SUMMARY OF THE DOCTORAL THESIS
"PUBLIC DEBT AND SOCIAL AND ECONOMIC IMPLICATIONS"

The triggering of the global economic and financial crisis generated a sudden increase of sovereign debt in many countries of the world. Although public debt varies from one state to another, it is high enough to bring into discussion the sustainability problem in the medium and long run.

In this context, the doctoral thesis conducted a thorough analysis of the public debt issue, starting from conceptual stage, from the causes which make the state contract public loans, global evolution of the debt, causes that generated over-indebtedness or payment suspension, the effects of public debt on the economy and living standard.

The paper is divided into six chapters that deal with important aspects of public debt.

The ***chapter I*** of the doctoral thesis approaches the concept of public debt and its forms based on several criteria, such as: public authority that wants to contract the public loan, loan source, creditors' membership to public or private sector, maturity loan, nature of undertaken obligations. We completed the conceptual framework with an analysis of the evolution of public debt at global level, as well as of the current crisis of sovereign debt in the Eurozone.

The financial needs of the states seem to be increasing, exceeding, most of the times, the ordinary incomes collected by means of taxes, fees and other contributions. Insufficient ordinary resources determine the occurrence of budget deficits, for whose covering the states rely on contracting loans from the internal or external market, thus generating *public debt*. Therefore, the public debt formation is mainly explained by the insufficiency of current financial resources necessary to finance all budget expenses, which lead to contracting loans and, implicitly, to states' indebtedness.

Broadly accepted, the notion of ***public debt*** designates the entire financial obligations of the state authority towards internal and external creditors, resulted from contracting loans to cover budget deficits.

The study of the Fiscal Affairs Department of IMF in relation to the evolution of public debt for the period 1880-2009, for 174 member states, revealed that the average of the sovereign debt in advanced economies was up to 55% of GDP. During the same interval, there were, however, registered episodes with higher rates. We identified these situations during the World War One, during the Great Depression at the beginning of '30s and during the World War Two. As it can be noticed, during military conflicts, many states indebted excessively, in order to finance war

expenses, and thus the indebtedness degree of advanced economies reached 150% of GDP during the World War Two. However, starting with the '60s and until the middle of '70s, based on the fast economic growth, the average rate of the debt decreased to 50% of GDP. The collapse of the exchange rates at Bretton Woods, together with the two shocks of petroleum price, led to debt accumulation starting with the second half of the '70s.

Concerning emerging countries and the countries with a low income per capita, the public debt average was 44%, a lot lower than the public debt of advanced economies on the same time interval, but in this case, it was identified a high volatility. From the evolution of low income states, it results that a sudden debt accumulation was registered in the'80s, and a decrease for the last 15 years, in the context of the Heavily Indebted Poor Countries Initiative and the Multilateral Debt Relief Initiative.

Underlying current sovereign debt, there are the exceeding public expenses, which are not correlated to the income evolution, as well as the costs undertaken over the last years to reduce the effects of the global financial crisis. The resulted deficits needed to be covered by contracting public loans, which led to an increase of the level of public debt. The recession over the last years of public deficit occurred also based on the measures adopted by the states in order to support the banking system.

Supporting the banking system was necessary to avoid bankruptcy in series of banking institutions, which would have had catastrophic effects on the economy, but the selected method did nothing but to transfer the debt from one area to another, leading to an over-indebtedness of European countries.

By creating new assistance instruments (European Financial Stability Facility, European Financial Stabilisation Mechanism, Stability European Mechanism), and by shaping long-term reforms in order to improve economic governance (introduction of the European Semester, reinforcing the Stability and Growth Pact, introduction of the excessive deficit procedure), European leaders made an important step in the direction of saving the Eurozone, but, these endeavours, from our point of view, were not enough. We consider that the creation of a fiscal union, within which there would be approved the states' budgets and imposed indebtedness limits, would have the potential to stabilise the Eurozone.

Chapter II of the paper focuses on theoretical guidelines in relation to the creation and social and economic implications of public debt.

In the doctoral thesis we supported the classical theory, according to which state loans contribute to the expansion of governmental activity, has an impact on the future fiscal incomes, meaning it affects an ever increasing part in order to pay financial obligations corresponding to

public debt and determines the increase of fees and taxes level, thus diminishing the population's available incomes, proving, over time, its validity. According to the opinion expressed in the thesis, state loans affect the population's available incomes by imposing a higher fiscal charge in the future in order to ensure the public debt service, considering that loaned funds are used for consumption or for financing certain aims which do not bring any added-value to the economy.

In relation to the neoclassical theory, according to which financing by public loans of permanent budget deficits increases total consumption by passing fees and taxes on to future generations, and affects private investments, we claimed, based on the conducted econometric study, that an increase of public debt in the Gross Domestic Product leads to an interest rate increase in the long-run. Therefore, we subscribed to the opinions supporting that public debt places a burden on future generations via its impact on capital formation.

In relation to the Ricardian Equivalence theory, according to which the state's resort to loans for covering budget deficits would not have any impact on consumption, capital contribution or economic growth, we concluded that it is valid only under certain circumstances (consumers' orientations towards the future, knowing governmental budget constraint, unlimited life span of individuals), which are difficult to identity in reality. If the Ricardian Equivalence applied, we should expect no correlation between public debt and nominal interest rates or any other macroeconomic variable, which is invalidated by our econometric research.

In the case of Ponzi scheme/game, which considers that public debt can be reimbursed on due date by contracting new debt without increasing fees and taxes, considering that the economic growth is higher than the interest rate of public credit, our research revealed that, in the presence of incertitude, it is impossible for a state to endlessly roll its debt, even if the average interest rate is lower than the average growth rate of the Gross Domestic Product.

Concerning the Laffer curve theory on public debt, according to which a state's position on the right hand side of Laffer curve increases the risk of reimbursing loaned amounts, reduces the odds of obtaining new financing and discourages investors, our research revealed that a low level of indebtedness achieved by annulment of a debt's part by creditors would encourage reimbursement and, thus, improve the situation of the indebted country.

According to the conventional approach, *in the short-run*, economy is keynesian, but, *in the long-run*, becomes classical. An elevated level of public debt leads to an increase of aggregate demand and national income in the short run, while, in the long run, the main effect of public debt is the reduction of the capital stock, to which it is added the interest rate increase, the reduction of work productivity, of real salary and of total work income, inflation increase and increase of balance-of-payments deficit, the reduction of budget discipline and fiscal flexibility.

The scientific research endeavour of public debt formation and management is thoroughly analysed in ***Chapter III***, whose result is the causes that push the states to resort to public debt contracting, as well as the indebtedness indicators important for the managers of debt portfolios, both in assessing the achievement of established goals by public debt management strategies, as well as in estimating the measures to be taken in order to achieve efficient management. In addition, we approached at length the conditions required by the Maastricht Treaty and the Stability and Growth Pact in relation to the level of public debt, as well as the procedures stipulated for their non-compliance.

In order to participate in the third stage of the Monetary and Economic Union, the Maastricht Treaty required all member states of the European Union to comply with the nominal convergence criteria, among which there can be mentioned the budget deficit level under the threshold of 3% of the Gross Domestic Product, and the public debt level under 60% of the Gross Domestic Product. The adoption of the Stability and Growth Pact aimed the compliance with the nominal convergence criteria established by the Maastricht Treaty and the adhesion to the Monetary and Economic Union. From our point of view, the percentages expressing the budget deficit level and the public debt in relation to GDP have not been substantiated enough. The reality proved that the sustainable debt level is different for each country, according to the values registered by macroeconomic variables. For instance, according to economic analysts, the sustainable level of public debt in Romania is around 40% of the Gross Domestic Product, a lot under the threshold established by the Maastricht Treaty. Therefore, it can be stated that classifying public debt under this required limit does not necessarily indicates that the state has a sustainable indebtedness level.

The analysis performed on statistical data corresponding to member states of Eurozone between 1990 and 2011 indicated that, since the Pact was applied and up to the most recent available statistics, the non-compliance with the imposed requirements was the rule for many states.

From the research conducted in the doctoral thesis, it resulted that the implementation of the Stability and Growth Pact was not properly applied. We would like to point out the highlighted asymmetry between the centralised monetary regime and the decentralised fiscal regimes, the single currency and market were not accompanied by a fiscal union. Secondly, the sanctions for not complying with the Pact's requirements are not automatic, but must be voted with a qualified majority within the Council. This thought on applying sanctions was not very inspired, because states can adopt a neutral position in voting the sanction, considering that, in turn, they can depend on the judgement of other states, despite the exceedance of the required criteria. Another issue reflecting the Pact's deficiency consists of the fact that, over time, the Pact was applied differently, according to the size and influence of the states, so that powerful countries have been exempted

many more times than the small ones from applying the procedures foreseen for breach of requirements.

The European Parliament adopted, in the fall of 2011, a legislative package containing six measures for enforcing the EU economic governance. Four of these measures are intended to enforce the Stability and Growth Pact and budgetary surveillance, whereas the other two take into account the monitoring and controlling macroeconomic imbalances within the EU. The amendments are aimed at emphasizing the importance of reducing the public debt ratio to the gross domestic product.

A key element in the strategy of overcoming the Eurozone sovereign debt crisis is the new *Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (TSCG),* signed on March 2012 by the Heads of State or Government of all Member States of the European Union except the United Kingdom and the Czech Republic. The main commitments stipulated in the Treaty refer to the structural deficit and the coordination of economic policies.

The compliance with the of 0.5% of GDP threshold for the structural deficit requires the states to save the additional income generated by economic growth during the expansion period so as, in times of recession, these economies to be used to increase the costs, thus helping to increase the aggregate demand.

The analysis performed shows that, globally, there is no common methodology for determining the structural deficit, whereas assessment differences are quite significant for the European Commission and the International Monetary Fund. Therefore, we consider it necessary to establish a uniform methodology for structural deficit calculation in order for the values of this indicator to have the same criteria set out clearly in all the Member States of the European Union.

In ***Chapter IV***, we investigated the tools that the Romanian public local and central authorities have available for public debt contracting and the extent to which they have been used over the last 12 years. We also insisted on the procedures of public debt contracting and warranty, both at government and local level.

The study conducted on tools of government's public debt contracting and warranty, used in Romania indicate that, during 2000-2011, government bonds and loans were the most commonly used tools in attracting the necessary funds to cover budget deficits.

As for the procedures adopted for public debt contracting or warranty, these pursue the completion of a coherent approach to obtain non-reimbursable funds in favorable conditions in terms of cost/risk taking report, and fully consistent with the proposed objectives through strategies of annually approved government public debt administration.

However, we recommend eliminating, where appropriate, the selection phase of the legal consultancy firm to analyze and finalize the legal documentation of the public debt contracting or warranty in order to reduce the time for obtaining reimbursable funds, as well as to reduce the State budget costs. We believe that the staff of the Directorate of Legal Affairs of the Romanian Ministry of Public Finance can perform such activities under regular instruction through training programs organized in this purpose.

Chapter V of this thesis emphasizes the importance of effective management of the debt portfolio, identifying key risks that may occur in its management and effective risk management measures. In this chapter we also proceeded to the analysis of Romania's indebtedness evolution during 1990-2011, of the public debt portfolio structure and objectives of its management strategies. We paid special interest to the study on the local public debt of Iasi City, which can highlight some features of the local public debt.

Public debt can generate a substantial risk to the property and financial stability of the country. We believe that the main objective of public debt management should be to secure the financing needs of the public sector at the lowest possible cost and at an acceptable risk level on medium and long term.

The analysis performed on the Romanian public debt indicates that in the early '90s, as a result of the forced policy of Ceausescu's regime to prepay the debt to foreign creditors, the public debt was almost nonexistent, at 0.9% of GDP.

During 1990-2011, the public debt fluctuated, reaching in 2011 the maximum level of the period, of 38.6%, according to the internal methodology, and 33.3%, according to the EU methodology (ESA95), more than 26 % below the threshold set by the Maastricht Treaty, by 60%.

Romania has the lowest public debt per capita in the European Union, but holds the second lowest in terms of GDP per capita. While maintaining in the coming years the steady pace of public debt growth in recent years, without a corresponding economic growth, it is likely that for the Romania's public debt to exceed the 40% threshold considered by analysts as the maximum tolerance level for the Romanian economy.

Analyzing the structure of Romania's government public debt, by types of currency, during 2000-2011, we noted that in the past few years, there was an increasing tendency of the contracted debt in euro in the total of the government's public debt. This comes as the result of contracting foreign loans from the internal and external market, as well as of the issuance of Eurobonds, in order to cover budget deficits and debt portfolio maturity balance. Given the depreciation of the national currency against the euro in recent years, the financial market disturbances and the discouraging estimations about the evolution of the RON – EUR report, we consider it necessary for

the state to focus on domestic borrowing, to reduce the market risk afferent to the government's public debt.

The structure of the government's public debt by the type of interest rate shows a continuous growth, in the past five years, of the share of loans with fixed interest rate as a result of loans from the European Union, domestic loans in foreign currency and bond issues. This upward trend in the share of fixed rate debt reduces the debt portfolio risk in the case of increased interest rates on the financial market.

The study conducted on the public debt of Iaşi Municipality revealed that, although it is within the limits imposed by law, the annual service of the local public debt of Iasi Municipality experienced a rapid growth between 2005-2012, compared to the local budgets income. Iasi Municipality occupied, on December 31, 2011, the third place in the county towns depending on the local public indebtedness.

The sudden growth in local public debt occurred mainly in the context of a growing volume of loans contracted or warranted by the local public administration authorities, of the payments made for the warranties issued and the devaluation of the national currency, given that 72.73% of the total local public debt portfolio consists of loans in euro.

Given the thesis research on the current portfolio of local public debt which indicates a strong vulnerability against the leu-euro trading conditions on the market, we consider necessary the orientation to domestic loans to avoid the sudden growth of the costs afferent to the local public debt in the case of currency devaluation.

In order to achieve an efficient management of the local public debt portfolio, we propose implementing a complex computer program that, under certain formulas and indicators, is able to issue statistical reports and forecasts for which the responsible for local public debt normally consumes a large part of his working time. Such a local program could be integrated into a national system so that it can be possible to automatically transmit monthly reports on local public debt by the Ministry of Finance, with much lower resource consumption.

In the ***last chapter*** of the research, we conducted an econometric study on the effects that the public debt has on economic growth and long-term interest rates, using the regression analysis method.

The result of the conducted econometric study on the implications of public debt on economic growth indicates that an average increase in the share of public debt in GDP by 1% over a period of five years causes a reduction in the real economic growth of 0.09% for the same period.

Regarding the econometric modelling of *long-term interest rate average* based on the *average share of public debt to GDP,* the results demonstrated that a mean increase of public debt ratio to gross domestic product over the level of 71.83621% leads to higher long-term interest rates.

According to the econometric study, the high level of public debt affects the macroeconomic variables such as economic growth and long-term interest rates and has an implicit impact on the standard of living of the population.

Public lending was oriented, in recent decades, mainly to consumption and transfers costs, which do not bring long-term economic benefits. In these circumstances, the costs afferent to State lending should be covered by increasing state fees and taxes to the public, measure that affects its disposable income. The situation becomes even more alarming in the case of large amounts lent on very long terms for the reimbursement of which the income of next generations is needed, generations who have not benefited in any way from loans that are required to repay.

Therefore, the orientation of contracted reimbursable funds to investments that ensure the added value for credit costs to be covered becomes crucial. In this way, the restoration of internal and external investors' confidence is ensured, as well as the reduction of borrowing costs, the increase of capital stock, the production acceleration, with implications on the national income increase, employment and, not least, on the sustainable growth of the living standards of the population.

State collected money from fees and taxes should be directed towards objectives that contribute to raising living standards. Citizens give up a part of their income to meet financial obligations to the state and the state, in its turn, must reward the taxpayer's effort by providing adequate public services and not by spending public money to pay debts to private companies. When it comes to taking decisions that involve public expenditure, the state must be rational and not burden its citizens beyond their limits of affordability.