A Dynamic Analysis of Capital Structure Determinants. Empirical Results for Romanian Capital Market

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Abstract. *The analysis of capital structure and its determinants represents an useful approach for the Romanian and foreign investors and for the companies, at the same time. The main conclusion for capital structure analysis was that Romanian listed companies sustained their assets, in this order, on equity, commercial debt and, finally, on financial debt. The four variables used in the regression model are significant. The pecking order theory seemed to be more appropriate for the Romanian capital market, but the signalling theory was not entirely rejected.*

Key words: leverage; determinants for capital structure; signalling theory; pecking order theory; information asymmetry.

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1. Informational asymmetry in financial management

The informational asymmetry is present in any economy and creates distortion for companies and investors at the same time; the investors are mostly affected because they must make the right choice for their own financial resources. The asymmetrical information phenomenon is present in a developed country and more or less in a developing one: some investors are more informed than others, and, in this case, the market efficiency hypothesis is put under question. Signalling models through capital structure were created starting with the 70s, but this theory had the starting point on other markets, like the products market (Akerlof, 1970) and the labour one (Arrow, 1972), further developed in Spence's equilibrium theory, referring to job market signalling. The first applications of the signalling theory in finance were the studies of Leland and Pyle (1977), Ross (1977) and Bhattacharya (1979), considered classical in this field.

The financial literature developed in the two principal directions: signalling theory (Ross, 1977) and pecking order theory (Myers, Majluf, 1984). Each company must target to raise its own market value. If it has good financial results, it will pay significant dividends and its debt services without financial distress. If the financial results are not so good, the managers could try to "create" a good image for their company, to prevent the investors from distinguishing one from another.

At least two types of financial signals can be used: capital structure and the investors will understand from this combination of resources the financial firms' power and dividend distribution rate, and through its level and its dynamic in time, the investors could understand what the public financial documents could not transmit.

2. International empirical studies for signalling theories through capital structure

One of the most significant contributions in the "signalling with proportion of debt" area belongs to Ross (1977). Managers know the true distribution of firm returns, but investors do not. Managers will gain if the securities of the firm are higher valued by the market, but are penalized if the company goes bankrupt. Investors take larger debt levels as a signal of higher quality. Ravid and Sarig (1989) considered a combination of debt and dividend commitment. They showed that both dividends and debt level increased with firm quality (Harris, Raviv, 1991, pp. 297-355). Since lower quality firms had higher marginal expected bankruptcy costs for any debt level, managers of low quality firms did not imitate higher companies by issuing more debt.

Another model that used debt as a signal belonged to Poitevin (1989), which involved potential competition between an existing company and an entrant. The entrant's marginal costs are privately known by the entrant. In equilibrium, low cost entrants signalled this fact by issuing debt, while the existing company and high costs entrants issued only equity. The costs of issuing debt made the firm vulnerable to predation by the other firm, possibly resulting in bankruptcy of the debt-financed firm. The benefit of debt

will be that the financial market will place a higher value on the debt financed firm since it believes such a firm has a low cost. High cost entrants will not issue since the resulting probability of bankruptcy due to predation by the existing company renders the cost of misleading the capital market too high. The most important result was that issuance of debt was good news for the financial market.

Leland and Pyle (1977) model had as main hypothesis the impact of firm leverage on the proportion of risky equity retained by the manager. The larger equity share reduced managerial welfare due to risk aversion, but the decrease was smaller for managers of higher quality projects. Thus, managers of "good" companies could signal this fact by having more debt, in equilibrium. The investors, according to the Leland and Lyle model, will understand, from the issue of the new debt, not only an appropriate level of earnings to support the interest expenses associated to leverage, but they will also know the degree of firm manager's implication, as a shareholder, sustaining his good activity.

Myers and Majluf (1984) assumed perfect financial markets, except that investors do not know the true value of either the existing assets or the new opportunity. Therefore, investors could not precisely value the securities issued to finance the new investment. The two authors assume that managers act in the interest of existing shareholders and refuse to issue undervalued shares unless the transfer from "old" to new stockholders is more than offset by the net present value of the growth opportunity.

The information advantage of the corporate managers will be minimized by issuing debt. Optimistic managers, who believe the shares of their companies are undervalued, will prefer immediately to issue debt and to avoid equity issue. Only pessimistic managers will want to issue equity, but who will buy it? (Myers, 2001). Equity issues will occur only when debt is costly (for example, when the firm is already at a dangerously high debt ratio, where managers and investors foresee costs of financial distress). If internally generated cash flow exceeds capital investment, the surplus is used to pay down debt rather than repurchasing and retiring equity. As the requirement for external financing will increase, the firm will work down the pecking order, from safe to riskier debt, perhaps to convertible securities or preferred stock and finally to equity as a last resort (Myers, Majluf, 1984).

Campbell (1979) supposed that companies had private information which could be transferred, costly, to the market. The author conferred an important role to the financial intermediaries, in order to avoid the informational asymmetry distress. The firms could transmit the private information to these intermediaries, with no danger that will be found out by their competitors. In this manner, the investment projects could be financed by the banks without distortions for the existing shareholders. This study was developed one year after by Campbell and Kracaw (1980). The model did not analyse the impact of the equity issue on the market price of the company, taking into consideration the same informational asymmetry.

Bhattacharya and Ritter (1983) had debated the problem of information quantity

which could be transmitted to the firm's investors, as it is known that this information will be at the competitors' disposal, too. The authors developed a model to reveal some communication channels with the investors about the value and the firm perspectives, but without revealing them to the competitors (Myers, Majluf, 1984).

Rendleman (1980) emphasized that firms with undervalued shares will prefer debt, but he didn't analyse the capital market response for the debt issuance, as, in parallel, for equity issuance.

Because the aim of this study is to identify the determinants of capital structure for the Romanian listed companies, in this part we will make a review of these empirical evidences. The previous empirical research of corporate capital structure considered as reference study in this field has been mainly focused on G7 countries and has found the following variables as being most consistently related to the corporate capital structure: tangibility, size, profitability and growth opportunities.

Ever since Myers' article on the determinants of corporate borrowing, the literature on the determinants of capital structure has grown steadily (Myers, 1984). Titman and Wessels' article on the determinants of capital structure choice took several attributes of firms as asset structure, non-debt tax shields, growth, uniqueness, industries classification, size, earnings, volatility and profitability, but found only uniqueness as highly significant (Titman, 1988). But Harris and Raviv (1991), in their most important article on the subject, pointed out that the consensus among financial economists was that leverage increased with fixed costs, non-debt tax shields, investment opportunities and firm size. Leverage will decrease with volatility, advertising expenditure, and the probability of bankruptcy, profitability and uniqueness of the product. Moh'd, Perry, and Rimbey (1998) employed an extensive time-series and cross-sectional analysis to point out the impact of agency costs and ownership concentration on the capital structure of the firm. The results indicated that the distribution of equity ownership is important in explaining overall capital structure and that is the reason why managers will reduce the level of debt as their own wealth is increasingly tied-to the firm (Pao et al., 2003).

In more recent articles, it seemed that financial decisions in the developing countries were somehow different (Mayer, 1990). Rajan and Zingales (1995) found that leverage increased with asset structure and size, but decreased with growth opportunities and profitability. Again firm leverage was fairly similar across the G-7 countries. Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001) took tax rate, business risk, asset tangibility, firm size, profitability, and market-to-book ratio as determinants of capital structure across ten developing countries. They found that long-term debt ratios decreased with higher tax rates, size, and profitability, but increased with tangibility of assets. Again the influence of the market-to-book ratio and the business-risk variables tended to be subsumed within the country dummies.

Moreover, in the time-series tests, Shyam-Sunder and Myers (1999) showed that many of the current empirical tests lack

sufficient statistical power to distinguish between the models. As a result, a recent empirical research had focused on explaining the capital structure choice by using cross-sectional tests.

3. The capital structure analysis for the Romanian listed companies

Generally, the theories based on asymmetrical information had, as a hypothesis, the fact that managers and other insiders had private information on the expected returns and the quality of future investment opportunities. The two principal theories mentioned above, the signalling theory and the pecking order theory had different perspectives on the signalling instruments: by issuing new debt, or by financing investment opportunities based on their own financial resources.

The aim of this first study was to emphasize which is the most appropriate theory for the Romanian listed companies. This study was based on median values for three variables:

1. equity/total assets (E/AT);
2. financial debt (with interest expenses associated)/total assets (DFIN/AT);
3. commercial debt/total assets (DCOM/AT).

The sample contained companies listed on Bucharest Stock Exchange for the period 1997-2005. The number of firms considered in the database was different from one year to another, because of the aspects we dealt with in applying the working principles – financial, accounting and statistics – characterizing the testing methods applied.

Firstly, all the companies included in the category "banks and financial services" were eliminated (according to the classification in the monthly bulletins of the BSE) because of the specific regulation regarding their activity, the leverage of these companies being strongly influenced by exogenous factors, and we focused exclusively on the companies considered "non-financial".

Secondly, we eliminated the companies for which we didn't have enough information to perform the study rigorously. All the information was obtained from the following sources:

- the internet sites providing stock exchange information such as *www.bvb.ro* and *www.kmarket.ro*, where we found the data for determining the market capitalization of the companies listed on BSE (number of shares, moments when the modifications of equity took place, mergers, etc.), but also a part of the financial and accounting information necessary (balance sheets, incomes and expenses account for the years 2000 and 2001);
- the database provided by Reuters Press Agency regarding the market prices of the companies from the sample to determine the market capitalizations;
- the financial and accounting information obtained from the site of the Romanian Ministry of Finance.

The median values, for the period 1997-2005 are presented in table 1.

Total assets financing for the Romanian listed companies for the period 1997-2005

Table 1

YEAR	MEDIAN VALUES (%)			
	E/AT	DFIN/AT	DCOM/AT	TOTAL DEBT
1997	60,79	0,44	13,90	14,34
1998	69,93	6,24	22,46	28,7
1999	59,70	7,51	24,64	32,15
2000	60,84	5,00	25,60	30,6
2001	66,81	2,96	22,14	25,1
2002	60,87	7,25	22,26	29,51
2003	67,96	7,54	18,82	29,36
2004	63,16	1,91	28,81	36,84
2005	69,93	2,25	27,79	30,07

The most important conclusion is that the main financial resources for the Romanian listed companies remain the equity. Moreover, over 70% of the Romanian companies support their assets on equity over 50%, with growth tendency in 2001.

The information from Table 1 could sustain the *pecking order theory*, because their own resources are the most important in the capital structure architecture. Other argument for this first conclusion is the result which revealed that over 45% from the Romanian listed firms didn't make any equity issue, through capital market and, until the beginning of 2006, only 2 companies made public offerings from the moment of their listing.

The results for Romanian listed companies are concordant with Booth, Aivazian, Demirguc – Kunt and Maksimovic (2001) study for 10 developing countries. This study revealed that, without the South Correa case (considered the most developed country from all the ten countries analyzed), all had less leverage (both in market and in book value) than the median values for the G-7 countries considered in the study of Rajan and Zingales (1995).

Moreover, the study underlined the fact that the differences between total debt and long term debt were more emphasized in the developing countries than in the developed ones. The developing countries had medium and long-term leverage much lower than the developed ones.

The Romanian firms prefer private financing instead of the public one and we could find al least two possible explanations for this trend:

- The Romanian capital market remains an emergent one, insufficiently developed to support the investment project financing. The most important role of this market is still the speculative one, to have high capital gains in short time, if it is possible;
- The ownership structure for the most part of the Romanian listed companies reflects the presence of significant shareholders, and they are not very interested in supporting the investments from the equity issue. If they must choose an external source of financing, the bank loans are, in many cases, preffered. This ownership structure could be taken into

consideration by a new investor when he becomes a minority shareholder in one Romanian listed firm: in the absence of dividends, the key of success could be the making up of coalitions with other (minority) shareholders or to focus on capital gains.

Dragotă (2005) identified this trend for the Romanian listed firms: as long as these companies had significant shareholders, the dividend ratio had low values, even if the same study stated that Romania made important steps for the minority shareholder protection. According to La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) index, Romania had a level of 2.75. The author appreciated that the investor's education is very important in the sense of knowing their rights and their interest in their protection.

The Romanian companies adopt external financial support only in a proportion varying between 15%-32%, and the most important sources are bank and commercial loans, because the bond market is insufficiently developed(1). Since financial debt had interest expenses associated, and the fiscal argument could influence the companies' capital structure decision, it is appropriate to analyse the fiscal changes for the period 1997-2005:

- On the 1st of January 1997, the total deductibility for interest expenses was adopted. Until this moment, the regulation permitted only limited interest expenses deductibility. This change in fiscal regulations didn't appear to influence the level of debt, only if the analysis was made with 1 lag, since in 1998 the proportion of financial debt in total assets had rise significantly;
- Starting with the year 2002, the fiscal regulations reintroduced the limited deductibility for these expenses, taking into consideration the level for leverage: more or less 100%(2):

$$\text{Leverage} = \frac{\text{Debt}_0 + \text{Debt}_1}{\text{Equity}_0 + \text{Equity}_1}$$

$$\text{Interest expenses}_{\text{deductible}} = \left\{ \begin{array}{c} \text{IE}_{\text{total}} \text{ if } L < 1 \\ \text{Income}_I + 10\% \times (\text{Total income} - \text{Income}_I), \text{if } L > 1 \end{array} \right\},$$

where: IE_{total} = total level of interest expenses;

$Income_I$ = total level of firm income;

L = leverage.

This fiscal regulation change didn't seem to influence the level of leverage, because the variable grew from 3% in 2001 to 7% in 2002, with the aproximately the same level in 2003.

- Starting with 2003, the interest expenses are totally deductible if the leverage has a level less than 3(3) if it is greater than 3, these expenses are not deductible, and they will be transferred to the next financial exercises.

Since the Romanian listed companies seemed to act according to pecking order principles, it would be interesting to verify

if, for the same analyzed period, these firms had financial exercises with profit or loss. If they had profits, it means that they had their own resources to support the investment project. The results for this study are the followings:

- In the year 1997, out of 51 listed companies, 9.8% had losses, and they all had financial debt, so without interest tax shields and with greater danger of financial distress;
- In the year 1998, out of 54 listed companies, 22% had losses and only one company didn't have financial debt;
- In the year 1999, out of 51 listed companies, 13.8% had losses and only one company didn't have financial debt;
- In the year 2000, out of 58 listed companies, only one had losses, and only one had financial debt;
- In the year 2001, out of 58 listed companies, 22.4% had losses and only two companies didn't have financial debt;
- In the year 2002, out of 52 listed companies, 21.15% had losses and all of them had financial debt;
- In the year 2003, out of 53 listed companies, 22.64% had losses and only two companies didn't have financial debt;
- In the year 2004, out of 40 listed companies, 8% had losses, and only one didn't have financial debt;
- In the year 2005, out of 44 listed companies, 18% had losses, and only one didn't have financial debt.

The years 2000 and 2004 had the lowest leverage for medium and long-term, but the values rose almost constantly during the last years. That is why, the creditors didn't seem to restrict significantly their debt policy, even if the financial variables had not an appropriate trend, in time. It is difficult to say if 20% of the number of companies with losses has represented a significant number or not, taking into consideration the fact that Romania is still an economy in transition, but 60% - 70% from their assets have been financed through their own financial resources.

Moreover, in Romania, as in other developing countries (ex-communist ones), the companies develop special relationships with banks, which protect their investment by according short-term credit loans, but they didn't take drastic measures, as not to credit the Romanian companies.

4. The determinants for capital structure for the Romanian listed companies

4.1. The variables used in the regression model

Modigliani and Miller (1958) emphasized that the value of a company is independent on its capital structure in some hypotheses associated to the model they built. The internal financing can be substituted by the external one, obtained on a capital market that functions perfectly, in an economy with no transaction or bankruptcy costs without tax distortions, the exploitation activity of the firm is also independent on the financing alternative

chosen. Relaxing these hypotheses, in several empirical studies for developed or emerging countries, the conclusion was that the financing structure becomes relevant. Moreover, some companies could encounter restrictions regarding the access to the external financing, and the costs of the alternative forms of financing can be very different. In a real capital market the firms must establish a certain proportion for debt and equity to obtain an optimal capital structure (Dragota, 2006).

The study of Rajan and Zingales (1995) on the case of the G-7 countries identified that the leverage:

- is positively correlated to the percentage of tangible assets in the total assets;
- is positively correlated to the company's size, quantified by the commercial turnover;
- is negatively correlated to the profitability;
- is negatively correlated to the value of the indicator "market-to-book-ratio", quantifying the growth opportunities of the company.

In addition, the authors of the study revealed a certain variability of the results depending on the leverage measurement; there were differences according to the use of the short time leverage or of the long time leverage. This is the reason why three indicators for the leverage were used, especially for the Romanian case where the commercial debt is prevalent:

1. the total leverage;
2. the medium and long-term liabilities (as percentage of total assets);
3. the commercial liabilities (as percentage of total assets).

Since the sample contains companies listed on BSE, the study will be realized at two levels: based on accounting values of the indicators, determined using data from the balance sheet and profit and loss account, but also on market values, by using the market capitalization instead of equity (from the balance sheets).

The aim of this study is to determine, firstly, if the information asymmetry influences the Romanian capital market through the capital structure, and secondly, which of the two main development directions of this theory suits better for Romania – the signalling theory or the pecking order theory. The result sustains, mainly, the second one.

The explanatory variables considered in the regression model were:

A. Tangible assets

The structure of the assets has a direct impact on the capital structure; companies with more tangible assets have a higher probability to receive bank credits or to issue bonds. If banks do not have sufficient information regarding the companies claiming credits, they will allow less financing to those having more intangible assets. Hence, a positive correlation between tangible assets and leverage will reveal the presence of informational asymmetry.

The studies realized by Titman and Wessels (1988), Rajan and Zingales (1995), Fama and French (2000) argued that the variable *tangible assets/total assets* should be taken into consideration when analysing the determinants of the financial structure, but the sign of its influence is not clear.

Galai and Masulis (1976), Jensen and Mecking (1976) and Myers (1977) argued that the shareholders of a leveraged company tend to invest excessively, generating the classical conflict between shareholders and creditors. However, if there are certain real guarantees, the debtor could be "hold" from investing in risky or inefficient projects. In these conditions, the pecking order theory identified a positive correlation between the percentage of these assets in the total assets and the leverage.

B. The size of the company

The level of the turnover is considered positively correlated to the leverage. The company with a big turnover will face with fewer problems regarding the information asymmetry than the small ones. Moreover, it is considered that the big companies have a stronger base for diversifying the investment projects and for limiting the risk of cyclic fluctuations (Warner, 1977, Ang, Chua and McConnel, 1982, Titman and Wessels, 1988). As a measure for the company size in the regression model, the commercial turnover was used for each company *i* in the year *t*.

C. The profitability

There are more points of view regarding the type of correlation between profitability and the leverage of the company. According to the pecking order theory a negative value of the correlation coefficient is expected between them. On the other hand, authors like Ross (1977) or Leland and Pyle (1977) sustained that the capital structure represents an instrument of signalling the performances and the perspectives of the company, and this is the reason why a *positive value of the correlation coefficient* between the two variables is expected.

The indicator for quantifying the performances of a company, used in this empirical study, has the following formula:

$$PROF = \frac{EBIT}{TOTAL\ ASSETS}$$

This indicator will emphasize the efficiency of using the assets of the company.

D. The growth opportunities

Rajan and Zingales (1995) suggested that *a negative correlation* should be identified between "market-to-book-ratio" indicator and debt, according to the agency theory developed by Jensen and Meckling (1976), but also with Myers' theory (1977), that argues that companies with a high leverage tend to abandon more viable investment projects.

Moreover, these companies, if they did not manage to transform the opportunities in real investments, could avoid being leveraged, and if we associate the investment opportunities with more intangible assets, than the explanation for negative correlation between tangible assets and leverage could be found.

The international studies results are mixed. According to the pecking order theory, a *positive correlation* between leverage and growing opportunities could be explained. Thus, the debt rose when the internal financing resources were not enough for investment and diminished when these were sufficient.

The Romanian firms take into consideration the present costs associated with leverage, but also the future ones. Making an arbitrage between the two costs,

the companies with consistent growth opportunities could decide to maintain the current low level of leverage, in order to avoid, in the future, the equity issue for financing investments or to abandon these projects.

In order to measure this independent variable, the following formula was used:

$$MBR = \frac{\text{Total assets - Equity}_{\text{accounting values}} + \text{Equity}_{\text{market values}}}{\text{Total assets}}$$

4.2. The regression model

The aim of the present study is testing the significance of the four explanatory variables selected for the analysis of the capital structure determinants based on linear multiple regression model. The dependent variable is the leverage, measured by the three indicators defined above, and the independent variables are: tangible assets, size, profitability and market-to-book ratio.

The basic regression model using panel data is as follows:

$Y_{it} = \alpha_i + \beta_{1i} \times X_{1it} + \beta_{2i} \times X_{2it} + \beta_{3i} \times X_{3it} + + \beta_{4i} \times X_{4it} + \varepsilon_{it}$,

where:

t = 1 … T (time period), i = 1…n cross-sectional observation unit in the sample;

b_i are parameters that will be estimated. In X_{it} there are four explanatory variables, without constant term;

α_i is the individual effect, which is assumed to be constant in time;

ε_{it} is a stochastic error term assumed to have a zero meaning and a constant variance.

4.3. The regression model results

The results are comparable to the ones obtained by other studies made on developed countries, but also on emerging ones (Rajan and Zingales (1995) for the G-7 countries; Drobetz and Fix (2003) for Switzerland; Chen, Lensink, Sterken (1998), on the German case; Devic and Krstic (2001), on Poland and Hungary cases; Bevan and Danbolt (2000), for the case of the Great Britain).

For the Romanian case, the independent variables selected explain in a significant proportion the evolution of the total debt, but also the commercial debt. The four determinants explain between 22% and 57% of the *total leverage* variation for the accounting values indicators, respectively between 19% and 51% for the market values.

Regarding the *commercial debt,* the four indicators explain between 20% and 58% from its variation if we compute the indicators in accounting values, respectively between 12% and 52%, if we use the market values.

We will further follow the sign and the intensity of the influences of the four determinants, comparing the results obtained with international studies.

The sign of the correlations with the explanatory variables in the model for the period 1997-2003

Table 2

Indicators	Theory	Total DEBT		DFIN/AT		DCOM/AT	
		Account. values	Market values	Account. values	Market values	Account. values	Market values
PROF	+ / -	-*	-*	- / +	- / +	-*	-*
TANGIBLE ASSETS	+	-*	-	- / +	- / +	-*	-
LN(SIZE)	+	+	+ / -	+	+*	-	-*
MBR	+ / -	+	-*	- / +	-	+	-*

The sign of the correlations with the explanatory variables in the model for the period 2004-2005

Table 3

Indicators	Theory	Total DEBT		DFIN/AT		DCOM/AT	
		Account. values	Market values	Account. values	Market values	Account. values	Market values
PROF	+ / -	-*	-*	-	-	-*	-*
TANGIBLE ASSETS	+	-*	-	-/+	-/+	-*	-
LN(SIZE)	+	+*	+*	+*	+*	+*	-
MBR	+ / -	+	+	+	-	-*	+

These results confirmed that there were no clear influences for leverage (Dragota, 2006). The analyse should be realized separately for medium and long-term debt, mainly associated to interest payments, and for commercial debt, that is mainly, in Romania, short time debt (shorter than 1 year), and carrying no interests. We already noticed that the Romanian companies listed on BSE (and not only these ones) were financed through commercial debt. Their value rises when the asymmetry is stronger, because the creditors find it more difficult to distinguish between "good" and "bad" companies.

The signs of the coefficients presented above could be understood as follows:

1. The profitability: excepting the year 1997, for which a positive correlation with the total and commercial leverage can be noticed, but statistically insignificant, in all the other cases, the correlation is negative, for accounting values, but also for the market ones. This sustains the conclusions of the pecking order theory.

As for the financial debts, this variable is not statistically significant. There are only two exceptions, respectively 1998 and 2001, when the performances could send a message through the leverage.

2. Tangible assets (as a percent of total assets): the financial theory mainly sustains a positive correlation between them and the leverage. In the Romanian case, when the variable is statistically significant, the correlation is negative. However, the results should be carefully analysed for the Romanian companies having a great proportion of non-banking debt. Hence, the conclusion of a negative correlation with the commercial debt, and, respectively, with the total debt (in which, the former are

predominant) is logical, because this is how the companies finance the investments in current assets, while the financial debt is used to finance the fixed assets. Moreover, the Romanian companies decided to finance their fixed assets from their own resources, because the interest rate for the investment credit was very high, in the first five years, at least.

3. Size is positively correlated to the financial debt, fact that showed the importance of the capital market imperfections, and, at the same time, the applicability of the signalling theory (and of the trade-off theory for the big companies considered less exposed to the bankruptcy risk). The big firms sent a more direct signal to the creditors and could obtain a credit more easily, especially in the context where a bigger turnover is associated to a smaller risk exposure. Also, we can argue, based on the pecking order theory, that a bigger company "communicates" more easily with the potential investors and, could contract fewer credits and use even a bond or equity issuance. But we noticed that the Romanian companies listed on BSE are hold in a significant proportion by controlling shareholders and, for them, stock cash operation does not represent an attractive solution.

The conclusions were changed when we focused on the commercial debt, with negative and statistically significant correlation. This conclusion is partially similar to those of the financial debt: if the big companies contract banking credits, the small companies will have "entrance barriers", and the solution will be the commercial debt.

For the period 2004-2005, the size of the firm is positively correlated to the leverage, for the financial debt, but also for the total debt and the commercial debt. This conclusion sustained the hypothesis both of market imperfections and of the signalling theory.

It can also be analysed in correlation with the rise of the commercial debt importance in the total assets of the companies for this period (see table 1) and with the reducing of financial debt proportion. The explanation can be the still tough credit conditions that do not allow the increasing of the financial debt, but also the growth of the commercial credit period allowed by suppliers due to the fact that the economy has stabilised for the last few years and the agents have good expectances on the economic growth in the future.

4. Market-to-book-ratio: the correlation is negative and statistically significant for the market values, no matter the kind of debt we referred to. For the book values, there were positive, but also negative correlations, but in most cases they are not statistically significant. While the positive correlation sustained the signalling theory, the negative one supported the pecking order theory. The two theories are not necessary opposite: the manager could establish the appropriate leverage, but he will find it very difficult to recurrently "manipulate" the market value of the company. The highly leveraged companies (in accounting values) send the performance signal and the market "rewards" them through greater values of the "market-to-book-ratio". A higher value for the MBR is equivalent to a small value of the leverage, in market values (through higher market

capitalization, with a constant value for debt). The companies with good growth opportunities will offer greater gains to shareholders than to creditors, fact that sustained the hypotheses of the pecking order theory (Chen et al., 1998).

The correlation of this variable, in market values, with the medium and long-term leverage is mainly negative. This correlation has confirmed, on one hand, the trade-off theory, that explains why the companies with growing opportunities are more exposed to the bankruptcy risk, and, thus, they will be less credited, and, on the other hand, the predictions of Barclay and Smith (1995), that this kind of companies, if they need financing by debt, will prefer short time credits or commercial debt, demanding less restrictions, in order to save the future flexibility for debt.

Indeed, if the sign of the correlation coefficients with the total leverage and with the current one will be analyzed, the positive correlations are more frequent, especially if we refer to the accounting values of these variables.

5. Conclusions

Generally, the results for Romania are in accordance with those for the developed countries, but the sign of certain correlations were sometimes surprising and one of the possible explanations is that the companies from the developing countries appealed more frequently to short-term credit and commercial debt, and had other determinants than the long-term debt.

The general conclusion is that the Romanian capital market faced the information asymmetry problem, and from a more analytical perspective on this phenomenon we could said that the Romanian listed companies used more a financing policy according to the pecking order theory principles than the one based on the signalling one. The financing decision at micro-economic level is strongly influenced by the evolution of macro-economic indicators (inflation, interest rate, economic growth), as well as by corporate governance problems that Romania, practically has not solve yet, although the regulation can be a starting point in this direction.

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Notes

(1) According to Bucharest Stock Exchange monthly bulletin for September 2006, there are 11 municipal bonds and 6 corporate bonds, with the most recent maturity in this month.

(2) According to the Law no. 414/2002 and for the earnings taxation.

(3) According to the Law no. 494/2004.

References

Akerlof, G., „The Market for 'Lemons' Qualitative Uncertainty and the Market Mechanism", *Quaterly Journal of Economics*, 84, 1970

Ang, J. S., Chua, J.H., McConnell, J.J., „The Administrative Costs of Corporate Bankruptcy: A Note", *Journal of Finance*, 1982, pp. 219-226

Arrow, K. (1972). „Some Models of Racial Discrimination in the *Labor Market,* in A.H.Pascal (editor) – Racial Discrimination in Economic Life, Lexington, Mass., Heath

Barclay, M., Smith, C. Jr., „The maturity structure of corporate debt", *Journal of Finance*, no. 50, 1995, pp. 609-631

Bevan, A., Danbolt, J., „Capital Structure and its Determinants in the United Kingdom. A Decompositional Analysis", *Working paper*, 2000

Bhattacharya, S., „Imperfect information, dividend policy, and "the bird in the hand" fallacy", *The Bell Journal of Economics*, vol. 10, no. 1, 1979

Booth, L., Aivazian, V., Demirg¨u¸c-Kunt, A., Maksimovic, V., „Capital structure in developing countries", *Journal of Finance*, no.56, 2001, pp. 87-130

Chen, L., Lensink, R., Sterken, E., „The Determinants of Capital Structure: Evidence from Dutch Panel Data", *Working paper*, 1998

Conform Buletinului lunar publicat de BVB pe luna Septembrie 2006, sunt listate 11 obligațiuni municipale și 6 obligațiuni corporative, cea mai apropiată scadență fiind în luna respectivă

Dragotă, M. (2006). *Decizia de investire pe piața de capital*, Editura ASE, București

Dragotă, V., „Minority shareholders' protection in Romanian capital markets: evidence on dividends", *3rd International Conference*, IFC 3, Hammamet, 2005, Tunisia

Drobetz, W., Fix, R., „What are the Determinants of the Capital Structure? Some Evidence for Switzerland", *Working paper*, no. 4, 2003

Galai, D., Masulis, R.W., „The option pricing model and the risk factor of stock", *Journal of Financial Economics*, no. 3, 1976, pp. 53-81

Harris M., Raviv, A., „The Theory of Capital Structure", *The Journal of Finance*, vol. 46, no.1, 1991, pp. 297-355

Jensen, M. C., Meckling, W.H., „Theory of the firm: Managerial Behavior, Agency Costs and Ownership Structure", *Journal of Financial Economics*, Vol. 3, 1976, pp. 303-360

La Porta, R. Lopez-de-Silanes, F., Shleifer, A., „Law and Finance", *The Journal of Political Economy*. Vol. 106, No. 6, 1998, pp. 1113-1155

Leland H., Pyle, D., „Information Asymmetries, Financial Structure and Financial Intermediation", *The Journal of Finance*, no. 32, 1977

Mayer, C. (1990). *Financial Systems, Corporate Finance and Economic Development*, in G. Hubbard (ed.), Asymmetric Information, Corporate Finance and Investment. Chicago: The University of Chicago Press.

Moh'd, M., Perry, L., Rimbey, J., „The Impact of Ownership Structure On Corporate Debt Policy: a Time-Series Cross Sectional Analysis", *Financial Review*, Vol. 33, 1998

Myers, S., „Capital Structure", *Journal of Economic Perspectives*, vol. 15, no. 2, 2001, pp. 81-102

Myers, S., „Determinants of corporate borrowing", *Journal of Financial Economics*, no. 5, 1977, 147-175

Myers, S., Majluf, N., 1984, „Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have", *Journal of Financial Economics*, no. 13, 1984, pp. 187-221

Pao, H.T., Pikas, B., Lee, T., „The determinants of capital structure choice using linear models: high technology vs. traditional corporations", *Journal of the Academy of Business and Economics,* 2003

Poitevin, M., 1989, „Financial signalling and the «deep-pocket» argument", *Rand Journal of Economics*, no. 20, 1989, pp. 26-40, *apud* Harris și Raviv [1992]

Rajan, R., Zingales, L., „What Do We Know about Capital Structure? Some Evidence from International Data", *Journal of Finance*, vol. 50, no. 5, pp. 1421-1460

Rendleman, R.J., „Information asymmetries and optimal project financing", *Working Paper*, Duke University Graduate School of Business, 1980

Shyam-Sunder, L., Myers, S.C., „Testing static tradeoff against pecking order models of capital structure", *Journal of Financial Economics,* no. 51, 1999, pp. 219-244

Spence, M., „Job Market Signalling", *Quaterly Journal of Economics*, no. 87, 1973

Titman, S., Wessels, R., „The Determinants of Capital Structure Choice", *The Journal of Finance*, no. 43 (1), 1988, pp. 1-19

Warner, J., „Bankruptcy costs: Some Evidence", *The Journal of Finance*, vol. 32, no. 2, pp. 337-347

www.bvb.ro.

www.kmarket.ro

www.mfinante.ro