THE FISCAL-BUDGETARY POLICY INFLUENCE ON STOCK MARKET

Rezumat (EN)

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Fiscal-budgetary policy, capital market, market capitalization, dividend payment, systemic risk

3. SUMMARY

The PhD thesis contains a detailed analysis of the fiscal policy influence, and also the relationship between this policy and capital market. By expanding the existing literature, this thesis undertakes an analysis of the relationship between the fiscal policy and the capital market performance from the Central and South-Eastern Europe region, as well as a highlight of the market interdependencies between the capital markets from the region. We performed a detailed
analysis of the fiscal policy impact over the Romanian capital market, by also highlighting the factors that can have an influence over this impact.

In the case of the countries within the region, we pointed out that only in Bulgaria and Slovakia there is a significant bilateral relationship between fiscal policy and capital market. In the case of Romania, results have confirmed the significant impact of total assets, net profit, liquidity indices, return BET and change in the tax rate, on establishing dividend payments and stock market capitalization, and thus they can be considered as indicators with an influence in the dividend policy decisions and in maintaining a certain level of stock market capitalization. As a result, the models used, the selected period, the chosen variables and the degree of significance, show that they have a significant impact on the main results obtained.

The motivation for choosing this research topic is the necessity of analyzing the fiscal-budgetary policy at the level of capital markets in the Central and South-Eastern Europe, with an emphasis on the case of Romania, by paying particular attention to the interdependence between the fiscal-budgetary policy and the capital market and by also highlighting a series of internal or external factors that can influence this interdependence. Although there are numerous studies in the literature with a focus on the fiscal policy and the fiscal-budgetary policy in the American, Malaysian and European capital markets, there is a very small number of studies which analyze this issue for the case of Romania, and especially the impact the fiscal-budgetary policy has on the capital market.

The aim of this research is to analyze and estimate the impact of the fiscal-budgetary policy, as well as the influence factors, and the relationship between the fiscal-budgetary policy and the performance of capital markets. Through a regional analysis, we identified the influence of the fiscal-budgetary policy on the capital market performance, and we highlighted the interdependence between them and also the interconnectivity between the capital markets. By emphasizing the case of Romania, we looked at both the identification of the impact of the fiscal-budgetary policy on the capital market, and the analysis of the relationship between the internal and external factors that can occur when the fiscal-budgetary policy influences the capital market.

This aim was achieved based on the following specific objectives:

✓ analysis of the main regulations at the European Union level regarding the fiscal-budgetary policy, as well as the analysis of the measures that were taken in order to promote the capital market performance increase at the Union level;
✓ analysis of the literature of the existing methodologies, in order to identify the influence of the fiscal-budgetary policy on the capital market performance, and also the potential influence of the capital market performance on the fiscal-budgetary policy;
✓ analysis of the evolution of the capital market in Central and South-Eastern Europe and estimation and identification of the fiscal-budgetary policy influence on the capital markets in the region;
✓ analysis of the capital market response to a fiscal-budgetary policy shock;
✓ quantification of the risk and identification of the existing interconnectivity between the capital markets in the region and the influence of the fiscal-budgetary policy in transmitting the risk from one market to another;
✓ estimation and identification of the influence of the fiscal-budgetary policy on the capital market in Romania;
✓ analysis of the influence of the tax rate change on the dividends payment behavior of the companies listed on the Bucharest Stock Exchange;
✓ estimation of the influence of the tax rate change on dividends and identification of the main internal and external factors that influence the impact of the tax rate change on the dividend policy;
✓ analysis and estimation of the influence of the tax rate change on stock market capitalization for companies listed on the Romanian capital market.

The research methodology is developed by estimating the fiscal-budgetary policy influence on the capital market performance in the Central and South-Eastern European region, by using a series of methods and models, such as linear multivariate regression model, VAR (Autoregressive Vector), and Granger causality. In the case of the linear regression model, we used the methodology proposed by Laopodis (2007) and Dornean (2014), in order to estimate the impact of fiscal-budgetary policy (having as proxy the public revenues and expenditures) on capital market performance (measured by the stock market return).

In the regression model approach, for panel data, we used the methodology proposed by Dragotă et al. (2009), in which the regression coefficients were calculated through the cross-section method, which corrected standard errors related to the panel. It also took into account the methodology proposed by Lintner (1956), in which dividend policy depends on dividend growth rates and on sustainability of earnings.
By using the VAR methodology, we analyzed how the performance of the capital market responds to a fiscal-budget policy shock. The use of this method can restrict the covariance matrix in order to obtain impulse response functions that can be interpreted economically.

In order to test the Granger causality, we used the methodology proposed by Granger (1969) and Billio et al. (2012) through the rolling window method, for a total of 250 observations in each window, which means a trading year, by considering only Granger's causality, significantly at 1%. This estimation method was designed to estimate the interconnection between the capital markets.

At the same time, through a linear relation we wanted to highlight the evolution of the interconnectivity between the fiscal-budgetary policy and the risk of the stock markets during the financial crisis. Thus, we built a pattern of regression between fiscal-budgetary policy (proxy: government revenue and spending) and capital market risk (proxy: Granger causality).

This PhD thesis is structured in three chapters followed by conclusions, which analyze in detail all the specific objectives mentioned above, and provides a clear image of the fiscal-budgetary policy and of the relationship between the fiscal-budgetary policy and the capital market performance, in the Central and South-Eastern European countries and especially in Romania.

In the first chapter of the paper – Fiscal-budgetary policy in the European Union – we documented with respect to the first steps to create the strongest fiscal-budgetary policy within the European Union, and then we identified the main measures established through the Stability and Growth Pact (SGP), that were taken in order to provide a good coordination of these policies at the Union level, as these policies play an important role in stimulating the economic growth (reflected in public budgets), but also in increasing the confidence of foreign investors on the European Union capital markets. In the existing literature, the concept of fiscal policy has often been associated with public budgets, government revenues and expenditures, and public debt. This concept facilitates the identification of the main measures taken at European level through regular monitoring of the annual budgets performed by the European Commission, which has an important influence on the fiscal-budgetary policy and on the economies of the member states.

The second chapter – Fiscal-budgetary policy and capital market performance – presents, in addition to the theoretical arguments from the existing literature on the relation between the fiscal-budgetary policy and the capital market performance, also a detailed analysis of the relation between the fiscal-budgetary policy and the capital market performance. Moreover, based on the
existing interdependencies between the analyzed capital markets from the region, we highlighted the fiscal-budgetary policy as a possible instrument that may cause the transmission of risk from one capital market to another. Thus, we used the methodology proposed by Laopodis (2007) and Dornean (2014). This analysis is applied to the countries from Central and South-Eastern Europe, for the period 2002-2016, in order to observe the moments before the EU accession, and before and after the financial crisis, by using the government revenues and expenditures as proxy of fiscal-budgetary policy. In the case of capital market interdependence, we used the methodology proposed by Granger (1969) and by Billio et al., (2012), by using Granger causality as the proxy of capital market risk. In order to better understand the relation between the indicators, the analysis is bidirectional: it analyzes both the effects of the fiscal-budgetary policy on the capital market performance, and the effects of the capital market performance on the fiscal-budgetary policy.

The third chapter – *The fiscal-budgetary policy impact on the capital market performance: Case of Romania* – aims to estimate the fiscal-budgetary policy influence, especially for the Romanian capital market. To highlight this influence, we analyzed the evolution of the dividend payments of the companies listed on the Bucharest Stock Exchange, depending on the evolution of the dividend tax rate. Based on the company's financial variables, we present some moments with a significant impact over the tax rate change influence on dividend policy and also on stock market capitalization. In order to perform this analysis, we used the methodology proposed by Dragotă et al. (2009) and Lintner (1956), by building two types of equations: in the first one, we only take into consideration the impact of the financial variables and BET return, and in the second one, we also include the variable tax, as a dummy variable, in order to analyze if these internal and external variables indeed have an impact on the dividends and stock market capitalization.

The analysis of the influence of the fiscal-budgetary policy on the capital market performance and the identification of the factors which have an influence is a very important approach, for the central authorities, in order to take into account the main factors in developing specific regulations, and also for the managerial teams of the analyzed companies, which must also take into account these factors when they make objective-related decisions.

*From the results we have concluded* that a weaker fiscal-budgetary discipline can put in danger the stability of the European currency and can therefore affect investors’ credibility to invest on UME markets. On the other hand, when a country borrows excessively, the allocation of resources is rather to pay high interest rates than to generate more public investment.
Knowing that the fiscal-budgetary constraints have positive and negative effects in case of European Union, the new SGP measures have taken in consideration constraining the fiscal-budgetary policy (represented by the fiscal-budgetary performance indicators - budget deficit and public debt), and creating an integrated and robust fiscal surveillance framework for solving the problems at UME level as well as across the EU. Regarding to this, a fiscal consolidation and an improvement in the quality of public finances have been needed as a prerequisite for restoring economic growth.

The notion of fiscal-budgetary policy refers to government spending and revenues, aiming to ensure a balance in public budget. Therefore we can state that sustainable policies are reached by a good coordination and a correct pursuit of fiscal-budgetary constraints foreseen in the Stability and Growth Pact. The sustainability of these fiscal-budgetary policy measures takes into account economic growth that may affect public / private capital growth, considered as a policy which can influence the investment initiatives.

Based on the necessary of ensuring a fiscal-budgetary discipline with an impact on capital market investments, we continued our researches by taking in analysis 6 countries from Central and South-Eastern Europe: Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia.

From the estimated multivariate regression models, we found that only Bulgaria and Slovakia have a bilateral relationship between fiscal-budgetary policy and the return of capital market. For Poland and Romania, it was pointed out that only the capital market performance influences the fiscal-budgetary policy, which means that there is a unilateral relationship for these countries. In the case of Hungary and the Czech Republic, even though there were some changes in the value of income tax and corporation tax rates, the effect of these changes is not significant on the capital market.

Also the impulse-response function highlighted the influence that fiscal-budgetary policy, represented by public spending and revenues, has on the capital market performance. The results obtained are similar to those explained above. Thus, in Bulgaria and Slovakia there has been recorded a decline of the capital market performance as the state spent more to make public investments.

In Romania and Poland, government revenues have decreased. The capital market income is affected by taxes paid on earned income. Taking into account the tax rates that have been diminished, the impact on capital market performance has been positive. On the other hand, the
two countries did not increase public investment spending because, they have been compensated by the private sector, and on the other hand, the state maintains a lower level of taxation in order to maintain the efficiency of the capital market performance.

The spread of the financial crisis has highlighted the interconnectivity between the stock markets; the risk has been transmitted from one market to the other, having a negative influence over the investment level in stock markets, which has influenced the need to take measures to promote investment, through provisions in the SGP.

The estimation of the regression models between the fiscal-budgetary policy and the systemic risk on the capital market highlighted the fact that the fiscal-budgetary policy has a significant effect on the capital markets in the region, as a result of the spread of the risk. Hungary and Slovakia, through their policies by increasing the public spending through increasing the public investment, can determine the increase of systemic risk in the capital market, while Bulgaria, the Czech Republic, Poland and Romania, by increasing the capital market investments, determine an increase of market performance and consequently a decrease in systemic risk in the markets. On the other hand, in Bulgaria, the Czech Republic, Poland, Slovakia and Romania, the income tax rate has led to an increase in public revenues, which leads to an increase in systemic risk in the market. Similar results were obtained by analyzing the systemic risk influence on fiscal policy.

The analyses have highlighted that fiscal-budgetary policy is able to influence the performance of the Romanian capital market in a statistically negative way and, on the other hand, government spending is negatively affected by the stock market performance from the previous year. The private investment have increased, which had a negative impact on public spending in Romania. The explanation is given by the fact that the private sector has become more efficient, which has meant an increase in Romanian labor market. As a result, a decrease of the necessity to make public investments is reflected in a decrease in public spending, which are compensated by those in the private sector. In recent years, Romania recorded the highest economic growth in the EU (of 3.9% in 2015 and 4.8% in 2016), which proves the fact that a decrease in investment spending is recorded and the foreign investors were attracted to invest in Romanian capital market.

Since fiscal policy in Romania is able to influence the performance of the capital market, it is necessary to analyze this link by taking into account in details the fiscal-budgetary policy instruments that may directly affect this market.
As much as more the capital market performance increase, the lower the public spending, because some of them will be offset by higher earnings taxes on the market as a result of private sector performance. An increase in the tax rate influences the public revenues collected to the state budget, as well as the public expenditures with the investments, and especially the investments on the capital market. In order to perform this analysis, we have expanded our studies by analyzing the impact of the change in the dividend tax on companies' behavior to pay dividends. The analysis was carried out for a number of 59 companies listed on the Bucharest Stock Exchange.

The t-Student test (“paired sample t-test”) has shown that there is a large and statistically significant difference between dividends paid for 2015 and those paid for 2014 only for companies that have paid more dividends for 2015 compared to 2014 (in this situation there are only 14 companies). Net incomes from these 14 companies increased for two reasons: due to the decrease in total paid taxes and to an increase in gross income. At the same time, in the case of companies with a decrease in dividends paid in 2015 (12 companies), it turned out that, due to internal or external factors, it was preferable not to pay dividends.

We have concluded that the impact of dividend tax change on dividends paid by companies is significant and is influenced by these factors. The behavior of dividends payment in the Romanian capital market is directly influenced by tax revenues, being a direct financial information before deciding to pay dividends. Also, the total asset, which is a financial resource by which companies can generate economic benefits in the future, and the liquidity index, which show the availability of liquidity of companies, have a negative impact on dividend payment initiatives even if the dividend tax has been reduced, because it is preferable to use these resources to invest rather than to pay dividends, thereby increasing the possibility of obtaining higher incomes in the future.

So companies listed on the BSE do not necessarily decide to pay dividends when the law of tax rate change enters into force because they have to decide to proceed in accordance with their main objectives. Because they make higher incomes due to lower tax rates, they must to decide where to allocate these revenues according to their needs or interests: to generate more investment, to invest in the company, to pay off their debts, etc., or to pay dividends to shareholders.

By estimating the regression models, for the same number of companies, in the case of the impact of the tax rate change in the 2015 on market capitalization, we pointed out that the influence is significance at 1%. When we say stock market capitalization, we have to consider the price and
the number of traded shares; Therefore, a dividend tax change will have a direct impact on assets prices and hence an indirect impact over the market capitalization.

Thus, the decision on the dividend payment policy can be explained by the dividend tax change and also by the sustainability of revenue; the situation may be different if other objectives are considered. When companies for various reasons decide to generate more investments, this will be reflected in higher prices and, consequently, in the increase of stock market capitalization.

The results confirmed that shareholders' incomes or the company’s behavior in dividend payments are influenced in two ways: by increasing gross income and also by a decrease of the dividend tax rate.

Knowing that a decrease in dividend payment, especially when a dividend tax reduction is introduced, induce to a decrease in shareholders' earnings in the future, the conclusions are useful for the company's decision makers to take into account in practice when the dividend tax is reduced. Thus, it is advisable for companies to pay dividends to large shareholders, who must be given special attention to maintain them as shareholder and thus to generate more investment in the future and to increase the stock market capitalization (a balance is needed between the investments and dividends payments to large shareholders, increasing the initiatives of shareholders to invest in the future).

In conclusion, our results have shown that a change in the dividend tax rate can benefit companies in two directions: on the one hand, they can pay dividends and also, on the other hand, they can generate more investments and take advantage of more increased demand in the market. In this way, more revenues are collected in the state budget from trading on the stock exchange, which can influence the increase of public revenues and the decrease of public expenditures, signifying an increase in the sustainability of the fiscal-budgetary policy, reflected in the increase of the market performance of capital.