong></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Intermediate consumption</td>
<td>18.1</td>
<td>17.0</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>25.9</td>
<td>26.5</td>
</tr>
<tr>
<td>Interest</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Subsidies</td>
<td>5.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Social benefits</td>
<td>27.1</td>
<td>29.1</td>
</tr>
<tr>
<td>Other current expenditures</td>
<td>2.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Capital transfers</td>
<td>4.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Capital investments,</td>
<td>14.5</td>
<td>14.1</td>
</tr>
<tr>
<td>Of which: GFCF</td>
<td>14.5</td>
<td>14.0</td>
</tr>
</tbody>
</table>

If in UE 27 the dynamic of the wages, goods and services and social securities expenditures was below the total budgetary expenditures, in order to create resources for investments, in Romania, it was the opposite: while total expenditures increased during 2007-2008 by 59.6%, the compensation of employees increased by 63.5% and the social benefits expenditures increased by 71.1%.

In consequence, Romania is one of the few countries in which the share of the compensation of employees and the social benefits expenditures in total expenditures increased in detriment of investments; these two categories represented in 2008 55.6% of the total budgetary expenditures, as compared to 53% in 2006. In comparison, while for Romania the share of these two categories increased by 2.6 percentage points, in EU 27, their share decreased by almost 1 percentage point.

In Romania, the public investments’ share in total budgetary expenditures decreased by 0.5 percentage points, while in EU 27, this share increased by 0.3 percentage points. The same conclusions are also revealed by the budget execution based on an internal methodology.
### Table 4.1.3. The evolution of the general consolidated budget expenditures

<table>
<thead>
<tr>
<th>(%)</th>
<th>Structure (%)</th>
<th>Percentage changes 2008/2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total expenditures</strong></td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Current expenditures</td>
<td>87.2</td>
<td>87.8</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>23.8</td>
<td>24.0</td>
</tr>
<tr>
<td>Goods and services</td>
<td>18.5</td>
<td>16.8</td>
</tr>
<tr>
<td>Interests</td>
<td>2.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Subsidies</td>
<td>6.4</td>
<td>4.1</td>
</tr>
<tr>
<td>Transfers between the public administration units</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Other transfers</td>
<td>6.7</td>
<td>8.8</td>
</tr>
<tr>
<td>Social security</td>
<td>26.7</td>
<td>28.4</td>
</tr>
<tr>
<td>Other expenditures</td>
<td>2.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Capital expenditures</td>
<td>12.8</td>
<td>12.5</td>
</tr>
<tr>
<td>Loans given</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>Payments realised in previous years and collected in the current year</td>
<td>0.0</td>
<td>-0.3</td>
</tr>
</tbody>
</table>

**Source:** MPF, Budget execution
The effects of the fiscal – budgetary policy in 2008 on 2009

External effects

- Overtaking the ceiling of 3% of GDP for the budget deficit agreed according to Stability and Growth Pact, which represents for Romania a possibility to start the excessive deficit procedure;
- Reduction the sovereign rating by the international rating agencies below the investments degree category (minimum BBB-) having negative consequences on the costs for external financing at governmental level;
- The lack of predictability for fiscal – budgetary policy and the major budgetary slippage at the end of the previous year lead to the decrease of the foreign investors' confidence on the Romanian economy perspectives. In the last part of the previous year, the foreign investments flow decreased from 963 million Euro in October to less than 400 million Euro in December.

Internal effects

- Unpaid amounts of the central and local administration to the economic agents valuing 7.7 billion lei, equivalent of 2.1 billion Euro (1.5% of GDP) leading to an artificial restraint of the activity volume, especially in construction sector. This is one of the reasons for which the construction works increased in November only by 13.4%.
- The increase of 16.4 billion lei for the government public debt at November, 30, 2008 as compared to the end of 2007 due to the financing of a higher than expected budget deficit, taking also into consideration the turbulences on the international financial markets, the drop in the liquidity at global level and the increase of the gains obtained by the Lei state bonds emissions.
- The necessity of adjustment for public expenditures and for the budget deficit taking into account the difficult economic environment.
- The lack of EU funds absorption. For example, the lack of performance in doing payments in agriculture from the advance received from EU lead to the lack of planting seeds on considerable broad surfaces.
Public Finances: Introduction of a medium-term budgetary framework

The pre-accession funds
2009-2010 period is decisive when taking about the pre-accession funds absorption, taking into account the fact that PHARE, ISPA and SAPARD funds follow the “n+3” rule (n representing the year before the accession, in our country’s case 2006).

Generally, the budget credits, both for PHARE and ISPA funds and also for their co-financing, will record an increase in 2009 as compared to 2008, being determined by:
- Contract in 2008 of an important number of projects which imply the payment of the advance in the next period (in some cases, these might represent 80% of the total value);
- Delays in the contract unroll in 2008, which lead to the necessity of reallocation for 2009 for some programmed payments;
- The maturity of some ISPA projects (fulfilling the conditionality referring to the field acquisition, receiving all the notices, permits, etc) and the acceleration in their effective unroll.

Post-accession funds
For 2009, the total expenditures for the projects with post-accession financing are estimated at 8.4 billion lei (1.44% of GDP), of which 5.13 billion lei (0.9% of GDP) represents co-financing from post-accession funds.

The achievement of the forecasted level of the revenues from post-accession funds is directly conditioned by the acceleration of the rhythm of funds absorption.

4.2. Macroeconomic evolutions and trends during 2010 - 2012

The first factor which will influence the future evolution of the economy will be the European context. From this point of view the positive signals of a recovery are still weak and are still alternating with the negative ones.

If for the constructions sector the decline has started to reduce its amplitude since March, with monthly increases on the whole EU, in the industry sector the output is still recording high negative rhythms.

Nevertheless, the uncertainty is given by the specific of the Romanian economy. The particularities coming both from the level of development (the less pronounced exposure to the external market, the low degree of covering the potential domestic demand, etc) and from the structure (the important share of the agriculture and the self consumption in
the economy, the constructions structure with an important share of the engineering constructions, etc) may magnify or not the economic – financial crisis, taking into account the way in which the domestic policies are adequate or not to this type of specific.

The allocation of important amounts for the investments represents the main tool of limiting the economic decrease and can be used for the partially compensation of the activity reduction in the private sector and also for the achievement of the programmed level of the public revenues. The main support for the prevention of the economic decline is represented by the public investment.

**Monetary and exchange rate policy**

Given the prerequisite of implementing additional structural reform aimed to increase the flexibility of the Romanian economy and its capacity to withstand asymmetric shocks, the domestic currency will join the Exchange rate Mechanism II (ERM II) no sooner than 2012. This assertion also takes into account the necessary fulfillment of the criteria that would warrant the minimum two-year participation in ERM II. Both the ERM II pre-entry period and the duration of actual stay in this mechanism are seen as landmarks of the convergence process the Romanian economy has embarked upon.

The dampening of the effects of the global economic and financial crisis, on the one hand, and sounder national economy fundamentals alongside increasingly more stable long run exchange rate expectations led by the advancement of the convergence process, on the other hand, will support the gradual decrease in the volatility of the exchange rate of the Leu and the subsequent increase in its stability. In addition, the likely persistence of a significant productivity differential and the prospective medium-term rebound in foreign direct investment will pave the way for the domestic currency to resume its sustainable appreciation, in real terms, trend against the euro, which would be a beneficial adjustment in terms of real and nominal convergence of the Romanian economy.

Given that the Romanian economy is still witnessing a disinflation process, although a sustainable inflation rate in the medium run has not been recorded yet, inflation targets are set an annual basis (December/December) as mid-points within a variation band of ± 1 percentage point, being agreed upon jointly by the National Bank of Romania and the Government for a two-year horizon.

Thus, annual inflation targets set in the context of the direct inflation targeting strategy followed a downward trend, which went from
7.5% ± 1 percentage point in 2005 down to 3.5% ± 1 percentage point in 2009. For 2010, the inflation target is maintained at the previsions year’s level, i.e 3.5% ± 1 percentage point. The major rational behind this decision is the pressing need for attaining the 2010 inflation target, a key prerequisite for preserving central bank credibility given the overshooting of the 2007 and 2008 inflation targets under the impact of numerous, strong inflationary shocks that occurred successively or simultaneously.

An additional reason is the difficulty of achieving a more ambitious target in 2010 due to the prospects of persistently adverse effects from the necessary adjustment to sustainable levels of external imbalances, on the one hand, and the increase – against the background of the intensification and broadening of the global economic and financial crisis – in the authorities’ concern for the sustainable consolidation of the disinflation taking into account the reduction in the existing macroeconomic imbalances and the maintenance of the financial stability, on the other hand.

Other reasons for taking a prudent approach to setting the 2010 inflation target were the anticipated persistence in the years ahead of direct inflationary effects exerted by the factors beyond the central bank’s sphere of influence, the most significant being: (i) the adjustment of administered prices and indirect taxes, (ii) the continuing nominal and real convergence of the Romanian economy, and (iii) the lingering of some asymmetric nominal rigidities.

At the same time, this inflation target meets the requirement for consolidated disinflation in a sustainable manner and for attaining, in line with the euro adoption calendar, an inflation rate level compatible with both the inflation criterion laid down in the Maastricht Treaty and the ECB’s quantitative definition of price stability.

Achieving the medium-term inflation target and calibrating monetary policy accordingly will further stand out as a concern for the central bank, given that short-term priorities include the orderly unwinding of macroeconomic imbalances (soft landing) – which has already been initiated in 2008, and preserving financial system stability.

Against this backdrop, maintaining monetary policy efficacy and ability to anchor inflation expectations can only be achieved by rebalancing and enhancing the consistency and credibility of the macroeconomic policy mix as well as by speeding up structural reforms. From this perspective, the significant tightening of fiscal and income policies is a must, which needs to materialize in the considerable narrowing of the budget deficit and hence the reduction of the savings/investment imbalance. Tight policies are essential for minimizing social and economic costs associated with the necessary
adjustment of macroeconomic imbalances in an environment marred by the
deep economic and financial crisis worldwide. Furthermore, the
sustainability of disinflation and the resumption of sound economic growth
over the medium and long run are conditional upon a tight policy position –
also through the potentially positive impact on foreign investors' confidence
in relation to the outlook for the domestic economy.

**Medium term fiscal and budgetary framework**

The main pillars of the medium term budgetary framework are the
stability, sustainability and finance of the fundamental sectors in order to
reach a durable economic growth, the protection of the economic interests of
the population, ensuring the social security and counterbalancing the
macroeconomic risks.

The specific objective on medium term is the general consolidated
budget adjustment towards a target of the structural deficit of 1% of GDP,
which will give enough reasons for not exceeding the limit asked by the EU.

The medium term macroeconomic framework represents a starting
point and it does not include the fiscal and administrative measures which
will be taken in order to increase the share of the revenues in GDP on
medium term. This framework will be adjusted once the fiscal budgetary
vision on medium term will be finished during 2009.

Thus, the objectives of the fiscal policy are the following:

- transparence, predictability, stability and transpose in the Romanian
  legislation of all the European directives which will be applied
  starting 2010;
- improvement in the collecting level of the public revenues and the
  increase of their share in GDP;
- a higher degree of voluntary comply of the contributors;
- intensify the monitoring, guidance and control activities and a more
  efficient administration of the state revenues including measures to
  extend the monitoring and supervision processes for the products
  with high risk degree from the tax evasion point of view.

The medium term public finance development is driven by the
deteriorated budget position in 2008 and by the difficult international and
European context. The economic growth forecast continues to be under the
burden of a wide spectrum of uncertainties, the most significant of which
are connected with the economic activity prospects and the EU markets’
sentiment.

Recognizing the need of a significant adjustment with a view to
restore the balance of public finance in the context of an economic growth
Public Finances: Introduction of a medium-term budgetary framework

lower than expected for 2009, the Government has decided to promote a mix of economic and budget policies which are meant to:
• lead to scaling down of the budget deficits and the financing requirements for the public sector;
• confine the effects of the global financial crisis on the Romanian economy;
• consolidate the level of budgetary revenues by promoting some measures to expand the tax basis, improve tax collection and increase certain categories of taxes;
• keep under control and rationalize the dynamics of the current expenditures of the public administration (wage-related expenditures, materials etc.).
• create and maintain sufficient space for public investments.

Consequently, the budget represents a commitment to obtain a significant and constant progress in the fiscal consolidation in the following three years. The fiscal policy will be characterized by coherence, predictability and stability, by elaborating and re-writing some projects of the Fiscal Code and the Fiscal Procedure Code, unitary integrated and harmonized with EU directives and economic realities. The consolidation of the budget revenue base is still essential for ensuring the resources required for the economic development and for Romania to meet its commitments assumed as an EU member state.

Macroeconomic forecast for 2009-2012

The macroeconomic forecast for 2009 takes into account the fact that the contraction trend manifested within the economic activity, compared to the previous year, will continue all along the year. Therefore, in the preliminary version of the autumn forecast 2009, the National Commission for Economic Forecasting foresees a contraction of GDP, in real terms, of about 8% as against 2008, as a result of the lower household consumption due to the reduction of incomes and credit constraints and lower governmental consumption as a result of the fiscal adjustment.

The domestic demand will diminish significantly, as its main components – the private consumption and the gross fixed capital formation – will also register decreases, by 4.1% and respectively 6.5%. The public investment in infrastructure is a top priority of the Government, being expected to accelerate along with the process for the absorption of European funds. The Government consumption will decrease by 11%, as a result of the consolidation of the budget deficit
The lower external demand correlated with the contraction of the domestic economic activity, will influence the evolution of the foreign trade, by reducing significantly both the exports and the imports of goods and services. A positive contribution of the net exports (7.5 percents) to GDP real growth is foreseen, as the contraction of the imports might strongly exceed the export’s one.

As the measures provided by the economic and financial recovery plan will become effective, both in Romania and in the other EU member states, it is expected that the economic deterioration will slowdown and the confidence degree will increase.

National Commission for Economic Forecasting anticipates for the forthcoming three years (2010 - 2012), that the GDP growth will progressively attain positive values, due to the developments in trade and the manufacturing output.

After the stabilization of the economies and the overcome of the recession in 2010, when the economic growth is forecasted to exceed zero (0.5%), we expect the resumption of the economic activity in 2011 and, on this basis, a 2.4% GDP growth, followed by a 3.7% growth in 2012. This forecast is based on the assumption of the improvement of the domestic and the international economic environments, the stabilization of the financial markets and the encouragement of additional investment and private consumption by the stimulus measures.

The domestic demand will manifest a recovery trend, sustained by the investment process. Thus, the forecast for 2010 shows a 1.1% increase, while for 2012 we expect a 4.6% growth.

After the end of the declining trend in 2010, there are also assumptions for the recovery of the investment process in the private sector, on the background of the beginning of projects financed from structural funds. Thus, the gross fixed capital formation is expected to increase by 2% in 2010 and until 2012 it might exceed 6% on the basis of a growing propensity toward investment and unlocking of the lending process.

As the labor market will stabilize and the population incomes will increase, compared to the labor productivity, a recovery of the private consumption expenditures is expected starting 2010, but with growth rhythms which will not exceed 4%. The measures taken in order to cut the expenditures will have a negative impact on the governmental consumption; there might be increases starting 2012.
Table 4.1.4. The evolution of the economy during 2007 – 2012

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td><strong>Real GDP</strong></td>
<td></td>
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<tr>
<td><strong>Real GDP components</strong></td>
<td></td>
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</tr>
<tr>
<td>Private consumption</td>
<td>6.2</td>
<td>7.1</td>
<td>-8.0</td>
<td>0.5</td>
<td>2.4</td>
<td>3.7</td>
</tr>
<tr>
<td>expenditures</td>
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<td></td>
</tr>
<tr>
<td>Government consumption</td>
<td>11.6</td>
<td>9.1</td>
<td>-12.9</td>
<td>2.7</td>
<td>2.5</td>
<td>3.9</td>
</tr>
<tr>
<td>expenditures</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gross fixed capital</td>
<td>1.6</td>
<td>3.2</td>
<td>-12.5</td>
<td>-2.2</td>
<td>-1.7</td>
<td>2.1</td>
</tr>
<tr>
<td>formation</td>
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<tr>
<td>Exports of goods and</td>
<td>29.0</td>
<td>19.3</td>
<td>-11.0</td>
<td>2.0</td>
<td>5.3</td>
<td>6.7</td>
</tr>
<tr>
<td>services</td>
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<tr>
<td>Imports of goods and</td>
<td>7.9</td>
<td>19.4</td>
<td>-17.2</td>
<td>1.0</td>
<td>1.0</td>
<td>5.2</td>
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<tr>
<td>services</td>
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<td></td>
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<tr>
<td><strong>Contribution to GDP</strong></td>
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<td></td>
<td></td>
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<tr>
<td>growth (percents)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final domestic demand</td>
<td>15.6</td>
<td>12.5</td>
<td>-14.0</td>
<td>1.9</td>
<td>3.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Changes in stocks</td>
<td>0.1</td>
<td>-3.5</td>
<td>-1.5</td>
<td>-0.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Net exports</td>
<td>-9.5</td>
<td>-1.9</td>
<td>7.5</td>
<td>-0.7</td>
<td>-0.6</td>
<td>-1.2</td>
</tr>
</tbody>
</table>

Source: National Commission for Economic Forecasting

The foreign trade of goods and services will recover due to an increase of both the domestic and external demand and by intensifying the global trade. It is foreseen a higher value added and competitiveness of the exported products. Nevertheless the economic recovery will need supplementary imports, which will lead to a negative contribution of the net exports to the GDP growth during the whole period 2010 – 2012.

Despite the increase in the investments of the governmental sector, the share of gross fixed capital formation in GDP will decrease in 2009, due to the contraction of the investments in the private sector. In 2010, following the stop of the decline and afterwards the acceleration of the investment process, the share of the gross capital formation in GDP will increase, reaching 34% in 2012. It should be seen the improvement of savings especially in the governmental sector, which will reduce the foreign financing needs.

From the economic development point of view, Romania still lags far behind most European countries, although it managed to catch up, in the recent past, reducing the difference from the EU average. The gross domestic product per capita, expressed in purchasing power standard (PPS), was around 44% of the EU 27 average in 2008 and it is expected to
It is estimated that the exports of goods in 2009 will decrease by 20.5% and imports of goods by 36.4%. In this context, compared to 2008, the share of FOB-FOB trade deficit in GDP will decrease by 8 pp, reaching 5.3%.

The current account deficit of the external balance of payments is expected to reach 6.4 billion euro, representing 5.5% of GDP, mainly due to the decline of the trade deficit.

Starting from the assumption regarding the end of the recession in 2010 and the recovery of growth of the world economy in 2010, the exports of goods will slightly increase by 1.3% and imports by 3%, followed by an increase of 9.1% and 12.5% respectively, in 2012.

The current account deficit will maintain at 7-8.5 billion euro, with a share in GDP estimated at 6.8% in 2010 and 5.7% in 2012.

As regards the labour market, taking into account the economic slowdown, especially in industry, the average number of employees is expected to decrease by 6.3% in 2009. As a result the registered unemployment rate will increase to 7.6% at the end of the year. For the following period, as the economic growth will start to recover, and the measures for employment stimulation will be implemented and will lead to job creation, the average number of employees is expected to go up by 5% on the whole period. In the same time, the registered unemployment rate will decrease to 5.4% in 2012.

The inflation is expected to decrease gradually. Therefore, the inflation rate in 2009 will go down at the end of the year to 4.5%, corresponding to an average of 5.6% as compared to 2008.

The forecast for consumer prices is based on the decline of the excess demand during 2009, triggered by the recently worsening global financial and economic conditions. Simultaneously, the disinflation process will be helped by the prudential measures taken by the NBR, aimed at tempering credit growth as well as a cautious wage and budgetary policies promoted by the government.

On the other hand, the international economic context, along with persistent macroeconomic imbalances in the second half of the previous year, caused higher exchange rate volatility, with the domestic currency depreciating as against the main foreign currencies, a trend which may continue this year as well. This will determine an increase of the imported goods prices, but also of the prices for domestic products or services, which depend on the European currency. At the same time, the consequence of such depreciation can be reflected in a reduction of private consumption,
especially for those individuals who, over the past years, resorted to loans in foreign currencies. Under these circumstances, the reduction of the demand will go significantly down, to the benefit of the estimated disinflation process.

The inflation rate is expected to decrease gradually to 2.8% in 2012 (annual average).

4.3. The agreement with the international institutions and the economic impact

At the beginning of March 2009, due to the aggravation of the macroeconomic framework, the government announced in public Romania's intention to access external financial assistance on medium term. So it was agreed with the European Commission, International Monetary Fund and International Financial Institutions the macroeconomic framework and the potential external financial need for Romania.

The targets of the external financing package for Romania are the following:

- the reduction of the crisis' effects;
- prevention of a severe economic recession;
- a more rapid recovery of the economic growth in the positive area;
- protection of the vulnerable categories;
- ensure the fiscal sustainability on medium and long term, in order to prepare Romania for Euro area accession;
- reduce the excessive pressures on the exchange rate;
- keep a comfortable level of liquidity on national financial market;
- ensure the external financing to the level of the financing need, at low costs;
- improving the level of confidence in the Romanian economy perspectives (country rating).

Based on a stand by agreement, for 24 months, the International Monetary Fund provides Romania 12.95 billion Euro (11.44 billion SDR). The loan from the IMF is administrated by the National Bank of Romania. The amounts from the stand-by agreement will consolidate the foreign reserve, having an important role in the process of gradual reduction of the minimum compulsory reserves in foreign currency of the Romanian banks and in the creation of a corresponding level of liquidity on the monetary market. The cost conditions are very efficient and more favorable than the
The financial assistance of 5 billion Euro from the European Union represents a part of a multilateral package of external financial support for Romania and it should be used for the balance of payments equilibration. The EC loan is administered by the Ministry of Public Finances; the amounts are kept in the state treasury and should be used for financing the budget deficit and refinancing the payable public debt. The loan will be given in favorable financial conditions, benefiting also by the guarantees offered by the community budget.

The first tranche of 1.5 billion euro has already been collected by the state treasury and another 1 billion euro has to be collected until the end of 2009.

These three loans for development policies totaling 1 billion euro from World Bank are given for a package of reforms in public sector area, including education and health, reforms in the social security area and in the financial sector. The board of directors within the International Bank for Reconstruction and Development, part of the World Bank has already approved the first tranche of 300 million Euro for development policies. These loans given by IBRD will be oriented towards the budget deficit financing.

The first tranche of 300 million euro for the development policies is estimated to be given in September 2009. The second tranche has to be approved by the boards of directors until the end of 2009 and the third one in the first half of 2010.

In the same time, 1 billion euro represents available amounts within some facilities offered by EIB and IBRD for the private sector financing through the Romanian financial institutions.

The main characteristics of the Program for the economic support and for the reduction of the financial crisis effects, agreed by the Romanian authorities with IMF/EC/WB are the following:

On short term
- reducing the budget deficit by 1.1% of GDP, until 4.6% of GDP;
- for a better discipline of the budgetary execution during the whole year, there have been created, in agreement, performance criterion for quarterly budget deficits;

On medium term
- reducing the deficit of the general consolidated budget until 3.7% of GDP starting 2010 and below 3% of GDP in 2011;
- limitation of the budgetary rectifications during the whole year;
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- establishing a fiscal council which will ensure an independent and competent analysis of the macroeconomic and budgetary forecasts;
- **approving the fiscal accountability law** (by the end of March 2010);
- introducing some **fiscal rules** regarding the public debt and the primary budget deficit;
- budget sector salary law. Until October 30, 2009 it should be adopted the law regarding the unitary salary in the budget sector, which will be implemented gradually in maximum 3 years;
- reforming the actual system of benefits, because its share in the earnings is higher than the share of the core salary;
- establishing a maximum level for other categories of salary expenditures, excepting the core salary;
- for the employees with low revenues there are kept the real revenues, and there is a possibility of gradual increase. The ratio between the lowest and the highest salary in the system will be from 1 to 15 as compared to 1 to 72 which is nowadays.

**On long term:**

There is a focus on the reform of the **pension's public system** with World Bank coordination through the following:

- continuation of the adjustment of the age for retirement taking into consideration the evolution of the life expectancy, in order to permit a much higher flexibility of the system and also for the alignment with the EU countries practices;
- protecting the vulnerable groups of retired through the development of some support programs which can reduce poverty and can increase the standard of living of this category;
- continuing the gradually implementation of the second pillar of the pensions system.

The program with the World Bank is mainly based on the implementation of the reforms in education, health, social protection and on the improvement of the framework for surveillance and reglementation of the financial sector.

Through the **Strategy of Partnership with Romania** (2010-2013), created on the basis of these three loans for development policies and technical assistance corresponding to the fulfillment of the conditionality, the objectives of the Government of Romania and of the World Bank are the following:
- improving the **strategic planning processes** for the main credit ordinators and the prioritization of the expenditures;
- enhancing the transparence for the public administration remuneration and linking correctly with the labour market and with the job responsibility;
- reforming the **health insurance system** and encouraging the supplementary insurances;
- improving the quality of education and the **access to education**;
- increasing the coverage degree of the programs for social assistance;
- improving the **fiscal sustainability** of the pensions system;
- improving the operation of the financial markets.

The conditions negotiated with IMF/EC/WB have not been imposed, these were commonly agreed; they represent the obvious way in order to reach sustainable growth, which represents the fundament of any government.

In August 2009 it took place the **first assessment mission of the IMF** from the stand by agreement, with the objective of analyzing the way in which Romania fulfilled the objectives from the program. Even if the implementation of the anti-crisis program, which was sustained by the IMF, EU and WB succeed in bringing to normal the financial conditions, the contraction of the economic activity was stronger than the projections from the beginning of the year. This was the consequence of both an unfavorable external environment and a more pronounced reduction of the domestic demand.

**The quantitative performance criteria have been entirely fulfilled.** Thus:
- it was achieved the target for the primary expenditures of the consolidated general budget;
- the efforts for the control of the general consolidated budget expenditures permitted to be achieved the target for the deficit of the general consolidated budget established for the end of June 2009, even if some decentralized units have exceed the expenditure limit;
- the structural reference criterion regarding the ratification by the parliament of the measures for fiscal adjustment established for the end of August 2009 was achieved in April;
- the Government is still prepared to take supplementary measures in order to achieve its objectives.
Romania promised also to adopt supplementary measures in order to limit the fiscal deficit in 2009 and to reduce it in 2010.

As regards the measures for the adjustment of the expenditures, the following can be mentioned:

- **the expenditures with goods and services will be strongly reduced** as compared to the trend in the first half of the year (0.5% of GDP); it is anticipated an important decrease in the self–financed units, taking into consideration the reduction of the own revenues;

- **cut the payment of the supplementary hours and the benefits during the whole year** (0.1% of GDP);

- for the local authorities and decentralized units, following the discussions with the local authorities, there will be introduced some **institutional reforms** in order to counterbalance the risk for the macro-fiscal stability (the historical trend of the increase of the expenditures at local level at the end of the year)

- on medium term, there will be applied some normative acts for the remuneration of employees and for the goods and services expenditures;

- **the reorganization of some state agencies** in the government sector both through their eradication or inclusion in the resort ministries;

- until the end of October 2009 it should be adopted the legislation for the improvement of the social contribution system through the consolidation of some social contribution (from the total of 200 which exist nowadays) and through better targeting the maintained programs.

Therewith, there have been agreed some measures in order to **stimulate** the economic environment, measures for the protection of the vulnerable categories and measures to reduce the arrears.

**Measures to stimulate the economic environment**

- tax exemption for the reinvested profit since October 1\textsuperscript{st} 2009 and for 2010;

- increase the ceiling for public guarantees to 7.7 billion lei in 2009 (+400 mill Euro) and to 8.6 billion Lei in 2010 (+200 mill Euro);

- allocation of 500 million Lei for the public investments;

- allocation of 400 million Lei for investments in county roads
Measures to protect the vulnerable categories:
- 2% indexation of pensions since October 1\textsuperscript{st} 2009;
- Allocation of 864 mill Lei for unemployment budget;
- Allocation of 500 mill Lei for pension budget.

Reduction of the arrears:
- allocation of 364 mill Lei for subsidies for Romanian Railway System in order to pay the debts to the economic agents;
- allocation of 120 mill Lei for the transfer to the local authorities which can not pay the invoices for utilities;
- allocation of 110 mill Lei for subsidies to the local budgets in order to pay the invoices to CETs.
5. CONCLUDING REMARKS

The present study emphasizes the role of public finances for dampening the effects of the current financial and economic crisis that Romania is experiencing, as well as for ensuring the premises for launching economic growth.

It is of utmost importance to increase the quality of public finances, of fiscal governance and to strengthen fiscal discipline through a better management of budgetary resources.

The fiscal-budgetary policy of Romania should rely on observing the principle of transparency, the principle of accountability, the principle of efficiency and to ensure the stability of the fiscal position. Moreover, the fiscal-budgetary policy should ensure social equity by maximizing the social efficiency of the budgetary resources.

In order to enhance the quality of fiscal governance, institutional and legislative measures are urgently needed, as follows: a new law of fiscal accountability, setting up a long term fiscal strategy, transition to a multi-annual budgetary programming by implementing a medium term budgetary framework, introducing strict fiscal rules, setting up an independent fiscal council and so on. To guarantee the effectiveness and efficiency of the adopted measures, it is crucial that the fiscal strategy and the medium term budgetary framework, as well as the independent fiscal council, are governed by law enforced by the Parliament.

The experience of the different countries that have adopted a medium-term fiscal-budgetary framework highlights the fact that its implementation requires the fulfillment of several important stages, and its design should take into consideration possible risk factors.

A first stage necessary to be accomplished refers to identifying the type of budgetary framework about to be implemented according to the national institutional structure, the existing human resources and the restrictions imposed on Romania, as member of the European Union.

Taking into consideration the advantages and disadvantages of each main type of medium-term budgetary framework presented in the paper, as well as the distinctive features of the Romanian economy, the authors recommend the use of a budgetary framework that is fixed with respect to the limit budgetary indicators and changing with respect to the envisaged horizons. The adoption of such a medium-term budgetary framework will allow the change of the limit regarding the budgetary indicators only in
extraordinary circumstances, based on the approval of the independent fiscal council. Moreover, the independent fiscal council would have the ability to analyze the budgetary impact of any proposal to modify the budgetary framework, especially in the pre-election periods.

As far as the independent fiscal council is concerned, it is recommended that it would be made up of highly qualified specialists, with profound knowledge of Macroeconomics, with a vast experience in the fiscal field and who have proved the potential to accurately interpret the economic and budgetary framework.

A sine-qua-non prerequisite for a successful implementation of a medium-term budgetary framework and an efficient functioning of the independent fiscal council is given by robust and highly accurate forecasts, for at least a three year horizon. To this purpose, it is required that the system of econometric models is elaborated according to high standards with respect to the quality of forecasts, and this system will allow a real time evaluation of the structural position of public finances. In addition, the system of models should allow for the fiscal risks measurements, as well as for the impact of different endogenous and exogenous shocks on the fiscal position. It is also recommended that the system of national models is compatible with that used by the European Commission and by the International Monetary Fund.

A special attention is to be paid to the training of specialists capable of making the budgetary framework operational on the medium term, as well as exploiting and updating the system of models.

With the adoption of the medium-term budgetary framework, a fiscal strategy with rigorous scientific grounds is required, that will allow the design of budgetary processes, the implementation of fiscal rules, especially of those referring to spending limits, as well as connecting the annual budgets to the medium-term budgetary framework.

The fiscal strategy that will be adopted should place a special emphasis on investments in human capital and on those aimed to develop the scientific and technological potential of the country – fundamental vectors for progress and nation welfare.

The fiscal strategy should be targeted to create a national fiscal system that is adaptable and efficient. The national fiscal system is formed by the institutions, procedures and mechanisms that ensure the programming and implementation of budgetary policies. In fact, this represents the decisional environment in which agents plan their activity.

As the present study emphasizes, the National Fiscal System is based on the following fundamental pillars:
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- The medium-term budgetary framework;
- The independent fiscal council;
- The fiscal rules;
- The budgetary procedures.

It is worth noting that each of the four pillars stands for a dynamic and complex system, with numerous feed-backs with the other systems. The corroborated action of the four pillars determines the effectiveness and the efficiency of the national fiscal system and finally, the evolution path of the national economy, as a whole.

It is necessary to account for the fact that the four pillars have a complementary and synergetic action, neither of those being able to substitute the action of other pillars.

The experience of countries that have adopted a successful strategy for creating an adaptable and efficient national fiscal system has revealed that the four fundamental pillars must be implemented according to a unifying vision, as opposed to a fragmented one. In general, countries that have implemented the four fundamental pillars in a fragmented manner have failed in achieving the fiscal reforms.

It is obvious that the successful implementation of a coherent fiscal strategy should rely on several essential prerequisites, such as an accounting system in line with international standards, a coherent statistical system, project based budgeting ability, full authority granted to the Ministry of Finance with respect to budgetary proposals and so on.

The fiscal reform on which the national fiscal system relies should be elaborated with most attention and competence. The fiscal strategy that leads the reform should account for the distinctive economic conditions in every country, the existing institutions and traditions, as well as for the experience of countries that have successfully implemented these reforms. Otherwise, it appears the risk of creating non-functional institutions that are not anchored to the economic realities of a particular country.

It is well known that among the 27 countries of the European Union, 22 have reported that they have a medium-term budgetary framework, although in some of these, due to different reasons, the framework doesn’t function.

Also, in spite of the fact that many countries have an active and successful independent fiscal council, in other countries, although this council has been set up, it shortly became a useless political entity, with no particular role, except that of ensuring back-up positions for politicians no longer on the forefront.
The fiscal rules currently play a special role within the fiscal strategies adopted in the European Union. Whereas in 1990, the European Union implemented 16 fiscal rules, until 2008 they became aprox. 4 times as numerous, reaching 67. The fiscal rules have both increased numerically, and been largely diversified.

It is worth mentioning that a successful implementation of the fiscal rules can be done only within a medium-term budgetary framework and based on budgetary procedures able to ensure fiscal discipline. It is obvious that within the fiscal strategy of Romania as well, the adoption of strict fiscal rules should play a central role.

Considering the intellectual potential in Romania, the ability to creatively make use of similar experiences of other countries, the transfer of expertise ensured by the European Commission and by other financial institutions, we are certain that Romania will succeed in elaborating an efficient national fiscal system able to promote the economic and social progress of the country.
REFERENCES


Public Finances: Introduction of a medium-term budgetary framework


