6. INCOME TAXATION REGULATION AND COMPANIES' BEHAVIOUR: IS THE ROMANIAN COMPANIES' DIVIDEND POLICY INFLUENCED BY THE CHANGES IN INCOME TAXATION?

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Abstract

This paper analyzes the dividend payout by Romanian companies listed on the Bucharest Stock Exchange in connection with the changes in corporate taxes. If the tax burden on corporate gross incomes is increasing, the companies' management can follow two reasons in deciding the dividend payout: to allocate more for investments, or to increase the dividend ratio. Each of these decisions can be argued based on Corporate Finance principles, depending on the management objectives. This paper found no significant correlation between the dividend policy and the corporate tax burden. However, the dividend payout reacted when the regulations related to the tax treatment of incomes were changed in 2005. Moreover, the dividend policy seems to be sensitive to the ownership structure, which can be explained by the impact of some agency problems.

Keywords: dividend payout, taxation, agency problem, emergent markets
JEL Classification Codes: G34, G35, G38

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1. Introduction

The main purpose of this study is to analyze the companies' behaviour of dividend payout as a reaction to changes in the corporate income tax rate for emergent markets, with a study case of Romania. The main trend in the financial theory states that taxes have an impact on financial decisions even if these decisions are taken by investors or by companies. From this perspective, if tax regulations are changed, it means that rational investors have to change their behaviour. The empirical studies related to this subject diverge in very large areas.

From a macroeconomic point of view, the government is interested to establish the most appropriate policies, which can alternate between economic performance and social protection, in order to reach the confidence of voters. For example, Diamond and Mirrless (1971) and Atkinson and Stiglitz (1976) confirmed the relationship between taxes, social efficiency and fairness. Subsequently, Le Grand (1987) stated the relevance of fairness as a principal objective in the economic system, from the perspective of optimal taxation.

From a microeconomic perspective, the mainstream switches from identifying an optimal financial structure or dividend payout, as long as taxes are taken into account (see Modigliani and Miller, 1963, respectively, Miller and Modigliani, 1961) to provide evidence for dividend payout changes when dividend tax rate is changed (Poterba and Summers, 1985).

Normative models revealed an impact of tax changes on financial decisions, but the empirical evidence has different results for developed and emerging markets. For developed countries, the results generally stated an adjustment in the behaviour of companies and investors subsequent to changes in tax regulations. However, studies related to ex-communist East-European countries are relatively fewer (Purfield, 2003; Fugaru, 2004).

Romania represents one of the richest fields of study, as long as specific regulations have changed to a great extent, and very often, during the period 1998-2006. These changes are presented in Appendix 1. They refer not only to tax rates, but also to some tax incentives and exemptions stipulated by many regulations. For this reason, this study considered the entire level of tax burden, and not only the corporate tax rate levels.

In fact, based on dividend payout, the behaviour of listed companies can be distinguished relative to consumption or to investments. Thus, a higher dividend ratio can be translated as a decision oriented to consumption. On the other hand, a lower dividend ratio can be explained by a preference for future economic growth, taking into consideration not only tangible and intangible assets, but also investments in human resources, namely managers' and employees' incentives.

The rest of the paper is structured as follows: In Section 2, two alternative reactions to dividend payout decision as a result of the changes in tax regulation are presented;

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Section 3 presents the database and methodology of the study. Sections 4 and 5 include the numerical results and the main conclusions of the study.

2. Two alternative reactions of dividend policies to changes in tax treatment

Dividend Payout Policy remains one of the main issues in Corporate Finance. Starting from the seminal paper of Miller and Modigliani (1961), with their Irrelevance Theory, many researchers in Finance tried to explain why firms pay dividends and to search for an optimal dividend policy. From a methodological point of view, there are, at least, four additional issues that have an influence on dividend policy: (i) agency costs, (ii) asymmetrical information between inside and outside shareholders, (iii) some characteristic features in shareholders' behaviour, and (iv) taxes. Each of these issues tried to explain why the Irrelevance Theory does not occur in practice and the mainstream of financial studies switched from one explanation to another, at different moments of time (Dragotă, 2003).

Taxation represents one of the main explanations for dividend policy. Here, on a long list of studies, Farrar and Selwyn (1967), Brennan (1970), Miller (1977), Pettit (1977), Crockett and Friend (1988), etc., can be mentioned. For example, for the US case, Farrar and Selwyn (1967) stated that rational investors have to avoid dividend payments as long as dividends are taxed more than capital gains. However, Crockett and Friend (1988) found out that the US companies paid large amounts as dividends.

The evidences related to this issue do not offer a certain answer: some studies illustrated that companies are really sensitive to this difference in tax treatment of dividends and capital gains (see Elton and Gruber, 1970; Lintzerberger and Ramaswamy, 1979; Blume, 1980; Gordon and Bradford, 1980; Peterson *et al*., 1985, etc.). For the UK case, Poterba and Summers (1985) demonstrated that there is a positive correlation between dividend payments and specific taxation. On the other hand, the empirical evidences of Black and Scholes (1974), Miller and Scholes (1982), Crockett and Friend (1988), Kalay and Michaely (2000), etc., rejected this hypothesis for the US case. More recently, in the US case, Chetty and Saez (2005) revealed switches in the dividend payments when the dividend tax decreased from a maximum of 35% in 2003, to 15%. On the other hand, Blouin *et al*. (2004) revealed changes in the dividend policy caused by taxation only for few companies, and more for special dividends than for the regular ones. In the same context, a very interesting study on Australia is that of Pattenden and Twite (2008).

When income tax burden rises, the top level management or controller shareholders can rationally argue any kind of dividend policy, to decide an increase in the dividend payout rate or a decrease in the dividend payout rate[5], respectively. Each of these

[5] From a legal point of view, the dividend policy is decided by shareholders. In fact, in the Romanian case, and in that of many ex-communist countries, most of the listed companies are owned by a larger shareholder, who detains more than 50% of the issued shares (see Dragotă, 2006). However, for the purpose of this study, it is not relevant if the significant shareholders or managers, who are considered to act together, take this decision or not.

decisions can be considered as appropriate, depending on circumstances or some cultural or economic peculiarities, as discussed further.

A decrease in the dividend payout rate as an effect of an increase in the tax burden can be argued by the interest to insure a larger amount for investments. As long as in the case of emergent markets investment opportunities are substantial, the management can be tempted to use any available financial resource in order to sustain the future growth (Bekaert and Harvey, 2000). In compensation, managers should decrease the dividend payout rate from q to q', with $q > q'$. Of course, this decrease in the dividend payout rate, equal to $(q - q')$ should be explained as an expropriation of shareholders' wealth, at least for the present moment, equal to $(q - q') \cdot NEG$, where *NEG* represents net incomes. Of course, the assertion of this policy is that the incomes invested at this moment will produce higher future incomes, resulting in future increases in dividends.

On the other hand, in the context of agency problems, a decrease in the dividend payout rate can be explained as a lack of minority shareholders' protection (see La Porta *et al*., 1998, among others). Therefore, controller shareholders can obtain other private benefits than dividends. Thus, they can accept a minimal amount as dividends as long as they can obtain private benefits from other sources. On the contrary, minority shareholders are strictly compensated by dividends. Even if they might benefit from capital gains, these ones are uncertain as long as the investors have no signal of the companies' performances (see Easterbrook, 1984). From this point of view, for the Romanian case, some indicators can be very relevant, too. For instance, from 2382 companies listed on Romanian capital market (on all its components) in July 2007, only 53 paid dividends in the previous year, which means 2.22%. We notice that some companies preferred to offer stock dividends to shareholders, but this is not a real form of payment, as long as no cash is paid to shareholders.

From this general perspective, as long as companies have to signal their good behaviour, an increase in the dividend payout ratio should be understood as a proof of the management concern to protect minority shareholders' interests. Since the management has less available financial resources (a lower level of net incomes), it is forced to choose between cutting off some dividend payments or some investment expenditures. We notice that, in the specific context of the dividend policy analysis, these decisions can be interpreted both as an increase in the larger shareholders' private benefits and as a lack of interest in the future of the company.

Similar considerations can be made for a decrease in the tax burden. The management can change the destination of these additional funds to increase dividend payments or to increase investments expenditures. Depending on the sign and the magnitude of these changes in the dividend payout ratio, it becomes obvious if the management is more concerned about the future growth or about signalling a good treatment to the minority shareholders.

These two reasons can be presented by the controller shareholders, whether they follow the objective of maximizing the shareholders' wealth or not. For example, under the claim of "retain incomes for future investments, in order to increase the market value of the companies", some expenditures made in the controller shareholders' own interest can be covered. This policy can be taken into account especially in the ex-

communist countries' cases. Interesting investment projects can be found relatively easy in transition economies, as long as these economies are underdeveloped. Since the financial markets are immature, too, the incomes retained are an important financial resource, so companies are not able to accept dividend payments. These arguments can be sustained credibly by managers or controller shareholders as long as future projects are discussed, and their performance is difficult to quantify at the present moment.

3. Database and methodology

The most important aim of this study was to analyze the influence of corporate taxation on dividend policy for the Romanian listed companies. An additional objective was to find out other determinants for the Romanian companies' dividend policy. The seminal work in this field is Lintner (1956), who found out that firms establish their dividends in accordance with the current level of incomes, as well as to the previous year dividend. Also, Fama and Babiak (1968) identified an impact of previous incomes on current dividends.

The variables used in this study are presented in Table 1.

Table 1

Variables for dividend policies of the Romanian firms

Variables	Symbol	Description
Dividend payment	DIV	Reported by companies. According to the Romanian law, a company can pay dividends only if it obtains positive earnings.
Gross income	GRE	Reported by companies.
Net income	NEG	Reported by companies.
Corporate tax burden	CTB	Estimated by the difference between gross and net incomes. The corporate income tax cannot be correctly estimated by applying the proportional rate, because the accounting earnings (GRE) are different from the taxable earnings (due to some facilities, exemptions, etc.).
Market capitalization	MKC	Data from www.ktd.ro (for closing market prices), completed with the official site of Bucharest Stock Exchange (www.bvb.ro) (for the number of shares).
Market-to-book ratio	MBR	Calculated as the ratio between market capitalization and total assets.
GDP real growth rate (%)	GDP	Calculated as Gross Domestic Product growth rate.
Total debts	DBT	Reported by companies.
Total assets	AST	Reported by companies.
Companies controlled by	PAS	Dummy variable equal to 1 when employees'

Variables	Symbol	Description
employees' organizations		organizations had the control and equal to 0 if not. PAS are employees' organizations resulted as an effect of the mass privatization process by MEBO (Managers Employees Buy-Out) method. Through this process, managers and employees received shares of the companies where they were employed. They received a "credit" from the Romanian State to pay back for these shares, through dividends received by PAS organizations.
Companies controlled by the state	GOV	Dummy variable was equal to 1 when the state had the control and equal to 0 if not. The most important reason for taking this variable into account is given by the persistence of the Romanian State Property since 1989, the year of the Romanian anti-communist Revolution.
Market index ratio	MIR	Returns (%) of the market index BET, calculated yearly (website www.bvb.ro). BET includes the most 10 liquid assets on the market.
Changes in corporate income tax rate from the year 2000	DUM1	Dummy variable was equal to 0 until the year 2000 and equal to 1 for the period 2001-2005.
Changes in corporate income tax rate at the beginning of the year 2005	DUM2	Dummy variable was equal to 0 until the beginning of the year 2005 and equal to 1 for the period after 2005.
Ownership structure	DUM3	Dummy variable equal to 1 for the companies with more than 50% shares owned by one controller shareholder and equal to 0 for the other companies.
Data from: www.bvb.ro –Website of Bucharest Stock Exchange www.mfinante.ro – Website of the Romanian Ministry of Finance www.ktd.ro – Website of the Investments Consulting Company KTD Invest SA.		

The database includes financial information for 65 listed companies at the Bucharest Stock Exchange (I and II tiers), for the period 1998-2005. Only the financial years with profit were taken into account. Some descriptive statistics are presented in Appendix 2. Taking into account also the lack of available relevant information, just a number of 37 - 41 firms were used in regressions (see Table 2).

The basic regression model, using panel data, is as follows:

$$Y_{it} = \alpha_i + \sum_{k=1}^{M} \beta_k X_{itk} + \varepsilon_{it}$$

where t = 1, …, T (time period), i = 1,…, N cross-section observation unit in the sample, k = 1, …, M (explanatory variables). β_k are the parameters that will be estimated. α_i is the individual effect, which is assumed to be constant in time and specific for the individual cross-section unit in the fixed effects model. ε_{it} is a stochastic error term assumed to have zero mean and constant variance.

Six regressions were used, respectively:

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot \Delta Ln(CTB_{it}) + \beta_2 \cdot \Delta Ln(GRE_{it}) + \beta_3 \cdot Ln(DIV)_{i,\,t-1} + \beta_4 \cdot GDP_t + \beta_5 \cdot PAS_{it} + \beta_6 \cdot GOV_{it} + \beta_7 \cdot DUM1 + \beta_8 \cdot DUM2 + \varepsilon_{it} \quad (1)$$

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot \Delta Ln(CTB_{it}) + \beta_2 \cdot Ln(DIV)_{i,\,t-1} + \beta_3 \cdot \Delta Ln(AST_{it}) + \beta_4 \cdot \Delta Ln(MKC_{it}) + \beta_5 \cdot MIR_t + \beta_6 \cdot PAS_{it} + \beta_7 \cdot GOV_{it} + \beta_8 \cdot DUM1 + \beta_9 \cdot DUM2 + \varepsilon_{it} \quad (2)$$

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot Ln(DIV)_{i,\,t-1} + \beta_2 \cdot \Delta Ln(AST_{it}) + \beta_3 \cdot \Delta Ln(MKC_{it}) + \beta_4 \cdot \Delta Ln(DBT_{it}) + \varepsilon_{it} \quad (3)$$

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot Ln(DIV)_{i,\,t-1} + \beta_2 \cdot PAS_{it} + \beta_3 \cdot GOV_{it} + \beta_4 \cdot DUM1 + \beta_5 \cdot DUM2 + \varepsilon_{it} \quad (4)$$

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot \Delta Ln(GRE_{it}) + \beta_2 \cdot Ln(DIV)_{i,\,t-1} + \beta_3 \cdot \Delta Ln(AST_{it}) + \beta_4 \cdot \Delta Ln(MKC_{it}) + \beta_5 \cdot \Delta Ln(DBT_{it}) + \beta_6 \cdot GDP_t + \beta_7 \cdot PAS_{it} + \beta_8 \cdot GOV_{it} + \beta_9 \cdot DUM1 + \beta_{10} \cdot DUM2 + \varepsilon_{it} \quad (5)$$

$$\Delta Ln(DIV_{it}) = \alpha_i + \beta_1 \cdot \Delta Ln(GRE_{it}) + \beta_2 \cdot Ln(DIV)_{i,\,t-1} + \beta_3 \cdot \Delta Ln(AST_{it}) + \beta_4 \cdot \Delta Ln(MKC_{it}) + \beta_5 \cdot PAS_{it} + \beta_6 \cdot DUM2 + \beta_7 \cdot DUM3 + \varepsilon_{it} \quad (6)$$

The starting point of the first equation is the Lintner (1956) model, but we included the impact of taxes and some dummies in order to explain some specific features of the Romanian capital market. Comparatively to the Lintner model, we considered the variation of the logarithm of dividends, in order to normalize the data series. The second equation includes more variables. However, we excluded the gross income variable ($\Delta Ln(GRE_{it})$) in order to avoid multicollinearity, and we included the market index ratio (MIR) as control variable. The third equation presents the impact of the determinants of dividend payout, excluding the dummies. The fourth equation took into account the previous dividend and each dummy as an explanatory variable. The fifth equation contains all the explanatory variables, without taxation. Finally, the sixth equation included most of the variables used before, but added a supplementary dummy for the ownership structure.

4. Empirical results

In order to identify the size and the direction of the impact of tax changes on dividend policy, we analyzed both the dependence between dividend payout ratio and the rate of retained incomes, and fiscal burden from corporate income tax. Since the results of this first study were not statistically significant, other explanatory variables were taken into account (presented in Table 1).

Three types of variables were considered, as follows: reported values, variables per share, respectively, variables per assets. Although the results had the same economic interpretation, the first set of variables was chosen, due to the greater statistical significance. The reported values for corporate income tax burden (CTB), gross income (GRE), dividend payment (DIV), total assets (AST), market capitalization (MKC) and total debts (DBT) were transformed in logarithmic values in order to normalize the data series and, after that, they were expressed as logarithmic differences equivalent to the growth rate of the variable.

The results for the period 1999-2005 are presented in Table 2.

Table 2

Pool OLS Regressions Testing for the Determinants of Dividend Policy for the Romanian Listed Companies over the period 1999-2005

The variation of logarithm of dividend (∆Ln(DIV)) is the dependent variable

Equation	Equ. (1)	Equ. (2)	Equ. (3)	Equ. (4)	Equ. (5)	Equ. (6)
No. of obs.	175	154	174	196	161	164
∆Ln(CTB) (Corporate Income Tax Burden)	-0.3381 (-0.7971)	-0.1081 (-0.2975)				
∆Ln(GRE) (Gross Incomes)	1.4372 (1.6986)*				0.9310 (1.9096)**	1.0473 (2.2177)**
$Ln(DIV)_{t-1}$ (Previous Dividend)	-0.1308 (-0.2677)	-1.1780 (-3.0953)***	-1.3382 (-4.0705)***	-0.8527 (-2.0445)**	-0.4642 (-1.1044)	-0.5954 (-1.8400)*
∆Ln(AST) (Total Assets)		0.9453 (0.7275)	1.1093 (0.7803)		0.6748 (0.4634)	1.3318 (1,1683)
∆Ln(MKC) (Market Capitalization)		0.3540 (0.8440)	0.3065 (0.7497)		0.6714 (1.8462)*	0.4020 (1.1274)
∆Ln(DBT) (Total debts)			0.4222 (0.6877)		0.6563 (1.0994)	
MIR (Market index ratio)		-0.3708 (-0.2252)				
GDP (GDP growth)	-39.526 (-1.7227)				-47.4298 (-2.1168)**	

Equation	Equ. (1)	Equ. (2)	Equ. (3)	Equ. (4)	Equ. (5)	Equ. (6)
PAS (Employees as significant shareholders)	8.0951 (1.7197)*	7.8855 (1.7730)**		8.6079 (1.9532)**	7.1352 (1.845)*	7.0951 (1.6627)*
GOV (State, as significant shareholder)	-1.5364 (-1.335)*	-1.5297 (-1.5145)*		-0.5438 (-0.7758)	-2.5012 (-1.8668)*	
DUM1 (1st change in corporate income tax rate)	1.8971 (1.4270)	0.7082 (0.7756)		0.1809 (0.2571)	2.6431 (1.9504)**	
DUM2 (2nd change in corporate income tax rate)	-2.362 (-2.028)*	-1.9876 (-1.7319)*		-2.3957 (-1.9653)**	-2.2602 (-2.2856)**	-1.6057 (-1.7130)*
DUM 3 (owner-ship structure)						-2.020 (-0.2372)**
Adjusted R^2	0.3	0.3	0.26	0.24	0.35	0.36
F-statistic	17.48***	13.99***	35.30***	27.16***	14.80***	22.41***

T-values are in parenthesis. ***, ** and * indicated values are significant at 1%, 5% and, respectively, 10% level.

The results of the panel regression with fixed-effects disclosed that there are strong individual firm effects in the sample (see Appendix 3). The results in column (1) reveal a negative impact of corporate income tax burden on dividends payout, but the coefficient is not statistically significant. The gross income coefficient is positive and statistically significant, as in the similar studies mentioned above (see Lintner, 1956; Fama and Babiak, 1968, etc.). The coefficients for the first lag dividends have a significant negative impact on dividends growth. This result is very difficult to be explained on the basis of previous studies of Lintner (1956), Fama and Babiak (1968), etc. Theoretically, managers are tracking for a "target dividend", so a positive relationship between Div_t and Div_{t-1} should be reported. The results of this study reveal some question marks related to the controller shareholders' interest in insuring a sound dividend policy, or in insuring a good treatment of the minority shareholders, which is consistent to the previous studies (see Dragotă, 2006; Dragotă *et al*., 2007).

As control variables for business cycles we used alternatively the market index ratio (MIR) and the GDP growth rate. Both revealed a negative influence on dividend payout. Moreover, the GDP coefficient is strongly significant. From this perspective, a GDP growth can imply an additional demand, which means that firms can be interested to invest more in order to raise their production. This hypothesis is in accordance with Walter (1956), that is "the greater is the profitability, more likely management is – in the interest of rapid expansion – to retain a substantial percentage of incomes". The decision to decrease, or even to cut off the dividend payments, can be explained by the

fact that the retained incomes are an important source for investments and the minority shareholders have a little influence on the dividend policy. This conclusion is in accordance with Dragotă and Semenescu (2006), which concluded that equity is the main financial resource for the Romanian listed companies. The median values of equity as a proportion in total assets varied between a minimum of 59.7% in 1999 and a maximum of 69.9% in 2005. When the economy is in recession, a decrease in the private and public demand reduces the corporate income. Thus, the companies, having financial resources, but lower demand for their products and services, can decide to pay dividends and to decrease investments.

The dummy variables (PAS, GOV, DUM1, DUM2, and DUM3), which were used in order to explain the payout policy of the Romanian companies, were significant, too. The PAS variable indicated the presence of PAS organizations, as a controller shareholder. Taking into account their main characteristics (as described in Table 1), the interest for a larger dividend payout can be easily explained. Another important factor that influenced the dividend payout is the presence of the Romanian State (GOV) as a shareholder, which is a characteristic of the ex-communist countries. The Romanian State presence produced a decrease in dividend payouts. Moreover, the ownership structure (quantified by DUM3) had an influence on dividend payments decision. This result is concordant with the previous study of Dragotă (2006).

The variables DUM1 and DUM2 were used to consider the moments when changes in the corporate income tax rate occurred, that is in the years 2000 and 2005. Therefore, we analysed if the changes in tax regulations can have an impact at the moment they were applied. Interestingly, only the moment when corporate income tax changed at the beginning of the year 2005 (DUM2) had a significant effect on the dividend payments. This reaction can be further interpreted as a psychological one. Indeed, the firms have changed their dividend policy, but not all of them in the same direction. Somehow, the companies understood they had to change their dividend policy, but their reaction was different from case to case. One explanation can be a different view on the impact of taxation, but another one can be that taxation can produce different results from one company to another. This result questioned the impact of some fiscal policies oriented to companies in developing economies, like Romania.

The second regression model in Table 2 included more variables, as in Fama and Babiak (1968), and Charitou and Vafeas (1998), among others. Thus, variables like total assets, market capitalization and total debts were taken into consideration. For these variables positive coefficients were obtained, but not statistically significant. We avoided the insertion of income and corporate income tax burden in the same regression because of their strong correlation (see Table 3).

In general, dividend policy is also related to the capital structure. For this reason, an increase in the tax burden can have no influence on the dividend policy, because the managers found the solution of changing the capital structure as long as they can obtain financial resources from debts. However, this implication is not validated for the Romanian capital market: debts are not a relevant factor for the dividend policy of the Romanian listed companies.

Regressions (3), (4) and (5) revealed different results because of taking into account different control and dummy variables. R^2 varied from 24% to 32%, so R^2 was not significantly influenced by them.

Regression (6) was used in order to emphasize the impact of the ownership structure on the dividend policy. In accordance with the previous studies relative to the dividend policy of the Romanian listed companies (see Dragotă, 2006), the ownership structure has an influence on dividend policy. As long as companies are controlled by one powerful shareholder, the dividend policy is characterised by a lower dividend ratio. In fact, agency problems seem to have a more powerful explanation for dividend payments than taxation. Moreover, the ownership structure for the Romanian listed companies is very concentrated. Most of the Romanian companies, including the listed ones, are controlled by one or more significant shareholders, who hold more than 50% of equity. In these conditions, the dividend policy can practically be decided by only one or very few persons. The closed end funds can be mentioned as exceptions, which can have a different dividend policy, mainly oriented to payments to shareholders.

Table 3 provides a pairwise correlation analysis of the variables used in the regression model.

Table 3

Pairwise Correlation Analysis

Variable	ΔLn(CTB)	$Ln(DIV)_{t-1}$	ΔLn(GRE)	ΔLn(AST)	ΔLn(MKC)	ΔLn(DBT)	MIR	GDP	PAS	GOV	DUM1	DUM2
ΔLn(CTB)	1											
$Ln(DIV)_{t-1}$	0.008	1										
ΔLn(GRE)	0.696	0.045	1									
ΔLn(AST)	0.118	0.042	0.161	1								
ΔLn(MKC)	0.113	0.060	0.124	0.017	1							
ΔLn(DBT)	0.078	0.101	0.139	0.327	0.027	1						
MIR	0.122	-0.075	-0.032	-0.046	0.102	0.019	1					
GDP	0.037	-0.072	-0.107	-0.114	0.156	-0.046	0.575	1				
PAS	-0.04	0.108	-0.048	-0.008	-0.034	-0.012	-0.018	-0.035	1			
GOV	0.08	0.023	0.096	0.022	0.01	0.063	-0.033	-0.056	-0.02	1		
DUM1	-0.045	-0.047	-0.046	-0.119	0.078	-0.113	0.317	0.088	-0.03	-0.05	1	
DUM2	-0.239	-0.115	-0.141	-0.219	-0.074	-0.052	-0.279	0.095	-0.04	-0.05	0.218	1
DUM3	0.028	-0.032	-0.022	0.002	-0.066	0.064	0.179	0.272	0.034	-0.04	0.188	0.041

Based on the results in Table 3, it is unlikely that multicollinearity can be an issue in the regression analysis. The relatively high positive correlation between the gross income (GRE) and the corporate income tax burden (CTB) was taken into consideration when we built the regressions 2-6.

5. Conclusions

This paper presents an empirical investigation of the effects of tax reform on the dividend policy for the Romanian listed companies. The changes in income taxation

provide a rich testing ground for the influence of tax reforms on dividend policy. Some non-tax control variables, like assets, market capitalization, debts and, also, GDP growth rate and market index, which might affect the corporate dividend payout, were analyzed, too. These variables increased the power of the regression tests and led to more significant results.

The dividend behaviour of the Romanian listed companies seems to be influenced by a number of variables, which do not differ substantially from what is common in the developed countries. The fiscal policy does not play a major role in the dividend decision making process. This result can be explained in two ways. Firstly, there is a hypothesis that fiscal policy is neutral. This neutrality can also be interpreted as an impossibility to change the behaviour of companies. Secondly, the results can be explained by the large number of companies that retain the entire incomes and do not pay dividends. Unfortunately, we can suppose that the regulations regarding taxes were implemented too late to improve the mechanisms of corporate finance.

However, the dividend payout policy was modified at the moment when the regulations related to the tax treatment of incomes changed, in 2005. In this context, we noticed that the Romanian companies have changed their behaviour only in this year, and not in 2000, too. This reaction can be a clue for the maturing of the Romanian economy from 2000 to 2005.

The dividend policy seems to have other causes. Here, the ownership structure appears to be very important. Moreover, the dividend policy of the Romanian companies is positively related to the gross incomes, and negatively related to the dividends from the previous year.

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7. References

Atkinson, A.B., Stiglitz, J.E., (1976), "The Design of Tax Structure: Direct Versus Indirect Taxation", *Journal of Public Economics*, Volume 6: 55-75.

Bekaert, G.; Harvey, C. R., (2000), "Foreign Speculators and Emerging Equity Markets", *The Journal of Finance*, 55: 565-613.

Black, F., Scholes, M. (1974), "The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns", Journal of Financial Economics, 1: 1-22.

Blouin, J.L., Raedy, J. S.; Shackelford, D. A., (2004), "Did Dividends Increase Immediately After the 2003 Reduction in Tax Rates?", *NBER Working Paper 10301*, http://papers.nber.org/papers/w10301.pdf.

Blume, M.E., (1980), "Stock return and dividend yield: Some more evidence", *Review of Economics and Statistics*, 62(1): 1-22.

Brennan, M.J., (1970), "Taxes, Market Valuation and Corporate Financial Policy", *National Tax Journal*, Dec. 1970: 417-427.

Charitou, A., Vafeas, N., (1998), "The Association between Operating Cash Flows and Dividend Changes: An Empirical Investigation", *Journal of Business Finance & Accounting*, 25: 295-249.

Chetty, R., Saez E. (2005), "Dividend Taxes and Corporate Behavior: Evidence From the 2003 Dividend Tax Cut", *The Quarterly Journal of Economics*, 120(3): 791-833.

Crockett, J., Friend, I., (1988), "Dividend Policy in Perspective: Can Theory Explain Behavior?", The Review of Economics and Statistics, 70(4): 603-613.

Diamond, P.A., Mirrless, J.A., (1971), "Optimal Taxation and Public Production I: Tax Rules", *The American Economic Review*, 61( )3: 261-278.

Dragotă, M., Semenescu, A., (2008), "A Dynamic Analysis of Capital Structure Determinants Empirical Results for Romanian Capital Market", *Theoretical and Applied Economics Journal*, 4 (521): 65-80.

Dragotă, V., (2003), "Politica de dividend: o abordare în contextul mediului economic din România", Editura ALL BECK, Bucureşti.

Dragotă, V. (2006), "Minority Shareholders' Protection in Romanian Capital Markets: Evidence on Dividends", *Euro-Mediterranean Economics and Finance Review*, 1(1): 76-89.

Dragotă, V., Dumitrescu, D., Ruxanda, G., Ciobanu, A., Braşoveanu, I, Stoian, A., Lipară, C., (2007), "Estimation of Control Premium: The Case of Romanian Listed Companies", Economic Computation and Economic Cybernetics Studies and Research, 41(3-4): 55-72.

Easterbrook, F., (1984), "Two Agency-Cost Explanations of Dividends", The American Economic Review, 74: 650-659.

Elton, E.J., Gruber, M. J., (1970), "Marginal Stockholder Tax Rates and the Clientele Effect", *Review of Economics and Statistics*, 52: 68-74.

Fama, E., Babiak, H. (1968), "Dividend Policy, an Empirical Analysis", *Journal of American Statistical Association*, pp.1132-1161.

Farrar, D., Selwin, L., (1967), "Taxes, Corporate Financial Policy and Return to Investors", *National Tax Journal*, 20: 444-454.

Fugaru, A., (2004), "Fiscal Adjustment in Hungary (1991-2003)", *Romanian Journal of Economic Forecasting*, 5(4): 21-39.

Gordon, R. H., Bradford, D.F., (1980), "Taxation and the stock market value of capital gains and dividends: Theory and empirical results", *Journal of Public Economics*, 14(2): 109-136.

Kalay, A., Michaely, R., (2000), "Dividends and Taxes: A Re-examination", *Financial Management*, 29: 55-75.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1998), "Law and Finance", The Journal of Political Economy, 106(6): 1113-1155.

Le Grand, J.(1987), "Equity, Well-Being, and Economic Choice", *The Journal of Human Resources*, 22(3): 429-440.

Lintner, J. (1956), "Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes", *American Economic Review*, pp: 97-113.

Litzenberger, R., Ramasvamy, K. (1979), "The Effects of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence", Journal of Financial Economics, 7: 163-195.

Miller, M. H. (1977), "Debts and Taxes", The Journal of Finance, pp: 261-275.

Miller, M. H, Scholes, M.S. (1982), "Dividends and taxes: Some empirical evidence", Journal of Political Economy, 90(6): 1118-1141.

Miller, M., Modigliani, F. (1961), "Dividend Policy, Growth, and the Valuation of Shares", Journal of Business, 4: 411-433.

Modigliani, F., Miller, M. (1963), "Corporate Income Taxes and the Cost of Capital: A Correction", American Economic Review, 53: 433-443.

Pattenden, K., Twite, G. (2008), "Taxes and dividend policy under alternative tax regimes",
Journal of Corporate Finance, 14(1): 1-16.

Peterson, P., Peterson D., Ang, J. (1985), "Direct Evidence of the Marginal Rate of Taxation on Dividend Income", Journal of Financial Economics, 14: 267-282.

Pettit, R. R. (1977), "Taxes, Transaction Costs and the Clientele Effect of Dividends", Journal of Financial Economics, 5: 419-436.

Poterba, J., Summers, L.(1985), "The Economic Effects of Dividend Taxation", in E. Altman and Subrahmanyam (eds.), *Recent Advances in Corporation Finance*, Homewood, IL, Dow Jones-Irwin, pp: 227-284.

Purfield, C. (2003), "Fiscal Adjustment in Transition: Evidence from the 1990s", *Emerging Markets Finance and Trade*, 39(1): 43-62.

Walter, J. E. (1956), "Dividend Policies and Common Stock Prices", *The Journal of Finance*, 11(1): 29-41.

Appendix 1

A brief presentation of income taxation regulations in Romania

In Romania, over the period 1998-2006, the income tax regulations had many changes, as presented in Table A1. Table A2 presents the tax incentives of incomes for the same period.

Table A1

The evolution of income taxation in Romania (1998-2006)

Year	Income tax rates
1998 – 1999	• 38% - general case; • 60% (38% + 22%) for gambling and night clubs. This rate was applied to the share of taxable incomes corresponding to these activities in total income[6]; • 44.2% (38% + 6.2%) for foreign legal person, through a permanent residence in Romania; • 25% for tax payers that obtain at least 80% from their incomes from agriculture.
2000 - April 2001[7]	• 25% - general case; • 50% (25% + 25%) for gambling and night clubs. This rate was applied to the share of taxable incomes corresponding to these activities in total income; • 10% for any equity increase from retain earnings, excepting legal reserves and positive differences from assets re-evaluations.
April 2001 – June 2002[8]	• 25% -general case; • 50% (25% + 25%) for gambling and night clubs. This rate was applied to the share of taxable incomes corresponding to these activities in total income; • 5% for any equity increase from retain earnings, excepting legal reserves and positive differences from assets re-evaluations; • 5% for taxable income from export activities[9].
June 2002 – December 2002[10]	• 25% - general case; • 5% for taxable income from free trade zones; • 6% for taxable income from export activities; • maximum between 5% applied to income from gambling, night club, disco and casino activities and 25% of taxable income from these activities.
2003[11]	• 25% - general case; • 5% for taxable income from free trade zones; • 12.5% for taxable income from export income share in total income;

[6] *According to G.O. No. 40/1998.*
[7] *According to G.O. No. 217/1999.*
[8] *According to Law No. 189/2001.*
[9] *Starting to 2002 incomes taxation quota for exports activities is 6%.*
[10] *According to Law No. 414/2002.*

Year	Income tax rates
	• maximum between 5% applied to income from gambling, night club, disco and casino activities and 25% of taxable income from these activities.
2004[12]	• 25% - general case; • 5% for taxable income from free trade zones;; • 10% for taxable income from export activities; • maximum between 5% applied to income from gambling, night club, disco and casino activities and 25% of taxable income from these activities.
2005-2006[13]	• 16% - general case; • maximum between 5% applied to income from gambling, night club, disco and casino activities and 16% of taxable income from these activities.

Table A2

Tax incentives for companies' incomes in Romania (1998-2006)

Year	Tax incentives
1997 - 1998[14]	• for companies that employed at least 3% handicapped persons, if they had more than 250 employees15; • 50% reduction for companies that obtained foreign currency income from export16; • 50% reduction for income allocated in the current fiscal year for technology or extension of activity, or for investments in environment protection17.
1999	• for companies which employed at least 3% handicapped persons, if they had more than 250 employees; • 50% reduction for income allocated in the current fiscal year for technology or extension of activity, or for investments in environment protection.
2000 – present	• Until 2002, the reduction with 50% of the income tax, for the part allocated for investments in tangible and intangible assets, in the same year that they were obtained. Moreover, some tax incentives were used in some special cases: for small and medium size enterprises (for employing handicapped persons or for those which increased the employees' number), for investments with a large impact on economy, for investments in under-developed areas etc.

[11] *According to Law No. 414/2002.*
[12] *According to Law No. 571/2003, representing the Romanian Fiscal Code.*
[13] *According to G.O. No. 138/2004.*
[14] *According to Law No. 73/1996.*
[15] *For monthly reductions.*
[16] *Monthly reduction, cumulated from the beginning of the year.*
[17] *Monthly reduction, cumulated from the beginning of the year.*

Appendix 2

Table A3: Descriptive Statistics

	(ΔLn(DIV$_t$))	ΔLn(CTB)	Ln(DIV)$_{t-1}$	ΔLn(GRE)	ΔLn(AST)	ΔLn(MKC)	ΔLn(DBT)	GDP	MIR
Mean	-0.23	0.06	11.15	0.19	0.22	0.46	0.18	1.03	1.13
Median	0.00	0.12	13.48	0.19	0.18	0.40	0.24	1.04	0.73
Maximum	24.86	5.76	25.41	4.00	2.21	4.72	2.11	1.08	2.96
Minimum	-23.50	-3.61	0.00	-3.65	-2.35	-4.99	-13.33	0.95	0.49
Std. Dev.	5.46	0.93	6.46	0.92	0.48	0.76	0.86	0.03	0.86

Appendix 3

Table A4: Fixed Effects

Firms	Equ.(1)	Equ.(2)	Equ.(3)	Equ.(4)	Equ.(5)	Equ.(6)
ALR	42.8987	20.7522	22.8645	15.6144	65.7690	9.9855
ARM	41.1767	13.9294	15.9600	10.6681	59.3891	6.8870
ARS	33.3401	7.6438	18.1386	2.9990	53.4967	1.1442
ASA	41.5626	16.6161	19.2168	12.6250	61.6305	8.3660
ATB			18.8274	12.3396	61.3986	7.2177
ASP	41.0829	16.5671	19.2152	12.6004	61.0527	7.8913
AZO	42.5053	18.3700	21.7336	13.6768	63.5161	9.7997
BRD	42.1632	22.0313	24.2993	16.1625	67.3236	11.6092
BRM	33.5924	7.9352	18.1911	3.5645	53.9166	1.3833
CBC	21.3267	-6.8763	3.8857	-10.8133	39.0199	-12.5660
CMF	41.7538	15.8015	18.1660	12.2735	61.0394	8.3072
CMP	30.8422	5.1534	15.4304	0.8471	50.9578	-1.7769
CPR	29.6249	0.8082	3.5037	-2.1089	46.3942	-5.2556
CRB	32.7670	6.4238	16.6489	2.3294	52.0720	-0.1271
EFO	36.8581	8.0209		6.9941		
ELJ	34.0308	8.0209	10.8053	4.5835	52.7689	0.3830
ENP	24.4175	-6.1237	3.9857	-10.4187	40.0411	-8.5866
EPT	45.9981	9.6278	10.4546	6.1255	55.5485	10.3519
EXC	33.3958	8.5730	11.4377	4.8977	53.1547	0.001
IMP	39.0975	13.6043	16.3617	10.5402	59.1064	5.7132
INX			17.6422	11.0122	60.1290	
MEF	42.4436	16.5464	17.3139	12.2533	62.1551	6.9043
OIL	43.2871	17.3455	18.0964	12.7371	63.5426	7.7137
OLT	41.9999	16.3721	17.3315	12.3392	61.2338	7.2481
PEI	41.9028	17.1676	19.7540	13.0718	62.2655	8.4933
PPL	33.2156	6.4935	16.4876	2.3397	52.7461	0.0864
PTR	28.6112			-1.9887		
RBR	42.0703	15.6267	13.2598	8.0601	58.4006	3.9331
SCD	25.8880	1.8894	3.8623	-2.1689	46.5523	-7.7101
SIF1	41.6496	16.5542	18.8827	12.5212	61.9422	8.4668
SIF2	41.9987	19.3606	22.0491	14.4837	64.3431	9.7946

Firms	Equ.(1)	Equ.(2)	Equ.(3)	Equ.(4)	Equ.(5)	Equ.(6)
SIF3	41.9901	19.2338	21.9092	14.4733	64.2535	9.7978
SIF4	41.2254	18.6866	22.2444	14.7059	64.5047	9.9462
SIF5	42.0123	19.2220	21.8648	14.4802	64.2131	9.6672
SNO	39.9187	14.3887	16.7375	10.5796	59.4925	6.4217
SNP	35.0734	3.7623	5.7099	11.6920	48.8090	-8.3052
SRT	32.4522	5.1738	13.8822	1.4982	50.7576	-0.6403
STZ	30.3816	4.5142	14.9140	0.0641	50.2027	-1.6606
TMB	33.8219	8.6870	18.6532	4.4701	54.5642	1.2326
UAM	30.3956	2.8014	12.9715	-1.0498	48.7029	-2.5806
ZIM	34.4153	9.4342	15.3564	4.7531	54.6100	2.1329