Determinants of Capital Structure: a Future Comparison between the United States, Germany and Hungary

ÁGOTA KRÉNUSZ

Ph.D. Student

Institute of Finance

Corvinus University of Budapest

1   Introduction

In a firm the Chief Financial Officer has to make two kinds of decisions. First he has to decide whether an investment shall be made or not. These choices are called investment decisions. To have the right choice the CFO has to use the so called Net Present Value rule. An investment is accepted if its Net Present Value is positive, otherwise not.

The accepted investments have to be financed by the firm. So financial decisions have to be made to decide what source of finance can be used for a certain investment. The two main parts of financial decisions are: Capital Structure Policy and Dividend Policy.

Capital Structure Policy shows how the free cash flow of the firm is divided among the investors: shareholders, lenders (bond owners, banks), state (tax) etc.

Since there are many choices to choose the right source of finance (the investor), the main problem of the CFO is the decision itself: Which source to choose? So: how to create the best capital structure, which maximises the firm's value? Maximization of firm value is only possible with the adaptation to the internal and external environment.

In my paper after taking a short glance at the widespread sources of capital, I review what experts say about optimal capital structure. Does it exist at all?

In the next part I analyze macrofactors. These show the dependence of capital structure decision on the external environment. These factors usually explain differences between regions or countries.

Third part deals with the so called microfactors. Microfactors show the dependence of capital structure decision on internal factors.

In the last part of the paper I present the results of empirical analysis I prepared on the Standard and Poor's Database.

Conclusions are drawn in Chapter 5.

EFM code: G32: Financing policy, capital and ownership structure

2 Definitions

2.1 Capital Choice

Capital Choice is the dilemma which the CFO has to face. With the evolution of financial engineering more and more financial instruments have become popular and widely used. Each of them has advantages and disadvantages, this is why the decision is not easy. Below is simple figure showing two easy ways to group financial assets.

Figure 1: *Sources of Capital*
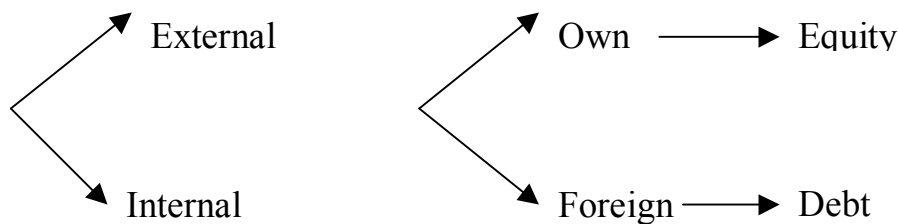
Let us see some examples so that we realize how tough the financial officer's situation is. By internal financing the capital comes from previous years' profit. When there is no accumulated profit the firm hast to get capital from outside, this is called external financing. External financing has various forms. One is equity financing that is issuing shares. This is external own financing. Other one is getting a loan form a bank or issuing bonds. This is foreign external financing.

It may seem impossible, but there is foreign internal financing as well. A good example is the intra-corporate pension fund. It is not part of the accumulated profit, since it is the possession of the employees. Yet, if there is the choice the company may take it as potential source of capital if the rules of the funds' allow it.

Certainly there is not enough space and time to enumerate all the possible financial assets. But from the above mentioned specification we can see that the CFO has a lot to choose from.

So how can he/she decide which one to choose? Is that true that there are choices which are better than others and that there is a best? Can he or she simply create value, so enhancing the value of the firm, by simply choosing the best way of financing?

These are the questions we have to answer in this work. On our way we first examine:

- how we can numerically describe capital structure,

- what did scientists think about the optimal capital structure,

- what factors influence the financial officer's choice.

2.2 Measurement

The ratio used for ‚measuring' the capital structure is leverage <US> or gearing <UK>. There are different approaches what the ratio exactly means. The two most common interpretations:

$$L=D/V \text{ or } L=D/E$$

Where: L= Leverage

E= Equity

D= Debt

V= Value of the firm=D+E

So in these explanations:

1. Leverage is the Debt to Value that is in what proportion is the firm into debts.
2. Leverage is Debt to Equity. This shows the relation of debt and equity.

Other explanations differ from this because they use different definitions. For example some take only long term debts into debt category or take out special elements like provisions form

equity. In the cases is the L=D+E equation not true. In the statistical part I will explain leverage ratios in details.

3 Theories of capital structure

The classical theory of capital structure comes from Modigliani and Miller who in 1958 (Modigliani-Miller, 1958) declared that there exists no optimal capital structure. So to answer our question: we can not create value by simply changing the holder (bondholder or shareholder) of the issued security. This declaration stands only under certain assumptions, which are:

1. There are no taxes,

2. There are no transaction costs,

3. All market participants have equal information and equal opportunities – there is no informational asymmetry,

4. Lending and borrowing at risk-free interest rate.

5. Firms issue only two types of claims: risk-free debt and (risky) equity.

6. All cash flow streams are perpetuities.

7. Operating cash flow streams are independent of debt / equity considerations.

These are inevitably the assumptions of the perfect competitive capital market.

A few years later, in 1963 (Modigliani-Miller, 1963), Modigliani and Miller reconsidered their theory and set the first assumption free that is there are no taxes. So getting tax involved into the model they got a completely different result, which is the follows:

$$V_L = V_U + T_C * D$$

V_L represents the value of the levered firm, V_U represents the value of the unlevered firm, T_C is the corporate tax rate, D is debt. This shows that the value of the levered firm is higher with the value of the tax advantage.

This interpretation says that the more debt the company has the higher its value is. So the company has to adopt all debt capital structure which is absolutely impossible and does not come up to practice.

This mystery could have only been solved, if other assumptions were released.

In 1977 Miller (Miller, 1977) revised the theory with the examination of personal taxes. He found that there is an optimal capital structure in a system where corporate tax and progressive personal tax exists.

Masulis and DeAngelo (DeAngelo-Masulis, 1980) examined tax systems and found that firms without profit can not use tax advantage so by these firms it is not true that "the more debt the higher value" statement.

Bradley, Jarrel and Kim (Bradley-Jarrel-Kim, 1984) studied the tendency of debt among firms, interpreting it as the choice between bankruptcy and tax advantage. They did not find an optimal capital structure but noticed that there is a significant relation between the debt ratio and the branch and debt ratio and the volatility of earnings.

They observed that firms with relatively much taxable income and more secure and tangible assets have higher debt ratio. On the other hand, firms with relatively less taxable income and more intangible assets have lower debt ratio.

In the 70's came the theory of asymmetric information into prominence. These state that market participants are not equal informed. Some of them have more information, so what they do is a signal for the others, the rest of the market. Because of this, these models are called signaling models.

Ross (Ross, 1977) states that firms use their leverage to signal the quality of the firm. So higher leverage means higher quality. Quality is measured by profitability. However, in practice lower quality firms have higher leverage because only loans can save them from bankruptcy.

The most important author couple in the field of asymmetric information is Myers and Majluf (Myers-Majluf, 1984). After empirical work in 1984 they showed that since the firm can signal with the formation of capital structure, they use the different financial assets in a given order. This is the follows:

1. Retained earnings

2. Loans, bond issue

3. Share issue

This is the Pecking Order Theory.

Another field of asymmetric information theories is the Agency Theory. This examines the situation when the agent (executive) has more information than the owner. Since the owners are not united, the agents make decisions without proper supervision. This decision is

sometimes against the interest of the owners. Later on we examine more thoroughly the effects of corporate governance on capital structure.

4   Determinants of capital structure

In this chapter I would like to draw up the concrete factors that help the CFO to make decisions on how to adjust the capital structure in the real life. I divided these factors into two main parts: the first is, as I call, macrofactors. These factors explain the differences between countries and regions in the World. The other group, called microfactors so explain the differences of capital structures on micro level. This group may be divided into two more groups. One of these is the group of features that depend on the firm' success and characteristics that are measurable. I prepare the empirical analysis on these. The other group includes some of the financial officer's private concerns, strategical or individual characteristics.

4.1   Macrofactors

Macrofactors are independent of the firm. They depend on the country's government, law or other national habits and traditions. In the following chapters we take a look at these very important elements.

4.1.1   Macroeconomical conditions

Macroeconomical conditions give a frame to the operation of company. These are the company laws, which enable firms to be established, tax laws (we discuss these later), state subsidies and preferences, which usually support designated branches.[1] Everything that relates to founding and operating of firms belongs here.

---

[1] Let's see an example! If the government Dent promotes export branches, and is willing to give subsidized loans (that is loans with lower interest rate), then firms tend to finance their investments with these loans rather than equity.

### 4.1.2   Maturity of capital market and the role of bank system

The Anglo-Saxon and the Continental evolution of capital markets and bank system is different. This difference relates back to the time of the industrial revolution. In Anglo-Saxon countries the realized profit was invested into industrial assets. On the other hand in Continental countries the profit was squandered on luxury goods and defence expenses. In these countries banks were founded to minimize the development gap and promote industrial evolution. So while in Anglo-Saxon countries the main form of capital was private equity, in Continental countries bank loans became the main form of invested capital.

In Continental countries after the World War II banks became more and more powerful, more or less taking the role of the whole capital market. These banks changed into universal banks, which took the place of "normal" (that is: commercial) and investment banks.
In the United States the 1933 Glass-Steagall Act banned the parallel provision of commercial and investment services in the same bank. Although this has changed, the universal bank is still not common in the USA. In Great-Britain universal banks are allowed, albeit investment service can only be provided through a subsidiary.

The maturity of the capital market and the bank system has a trivial connection. Where the capital market is strong, banks do not have that great part in financing firms. Below is a comparison of American and German capital markets.
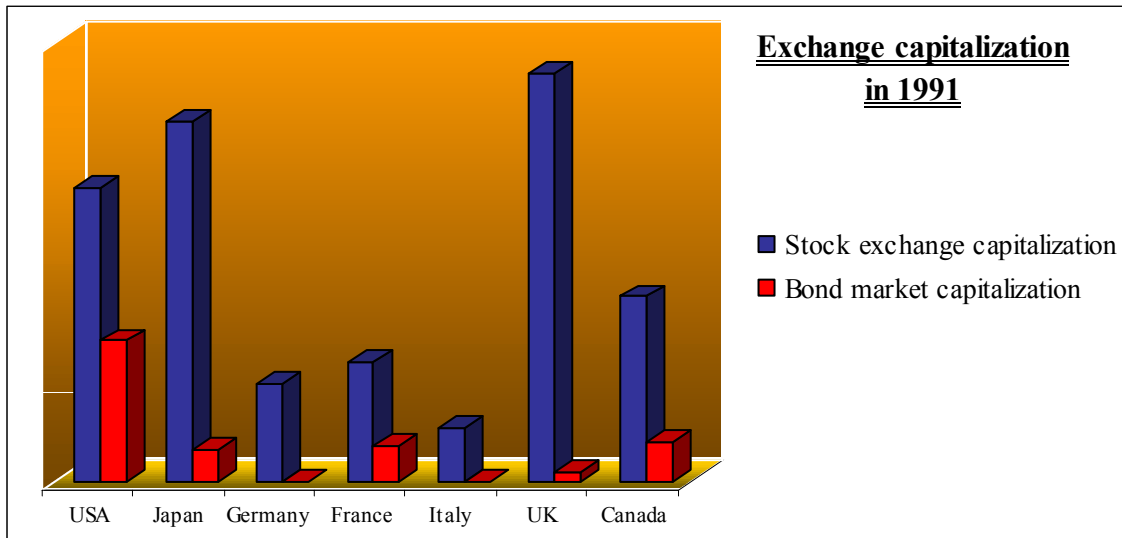
Figure 1. *Maturity of capital markets*
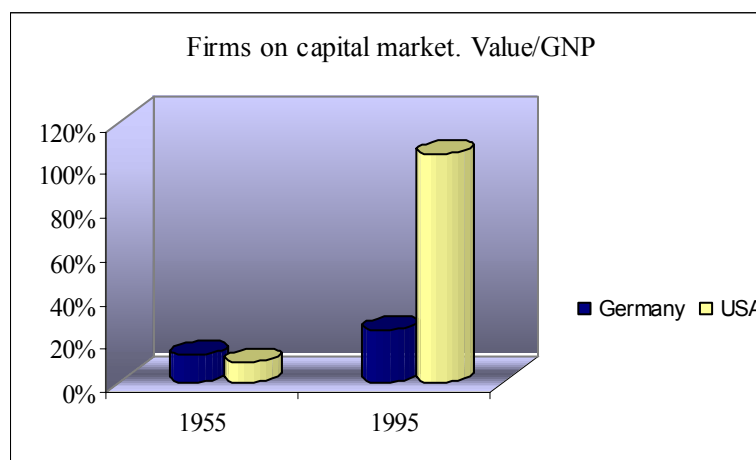
Source: Emmons-Schmid, 1998

Albeit the Stock Exchange of Frankfurt is the world fifth largest stock exchange its turnover is only 15% of the New York Stock Exchange. This shows the difference between the two financial systems. Let's see more countries:

Figure 2. *Exchange capitalization*

Source: Rajan-Zingales, 1994

Where the stock exchange is well developed equity financing is much easier. Where there are less developed stock or bond exchanges banks have a larger part in corporate finance.

4.1.3   Corporate Governance

Not only had the financial system had a different evolution, the corporate governance as well. In the Anglo-Saxon countries – as mentioned above – private equity had enormous part in establishing firms. These firms, mainly the big ones had thousands of shareholders. These small owners have had not enough power to control the executives. This is the agency problem. This problem characterizes the Anglo-Saxon countries' corporate governance.

To solve this problem owners had to tie the executive's salary to the profitability or other outcome of the firm. This makes it more certain that the executive makes the right (capital structure) decision.

This corporate governance system is called shareholder system since there are many, not unified shareholders against one or several executives.

Mehran (in: Grinblatt-Titman, 2001, pp. 616) made an empirical study, and found positive correlation between the leverage and the:

- Scale of compensation tied to achievement,

- Scale of managerial shares.

In the blockholder system owners hold a bigger part of shares. Blockholder systems are e.g. in Germany and Japan.

In Germany – thanks to the close relationship with banks – the representatives of the banks often sit in the Supervisory Board. This option enables the banks to oversee the operation of the firm and so to make a loan (payback) more secure.

It is also common in Germany that banks have significant amount of shares in firms. Moreover shareholders are obliged to put their shares into deposit. So when banks vote, they vote with these shares as well.

Cross-ownership is not unfamiliar in Germany either. Here firms hold each other's shares. The blockholders in Germany hold 60% of the shares, in the USA only 20% (Grinblatt-Titman, 2001, pp. 19).

Since banks are present in the Supervisory Board, at the general meeting, they influence the firms investment and financial policy as well.

In Japan the well known keiretsu system is common. Keiretsu is a group of firms built around one or more banks. Within the circle there are cross ownerships (in Japan it is called mochiai). Banks lend money to firms within the circle. In 1949 the scale of banks' ownership was 9,9%, to 1996 it increased to 41,5% (Black-Bachman-Davies, 1999, pp. 255).

Some researchers say that this kind of corporate governance is double hazard for the firm, since if one firm or bank goes bankrupt the others might fall as well. These experts say that this caused the 1997-98 bank crisis. Others say that this system decreases the cost of the agency problem, because banks are able to control the firms more efficiently (Black-Wright-Bachman-Davies, 1999, pp. 255).

4.1.4 Tax systems

As mentioned in the theoretical part, if there are no taxes MM says there is no optimal capital structure. If there is only corporate tax, the best capital structure is when the firm has only debt. Later on many researchers examined the effects of personal and corporate tax on the capital structure. I would like to give here a short introduction into this field.

If we examine several tax systems we see that these are almost all different. (We suppose that only tax has effect on capital structure). The aim of the firm is to maximize the income of investors (=shareholders and bondholders) after tax. In general we take a look at four possible cases:

1. No corporate tax, only personal tax on dividend and interest

   Since there is no corporate tax, tax has no effects on capital structure decision.

2. Corporate tax, no personal tax

   Optimal capital structure: the maximum possible debt. Since interest is a cost, it can be deducted from taxable income. The residual profit after tax is more than by equity financing.

3. Corporate tax, personal tax rates of dividend and interest are equal

   Optimal capital structure: maximum possible debt. The residual income is maximal.

4. Corporate tax, personal tax rates are different

   Let's see the income of investors after tax:

   Shareholder   Bondholder

   $(EBIT - D * r_D) * (1-T_C) * (1-S_E) + D * r_D * (1-S_D)$, where

   EBIT=Earning before interest and taxes

   D: Debt

   r_D: Interest of debt

   T_C: Corporate Tax

   S_E: Marginal tax rate of shareholder income

   S_D: Marginal tax rate of bondholder income

If we regroup the equation:

$$\text{EBIT} * (1\text{-}T_C) * (1\text{-}S_E) + D * r_D * \{(1\text{-}S_D)\text{-}(1\text{-}T_C) * (1\text{-}S_E)\}$$

From this: debt financing has advantage if:

$$(1\text{-}S_D) > (1\text{-}T_C) * (1\text{-}S_E)$$

namely: marginal tax for the creditor (bondholder) is lower than product of the marginal tax rate of the shareholder and the corporate tax. This means that if an investor's income after tax is higher in case of debt financing, than debt financing is better than equity financing – just as we wanted.

Rajan-Zingales (Rajan-Zingales, 1994) examined tax differences among seven countries. They wanted to show how tax systems treat taxable income in the case of debt and equity (latter in two forms: dividend and capital gains).

Table 1. *Tax differences*

Worth of one dollar after tax if it is paid out as		1. Debt (interest)	2. Dividend	3. Capital Gains
USA	1983	0,44	0,20	0,32
	1990	**0,64**	**0,35**	**0,35**
Japan	1983	0,65	0,36	0,44
	1990	**0,80**	**0,39**	**0,48**
Germany	1983	0,44	0,44	0,44
	1990	**0,47**	**0,47**	**0,50**
France	1983	0,50	0,26	0,43
	1990	0,50	0,41	0,49
Italy	1983	0,80	0,29	0,59
	1990	0,88	0,42	0,54
Great Britain	1983	0,31	0,31	0,34
	1990	**0,60**	**0,60**	**0,39**
Canada	1983	0,50	0,35	0,35
	1990	**0,53**	**0,37**	**0,36**

Source: *Rajan-Zingales, 1994*

If we compare the figures we see the following:

In the United States debt has tax advantage. But in practice more money flows into dividend. This shows that we never should take only one factor into sight, but examine all factors (unfortunately we do not know all factors, so we are not able to tell how capital structures should be formed).

In Canada, Japan and Italy debt is favored, while in Germany and Great Britain both ways are more or less treated the same way.

We take a closer look at these figures and make a comparison in Chapter 4.1.6.

4.1.5 Financial distress

If we take only corporate tax into sight, full debt financing is the optimal. But what if take bankruptcy laws into sight as well?

Strict bankruptcy laws determent firms from getting too much loans. Strict bankruptcy laws do not let the firm to be reorganized. Investors can compel the firms to maintain lower leverage, so use less debt. In Germany creditors have significant rights during the moratorium, for this reason only a few firms can be reorganized. British law allows creditors to ask directly for the sale of assets.

In other countries, like the United States or France reorganization is much easier, sometimes it happens with the financial help of the creditors.

What does this mean to the capital structure? The answer is easy: strict laws do not support high leverage, so in these countries leverage is lower? We will see in the next Chapter.

4.1.6 Theory and Practice

In this chapter we will investigate how close our assumptions are to the practice. In Table 2 below we see a comparison between four countries: United States, United Kingdom, Japan and Germany. The first row shows the institutional characteristics we discussed in Chapter 4.1.1 and 4.1.2. Row 2 shows corporate governance, characterized in Chapter 4.1.3, the third row describes tax systems (Chapter 4.1.4), the fourth row shows the rigour of bankruptcy laws (Chapter 4.1.5). Row 5 shows the average leverage in the four countries (Rajan-Zingales, 1994).

+ and – signs show if the factor increases or decreases leverage in theory.

Table 2. *Theory and Practice*

		USA	UK	Japan	Germany
Institutional characteristics		**Mature capital market (both share and bond) -**	**Mature capital market+ banks +-**	**Important role of banks (keiretsu) +**	**Universal banks, less developed capital market +**
Corporate Governance		**Agency-problem, shareholder system -**		**blockholder, keiretsu, mochiai +**	**blockholder, pyramid system +**
Tax System		**interest advantage +**	**same rate on interest and dividend +-**	**interest advantage +**	**same rate on interest and dividend +-**
Bankruptcy Laws		**less strict +**	**very strict -**	**less strict +**	**very strict -**
Leverage (Debt/Value)		**0,33**	**0,16**	**0,37**	**0,18**

Source: Krénusz, 2002

Leverage in the United States is 0,33 which is very close to the originally in the survey part taking seven countries' (which are beside the four above: Canada, France, Italy) average, which was 0,31. Here we have two + and two – sign. So while institutional characteristics and corporate governance does not, the tax system and bankruptcy laws support high leverage.

In Great Britain we have two negative and two neutral sign, and the leverage is very low. In Japan we have four + signs, and the leverage is very high. So far it seems like our assumptions are correct.

But what about Germany? We have two positive, a neutral, and a negative sign here, still leverage is very low. So where is the problem?

First of all: we should know how to weight each factor. We do not know this, since we do not know all the macrofactors.

Second, there are factors we will never know about. We do not see, we can not measure, we can not predict these. These are our microfactors.

4.2 Microfactors

A simple model of determinants' effects on leverage can be described as follows:

$$L_i = \sum a_i \, Ma_i + \sum b_i \, Mi_i + e_i$$

Where:

L_i states the leverage of firm i

a_i coefficient of macrofactor i

Ma_i macrofactor i

b_i coefficient of microfactor i

Mi_i microfactor i

e_i residuum

The leverage in such a model has three parts: two observable and an occasional part. The first part – macrofactors are observable but not easy to measure but the other observable part is measurable and fairly predictable. The third part reflects individual considerations and other noises.

Microfactors as a group name relates to determinants that appear on firm level. Some of these may show correlation with the leverage among firms, others are in correspondence with the manager's private concerns.

For this group there has been a study prepared by Fred Ramb (Ramb, 2000). Ramb examined the relationship between several variables (financial ratios) of firms and the leverage. His results showed that there is a strong positive relationship between the leverage and the company form, profitability and growth. On the other hand there is negative correlation between leverage and investment intensity and the branch the company operates in.

I would like to prepare such an analysis showing the dependence of leverage on financial ratios (rather what they represent, e.g. profitability), which may directly effect the fiscal policy of the firm. These are:

1. Profitability

2. Growth

3. Liquidity

4. Investment intensity

5. Branch

6. Riskiness

In the first round of my research I am going to prepare the analysis for American firms. I work with Standard and Poor's Market Insight database. To get more concrete results I worked only with manufacturing firms. So there I had 157 companies' data to analyze. I selected the following factors:

1. Economic sector

2. Industry group

3. Sales growth 5 year

4. Sales 3 year change

5. Net Income 5 year growth rate

6. ROA

7. ROE

8. Liquidity Index

9. Current Ratio

10. Cash to current assets

11. Beta

12. Increase in investments quarterly

Branch

Growth

Profitablity

Liquidity

Risk

Investment intensity

The leverage was represented by two ratios:

1. Long term debt to common equity

2. Long term debt to total capital

4.2.1 The aim of analysis

The aim of the analysis is to see whether the selected factors have *any relation* with leverage, and *if yes, then how strong this relationship is*.

Using SPSS statistical software I prepared the following analyses:

- Factor

- Correlations

4.2.2 Factor analysis

To reduce the number of factors and redundancy I used factor analysis. Below are the results. Making a rotations the situation was clearer. It looked liked this:

Table 3. *Factor analysis*

VARIMAX rotation

Factor	1	2	3	4	ABS(0-0,2)	
ECOSec	▨	▨			ABS(0,2-0,4)	░
IND	▨	▨			ABS(0,4-0,6)	▒
SALGR5Y			■	░	ABS(0,6-0,8)	▓
SALES3YCHG	░		■		ABS(0,8-1)	■
NINCGR5Y			■			
ROA				■		
ROE				■		
LIQINDEX	▨	░				
CURATIO	■					
CASHTCUAS	■					
BETA	▨			▒		
INCINV						

17

This table shows the extent of coefficient in the factors (see the right two columns). It is clear that the first component is the component of liquidity. So is the second of branch, the third growth and the fourth profitability.

So it is clear that redundancy is present by leaving both ROE and ROA, Ind and ECOSEC, all the sales growth ratios, all the liquidity indices in the model.

So while examine each correlation in following calculations (e.g. regression) I am not going to use this. In that case the following variables stay in the model:

1. EBITDA

2. SALGR5Y

3. ROE

4. CURATIO

5. BETA

Why exactly these? These have the highest correlation with leverage as we see now.

4.2.3 Correlations

The correlation between the factors and the leverage can be seen below:

Table 4. *Correlation*

Correlation		
	LTDtCE	LTDtTCAP
ECOSEc	-0,04990	-0,09034
IND	-0,05077	-0,09145
SALGR5Y	-0,08908	-0,12882
SALES3YCHG	0,01210	0,02585
NINCGR5Y	0,05520	-0,01812
ROA	-0,15802	-0,12044
ROE	0,24038	0,20483
LIQINDEX	-0,38741	0,15479
CURATIO	-0,21225	-0,28452
CASHTCUAS	-0,20792	-0,28917
BETA	-0,09445	-0,26136
INCINV	0,18196	0,00961
LTDtCE	1,00000	0,46237
LTDtTCAP	0,46237	1,00000

Correlation shows the tautness between two variables. In the table shown above I calculated the correlation between the factors and the leverage (LTDtCE – long term debt to common equity and LTDtTCAP – long term debt to total capital). Strongest relation is between the profitability, liquidity, investment intensity and leverage. This means that these probably have influence on the way capital decisions are made. But the way is not clear, especially in the case of profitability. ROA has a negative correlation with leverage, so if ROA is higher, leverage is lower. To this might be one explanation that if the firm is more profitable it needs no debt or loan to finance its investments, so debt is lower. But on the other hand – in the case of ROE – the correlation is positive. This means that is the profitability of the firm rises, they issue more debt. This corresponds with the pecking order theory which says that issuing debt is more attractive way of financing because of the signaling effect. (But it might also be an error in the analysis.)

Liquidity has a positive correlation with leverage. This means that if liquidity rises leverage is increasing too. Investment intensity also has a positive correlation with leverage. Beta has a negative correlation with leverage. This means that riskier firms issue more debt than others.

It is much more interesting that sales growth barely has any connection with leverage and the same is true for the economic sector and industry.

Clear consequences can not be made yet. Another analysis must be prepared probably with a different set of data. Still, results show basic information about internal factors of capital structure.

4.2.4   Further Research

The aim of my Ph.D. dissertation is to give a complete comparison between the United States, Germany (the two main systems) and Hungary, a new market economy. So this research also must be conducted to German and Hungarian data and then a comprehensive analysis of the results must be prepared.

5   Conclusions

The aim of this work is to point out those factors which help the Chief Financial Officer to make a capital structure policy decision.

A capital structure policy decision is very difficult because there are many financial assets on the market, each of them having advantages and disadvantages. The aim of capital structure policy – just as investment policy and dividend policy – is to maximize the value of the firm, by giving value with simply choosing the best source of finance.

So what are the factors that determine the choice? I examined these in Chapter 4, right after discussing what experts said about the optimal capital structure, in Chapter 3.

Most of all we have to take the habits, traditions, and basic laws into sight, when examining differences between countries. That is why macroeconomical conditions was the first of our macrofactors. The biggest gap between Anglo-Saxon and Continental countries originate from the differences in the maturity of capital markets and bank systems, which we observed. The diversity of corporate governance also derives from historical disparities.

A very important factor is the dissimilarity of tax systems. The preference of debt or equity pay outs is clearly influencing the capital choice. And at last but not at least CFOs have to pay attention to bankruptcy laws since these may risk the existence of the firm.

Knowing macrofactors I tried to show that practice harmonizes with our assumptions. Well, the results were not completely perfect. The problem is that there are differences also in lower levels. We have to take more factors – microfactors – into sight. Microfactors are variables of the firm which may affect the capital choice. The question is which these factors are and what kind of relation they might have with the leverage.

The aim of the shown research in the next part was to find those variables that have the strongest positive or negative correlation with the leverage. I presented this and concluded that liquidity, risk, and investment intensity have a clear connection with leverage. The results are not so definite in the case of profitability. Growth and industry seem to have no correlation with leverage. In another phase of research new variables (factors) might be involved in the model.

The next phase of the research is preparing another analysis for German and Hungarian data and probably for another set of American data. Then a comparison between the three countries can be done. The comparison may answer the original question of the research: Hungary – as a transitional country – has the German or Anglo-Saxon type of development.

6   References

BLACK, ANDREW - WRIGHT, PHILIP - BACHMAN, JOHN E. - DAVIES, JOHN(1999): Shareholder Value – Részvényesi érték. KJK, Budapest

BRADLEY, MICHAEL - JARRELL, GREGG - KIM, E HAN (1984): On the Existence of an Optimal Capital Structure: Theory and Evidence. **Journal of Finance**, pp. 857-878

BREALEY, RICHARD A. - MYERS, STEWART C.(1999): Modern vállalati pénzügyek. Panem, Budapest

BRENNAN, MICHAEL J.(1995): Corporate Finance Over the Past 25 Years. **Financial Management**, pp. 9-22

EMMONS, WILLIAM R. - SCHMID, FRANK A.(1998): Universal Banking, Control Rights, and Corporate Finance in Germany. **Review of Federal Reserve Bank of St. Louis**, pp. 19-41

GORDON, MYRON J.(1994): Finance, Investment and Macroeconomics. Cambridge University Press, Cambridge, pp. 47-59

GRINBLATT, MARK - TITMAN, SHERIDAN(2001): Financial markets and corporate strategy. McGraw-Hill

HARRIS, MILTON - RAVIV, ARTUR(1991): The Theory of Capital Structure. **Journal of Finance**, pp. 297-355

DEANGELO, HARRY - MASULIS, RONALD(1980): Optimal Capital Structure under Corporate Taxation. **Journal of Financial Economics**, pp. 5-29

KRÉNUSZ, ÁGOTA(2002): A tőkeszerkezet meghatározó tényezői. Dissertation MIKOLASEK, ANDRÁS - SULYOK-PAP, MÁRTA(1996): A vállalatfinanszírozás elméleti kérdései. BKÁE Pénzügyi Intézet, Vállalati Pénzügy Tanszék, Budapest

MILLER, MERTON H.(1977): Debt and Taxes. **Journal of Finance**, pp. 261-276

MODIGLIANI, FRANCO - MILLER, MERTON H.(1958): The Cost of Capital. Corporate Finance and the Theory of Investment. **American Economic Review**, pp. 261-297

MODIGLIANI, FRANCO - MILLER, MERTON H.(1963): Corporate Income Taxes and the Cost of Capital: a Correction. **American Economic Review**, pp. 433-443

MYERS, STEWART C.(1984): The Capital Structure Puzzle. **Journal of Finance**, pp. 575-592

MYERS, STEWART C.- MAJLUF, NICOLAS S.(1984): Corporate Financing and Investment Decisions When Firms Have Information Investors Do Not Have. **Journal of Finance**, pp. 187-222

RAJAN, RAGHURAM G.- ZINGALES, LUIGI(1994): What do we know about capital structure? **NBER Working Paper Series No. 4875**

RAMB, FRED(2000): Verschuldungsstrukturen im Vergleich – Eine Analyse europäischer Unternehmen. **Kredit und Kapital**, pp. 1-38

ROSS, STEPHEN A.(1977): The Determination of Financial Structure: The Incentive-Signaling Approach. **Bell Journal of Economics**, pp. 23-40

SULYOK-PAP, MÁRTA(1995): A vállalati tőkeszerkezet kérdései. in: Új utak a közgazdasági, üzleti és társadalomtudományi képzésben, BKE Jubileumi konferencia, pp. 309-321

SCHWEITE, MARK - WEIGAND, JÜRGEN(1997): Bankbeteiligungen und das Verschuldungsverhalten deutscher Unternehmen. Kredit und Kapital, pp. 1-31