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Abstract

The debt level of both corporate and personal finance has been widely discussed in recent years due to economic crises. The leverage is higher in well developed Western companies than in companies located in developing countries. The focus of this article is capital structure and the variables influencing it in The Baltic States and Russia – countries which started their transition from a planned to a market economy at the same time. Analysis of both macroeconomic and microeconomic variables of the period 2002 – 2008 shows that the determinants influencing the choice of capital structure in companies is similar but some significant differences still exist.

Keywords: Transition economies; Capital structure; Leverage; Long-term leverage; Short-term leverage; Trade Credit; Firm-specific factors; Country-specific factors; Economic and financial environment.

JEL classification: G32, G15.

1 INTRODUCTION

Financing decisions are vital for the firm's financial welfare and capital structure policy is assumed to be a way of creating company's value. A bad decision about capital structure may lead to financial distress and eventually bankruptcy. Management of a firm in developed countries set its capital structure in a way that firm's value is maximized. However, what should the leverage ratio to assure effective company's assets and projects' financing and company's performance be? What are the main factors influencing management decision on capital structure?

Although many researchers have been trying to solve the problem of capital structure, none can determine the optimal capital structure or to formulate any rules or guidelines for it. However, some characteristics have been noticed during the time. Capital structure depends on a firm's, industry and country characteristics and is dynamic in the long-term.

In this research I focus on the similarities and differences of capital structure and factors influencing it between The Baltic States and Russia, the countries that has just gone through a period of transition. These countries were chosen for comparison because their development of democracy and market economy started at the same time and were closely related as they were a part of The Soviet Union. However, differences in the size of the countries and their markets, political and economical directions, banking and stock markets development exist and influence business environment and firms' capital structure. The aim of this paper is to define the determinants influencing capital structure in Russian, Estonian, Latvian and Lithuanian firms at both country- and firm-specific levels.[2]

[2] I would like to express my gratitude to Dr Kojo Menyah for his great support and constructive advice and to my husband Hugo for his enormous support.

2 THEORETICAL BACKGROUND OF CAPITAL STRUCTURE AND PREVIOUS EMPIRICAL RESEARCH

2.1 Theoretical Background of Capital Structure

The break-through theory of capital structure was created by Modgiliani and Miller in 1958. The theory states that the choice of capital structure does not influence a firm's value. However, the theory is based on perfect capital market conditions and cannot be applied in real world business conditions.[3]

Therefore, theories trying to explain optimal capital structure choice in real world conditions were created. Three main theoretical directions can be distinguished.

Asymmetric Information Theories try to explain the choice of capital structure in terms of difference of amount of information amount available to firm's insiders and outsiders, and its influence on the actions of shareholders, lenders and managers. However, it is very difficult to measure the effect of asymmetric information because each individual perceives and interprets information differently. Therefore, misinterpretations can arise in Signalling Theory from both directions – senders and receivers. Due to the increased asymmetric information, the cost of external capital increases. Therefore, firms tend to use internal funds first, according to the Pecking Order Theory. However, this theory focuses only on the reduction of cost of capital and ongoing performance, but ignores firm's long-term reputation of reliability (regular debt payments) and profitability (stable or increasing dividends), and performance.

Trade-off Theory refers to the idea that a firm sets its capital structure by balancing costs and benefits of debt and equity financing. This theory covers three main factors influencing choice of capital structure. Tax/Bankruptcy Trade-off theory focuses on the tax-shield benefits gained when using debt financing. Agency Costs Theory discuses conflicts arising between shareholders and managers, and between debtholders and equityholders. Stakeholder Co-investment theory focuses on firm-specific factors, such

[3] Assumptions for Modigliani and Miller Theory: 1. Capital markets are frictionless. 2. Individuals can borrow and lend at the risk-free rate. 3. There are no costs of bankruptcy or to business disruption, no transaction costs. 4. Firms issue only two types of claims: risk-free debt and (risky) equity. 5. All firms are assumed to be in the same risk class (operating risk). 6. Corporate taxes are the only form of government levy (i.e., there are no wealth taxes on corporations and no personal taxes). 7. All cash flow streams are perpetuities (i.e., no growth). 8. Corporate insiders and outsiders have the same information (i.e., no signalling opportunities). 9. Managers always maximize shareholders' wealth (i.e., no agency costs). 10. Operating cash flows are completely unaffected by changes in capital structure. (Copeland et. al, (2003)).

as a firm's growth, sales, product specifications and risk. Generally, most of determinants discussed in Trade-off Theories can be easily and accurately measured using firm's financial data. Problems of subjectivity and difficulty to evaluate can arise in Agency Costs Theory, which focuses on conflicts between different interests.

As Market Timing Theory is based on long-term external markets (debt and equity markets) observation, it is very useful for long-term dynamic analysis of capital structure. This theory is much broader than Asymmetric Information and Trade-off Theory as it is affected by country, industry, market and firm characteristics and their changes during time.

2.2 Previous Empirical Research

Many empirical research has been carried out in order to determine the main factors affecting the choice of capital structure. Some of them are country specific, while others are industry specific and firm specific.

Jong, Kabir and Nguyen (2008) carried out an extensive research of firm- and country-specific determinants of capital structure in firms around the world. Their sample consists of 11,845 large and small firms from 42 countries from every continent (time frame - 1997-2001).

Most of empirical research on capital structure in firms was focused on developed countries: Bradley et al. (1984), Kim and Sorensen (1986), Kester (1986), Friend and Lang (1988), Titman and Wessels (1988), Chaplinsky and Niehaus (1993), Berger, Ofek and Yermack (1997), Bevan and Danbolt (2002), Panno (2003), Frank and Goyal (2002), Drobetz and Fix (2005) and others. Rajan and Zingales (1995) researched G7 states' countries. A lot of research has been carried out on developing countries too: Hamid and Singh (1992), Wiwattanakantang (2001), Both et al. (2001), Demigurc-Kunt and Maksimovic (1999), Demigurc-Kunt and Levine (2001) and Chen (2003). Only recently developing European countries have become the object of researchers' interest. Cornelli, Portes and Schafler (1998) and Nivorozhkin (2003) focused on capital structure of Central and Eastern European countries.

Empirical research of capital structure in The Baltic States and Russia is limited and it is mainly focused on companies listed in stock exchange. However, companies listed in a stock exchange do not represent countries' company's profile very well, as, due to

underdeveloped stock exchanges and the inability to fulfil listing requirements, not many of them decide to be listed in stock exchanges and to raise their capital this way. Šabūnas (2002) did a comparative analysis of Lithuanian, Latvian and Estonian companies listed in Stock Exchange in 1997 and compared the results with the ones of G7 countries (Rajan and Zingales (1995)). Joeveer (2006) analysed capital structure in 9 Eastern European countries, including Estonia, Latvia and Lithuania, during the period of 1995-2002, in both listed and unlisted companies, and in country-, industry- and firm-specific variables. Norvaišienė and Stankevičienė (2007) researched Baltic listed companies during the period of 2000-2005. Delcoure (2007) researched determinants of capital structure in four European transition economies, including Russia, during the period of 1996-2002 in publicly listed companies. Vasiliauskaitė and Rumšaitė (2000) researched determinants of capital structure in Lithuanian companies during the period of 1995-1999 at macroeconomic, industry and firm levels. Kipišas (2004) researched capital structure of 67 Lithuanian largest companies (excluding financial companies) during the period of 1999-2003.

3 ECONOMIC ENVIRONMENT IN THE COUNTRIES ANALYSED

3.1 The main attributes of the countries

The Baltic States of Lithuania, Latvia and Estonia, and Russia have overcome a complicated transition from central planned to a market economy period and implemented many reforms in a relatively short period of time (and are continuing their development in some areas up to date but handicapped by the big crunch). However, this transition was burdened by the fact that reforms and changes had to be implemented not only economically but also politically. Besides, mindsets and perception of business, economics and new politics had to be changed from the Soviet thinking to liberal Western during the period of change.

Even though the three Baltic States form a small region and have similar geographical position and size, natural resources and similar culture, mentality and lifestyle has been highly influenced by the occupation by The Soviet Union, they are not homogeneous. The countries differ religiously, linguistically, historically, politically and way of development.

Russia differs from The Baltic States in many ways. First, it is the largest country in the world by land mass and has one of the world's largest reserves of mineral and energy resources. Second, Russia is the ninth most populous country in the world; therefore, it has a very big economy and market and is an attractive market for foreign investors because of it. However, the downside of extremely large country is that it is much more complicated to implement reforms in a bigger and strong political beliefs having country due to its inflexibility towards changes and a need for massive financial sources.

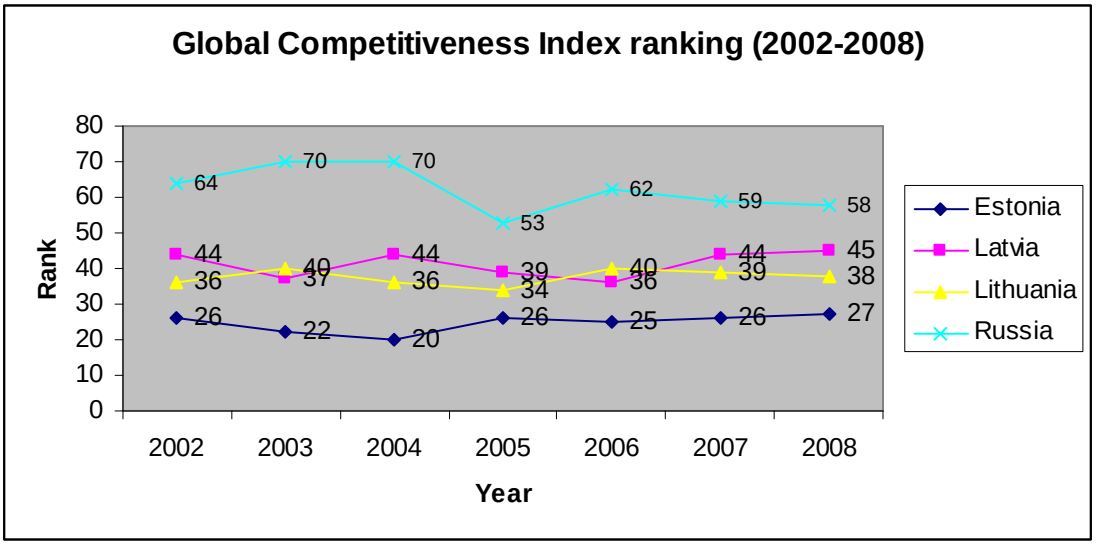
Throughout its history Russia has been a large and powerful country so the collapse of the Soviet Union in 1991 was a shock for its people and caused temporary inefficiency and even crisis in the market.

After the breakup of The Soviet Union, all former Soviet Union countries had to refocus their economies from a planned to a market economy and to strengthen their trade by establishing business and economic relationships with other countries. This was especially true for the small countries of The Baltic States because of a small internal market and desire to be as little dependent on Russia as possible.

3.2 External economic relations

Membership in the IMF, WBG and WTO had accelerated the progress of The Baltic States and Russia's transition from the planned to market economy through their know-how, recommendations and financial support, and helped to increase the level of competitiveness of all our analysed countries (Graph 1). Of the four, Estonia was the most competitive country, whereas Russia's global competitiveness index lagged behind significantly and underperformed by more than twice the Estonian competitiveness index. Here we can probably assume that higher foreign direct investment (FDI) and smaller demand for funding for smaller countries has helped Estonia and other Baltic States to achieve such good results. However, Russian competitiveness had started to grow due to the size of the market and foreign interest in it.

Graph 1. Global Competitiveness Index ranking (2002-2008)[4]



The European Bank for Reconstruction and Development (EBRD) has been investing in The Baltic States and Russia since 1991. The main investments were allocated for improving the business environment: price and trade liberalization, enterprise privatisation, fighting corruption and improving transparency.

Signing Free Trade agreement with the EU in 1994 and joining the European Union in 2004 has enabled The Baltic States to benefit from common market and EU financial support advantages to economies' growth. The support for the development of The

[4] Global Competitiveness Reports. *World Economic Forum*.

Baltic States was received from other organisations, such as EEA Financial Mechanism, Norwegian Financial Mechanism, Swiss programme, too.

For many years the Russian economy had been under a strict control and rule of the government, which kept it isolated from other countries reducing any possibility of economic relations with foreign countries. In the mid-1990s, Russia still maintained hybrid trade regimes with the other former Soviet states, reflecting the web of economic interdependence that had dominated commercial relations within The Soviet Union. The sharp decrease in central economic control that occurred just before and after the breakup of The Soviet Union virtually destroyed distribution channels between suppliers and producers and between producers and consumers throughout the region.

However, even after The Soviet Union break up, Russia did not make any effort to increase cooperation and trade with foreign countries. Quite the reverse, it tried to keep its economy isolated by high tariffs and taxes in order to protect Russian business from Western imports. Therefore, the main Russian business partners remain former Soviet Union countries – CIS[5] – which was founded in 1991. However, despite the isolation which lasted for decades, Russia joined a lot of political, economical, security organizations which united most of democratically run countries where a market economy was operational for a long time. These organizations include Asia-Pacific economics focused APEC[6] and ESCAP[7], European development focused EBRD[8], globally involved WBG etc. Due to its size and power, Russia became one of G-8 member countries and its voice is now heard globally. Joining international organizations and opening the doors for foreign investors have helped Russia to grow and develop its business.

3.3 Trade flows

The balance of the Foreign Trade account shows that imports dominate over exports in all Baltic States, and exports dominate over imports in Russia. It is noticeable that the main export goods groups in Russia and Baltic States are formed by goods with low value added (natural resources – oil, gas, wood etc), intermediate goods or goods the

[5] CIS – Commonwealth of Independent States
[6] APEC – Asia-Pacific Economic Corporation (http://www.apec.org)
[7] ESCAP - The United Nations Economic and Social Commission for Asia and the Pacific (http://www.unescap.org)
[8] EBRD – European Bank for Reconstruction and Development (www.ebrd.com)

competitiveness of which depends upon the utilisation of a cheap labour force (textiles).

As already mentioned, the export figure is much higher (in some years almost double) than import figure in Russia, which gives the country a big advantage and means that there is a big demand for Russian production and raw materials and more money comes into the economy than leaves it, giving it a chance to reinvest.

3.4 Investment flows

Foreign Direct Investment (FDI) is closely related to restructurisation and privatization. The process of privatization started in Lithuania and had a similar aim as in Latvia and Russia - that most of the companies were transferred to its workers and management, without changing goals and rules of management (Lainela, 1994). Whereas, the Estonian privatization process and result was better and it was the most efficient in Eastern Europe, because it was accomplished by reforms and further restructuring of enterprises. Most probably success of Estonian privatization was importantly influenced by openness of the process to foreign investors, that had larger sources of funds and experience. While Lithuanian, Latvian and Russian privatization was based on voucher system, followed by (or combined with) cash based privatization, and limited to foreign investors. The biggest growth in privatization was achieved in 1991 – 1995, and private sector retained the same portion of GDP since 2002: Estonia – 80%, Lithuania – 75%, Latvia and Russia – 70%[9].

Advantages of FDI are far more than only capital base for production but transfer of technology (engineering and managerial) as well. FDI was increasing in Baltic States and Russia until 1998 and then it dropped due to the Russian crises which made foreign investors more cautious about the region. Connection between privatization and FDI proves the fact that the biggest increase in FDI in all countries in early transition years was noticed in 1995 – at the peak of privatization, whereas, the increase in reinvested earnings and cross-border acquisitions was noticed in later years.

The main common feature of FDI in Russia, Lithuania and Latvia is that most of FDI went to the manufacturing industry, which does not create as strong competitive advantage as complete product in Western countries. FDI into Real Estate activities

[9] Source: EBRD Transition Reports

made a significant part in Latvia during economy growth period. FDI in Estonia was completely different – the biggest portion of FDI went to Financial and Insurance activities. It gave a very significant competitive advantage and opportunity to grow economically for such a small country as Estonia which could hardly be very efficient in manufacturing due to the size of the country and labour force.

An important obstacle for FDI and faster economic growth was attitudes and customs of the people influenced by the Russian occupation and transition in the early years of independence. Filer at al. (2000) determines this phenomenon as 'Homo Sovieticus' and describes it as "embodying an inability to work in teams, low morale and resistance to productivity improving changes to work patterns." Other traits can be described as lack of trust, unwillingness to share information, and tendency to look for non-official shortcuts (Chandler, 2002), which creates good conditions for corruption and "black-market" growth.

3.5 Financial Markets

Effectively operating financial markets play an important role in economic growth. Well-developed financial sectors help to allocate effectively risk and financial assets and issue a large and cheap loan for businesses and individuals (due to the economy of scale). However, this was not easy to achieve as it was a new sector in post-communist countries. Therefore, there was a lack of specialists and knowledge of this field, and people lacked confidence in investing and borrowing their money.

Effectiveness (substance) of legal framework was lower than its extensiveness (form) in the early years of the transition but the effectiveness improved in later years of transition particularly due to internationalization process. EU enlargement encouraged legal reforms in The Baltic States, as banking and security laws had to align with official EU laws and directives.

3.5.1 Banking sector

The banking sector in all three Baltic States and Russia went through three main stages: "mushrooming" period, bank crisis, and period of consolidation (Chandler, 2002). The "mushrooming" period was characterized by rapid increase in the number of commercial banks: both newly established and those transformed from the former parts of the Soviet mono-bank system. The first commercial banks in The Baltic States were set up in 1989 with Estonian Tartu Commercial Bank being the first private commercial

bank established in The Soviet Union. By the end of 1992 there were 51 commercial banks registered in Latvia, 42 in Estonia and 20 in Lithuania. By the end of 1993 there were more than 2000 banks operating in Russia, and the number of banks exceeded 2500 by the end of 1996. This fast growth in the number of banks was caused by low start-up capital requirements and weak legal regulation. Banks were concentrating on short-term lending to the trade sector and offering foreign exchange operations that were very profitable at the time of national currencies introduction in The Baltic States. However, currency reforms in The Baltic States in 1992-1993 eliminated the scope for foreign exchange arbitrage and the output collapse increased the number of non-performing loans in bank portfolio leading banks to the liquidity problem. Moreover, rising competition and higher capital requirements forced many commercial banks either out of business or to merge with other banks.

The bank crisis first came to Estonia in 1992-1993 resulting halving the number of commercial banks operating in the market. Latvia and Lithuania were touched by the bank crisis only in 1995 which was partly due to the slower development of the banking systems. The governments of both countries allowed smaller banks to go bankrupt but Latvian government recapitalized Bank Baltija (which had 30% of domestic banking sector) and Lithuanian government issued bonds and recapitalized the two largest banks. Bank crisis encouraged bank consolidation and changing their behaviour towards traditional and transparent bank activities and some public banks were privatized by western investors (Chendler, 2002).

Many of the banks established in Russia were of limited capitalization and low capital adequacy ratios, and were initially pocket banks to provide finance to a group of enterprises whose directors were frequently also board members of the bank. Other newly established banks were faced with an environment that was not conducive to prudent lending policies and screening of loans. The slow pace of legal and institutional development in Russia meant that property rights were poorly defined, financial reporting was opaque, and the legal system was ineffective. It explains the slow rate of entry of foreign banks to the Russian system. Besides, the dominant position of banking industry was owned by the big state owned banks. Furthermore, the slow renationalisation of banks threatens to create an industry with dominant state-owned banks, obedient foreign-owned banks and weak domestic private banks, which could in medium term lead to an imperfect, intervened market with insufficient competition (Webber, 2009). The share of banking market controlled by foreign banks in 2008 was

very high in The Baltic States, especially in Estonia (98.2%) and Lithuania (92.1%), whereas in Russia it was only 18.7% (see Table 1). A combination of these problems together with unstable economic environment has constrained the availability of credit to portion of the private sector. (Worldbank Report, 2002). However, the portion of foreign banks was increasing in Russia every year: it was 8.1% in 2002 and it was 18.7% in 2008.

Table 1. Asset share of foreign-owned banks, %.[10]

	2002	2003	2004	2005	2006	2007	2008
Estonia	97.5	97.5	98	99.4	99.1	98.7	98.2
Latvia	42.8	53	48.6	57.9	63.3	63.8	65.7
Lithuania	96.1	95.6	90.8	91.7	91.8	91.7	92.1
Russia	8.1	7.4	7.6	8.3	12.1	17.2	18.7

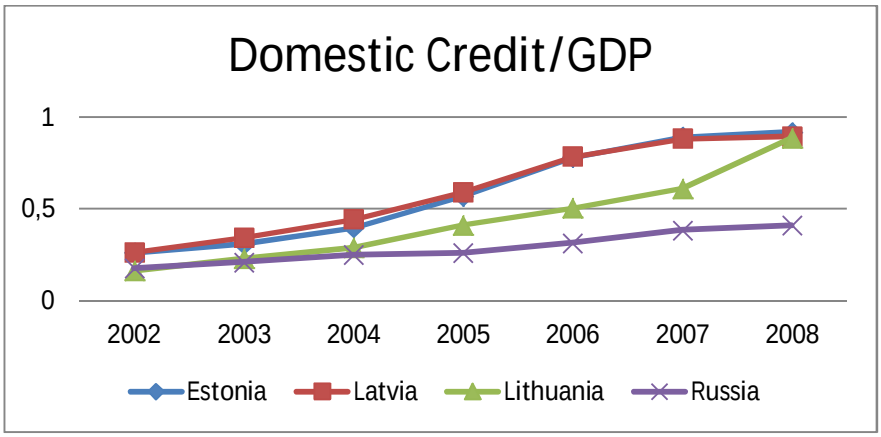
Triggered by the Asian financial crisis, which started in July 1997, the Russian financial crisis (also called "Ruble crisis") hit Russia in August 1998. Investors fled the market by selling rubles and Russian assets, which also put downward pressure on the ruble which resulted the Russian stock, bond, and currency markets to collapse. (From January to August 1998 the stock market had lost more than 75 percent of its value.) In 1998, many banks were closed down and millions of people lost their life savings. The financial crisis caused political fall out which increased economic instability. However, the Russian crisis also forced Estonia, Latvia and Lithuania to sink into recession. The figures for 1999 showed a heavy decline in the exports of the Baltic States to Russia and a significant decline in the growth rates of these economies. Russia bounced back from this financial crash with surprising speed because the world oil prices rapidly rose during 1999–2000 and Russia could run a large trade surplus in those years. Since the Russian economy was operating to such a large extent on barter and other non-monetary instruments of exchange, the financial collapse had far less of an impact on many producers than it would had the economy been dependent on a banking system.

The size of domestic credit reflects the size of the banking sector. According to Chandler et al. (2002), historically the development of domestic credit was constrained by the unstable macroeconomic situation in the region, which implied high credit risk. On the other hand, dollarization degree of the banking sector liabilities and relatively high foreign interest rates motivated Baltic commercial banks investments abroad.

[10] Source: EBRD Transition Reports.

Improving economic situation and decreasing foreign interest rates helped the credit market to develop. As we can see in Graph 2, the amount of domestic credit was increasing every year during 2002 – 2008 in all our analysed countries.

Graph 2. Domestic Credit/GDP in Baltic States and Russia (2002 – 2008)[11]



The interest rate spread between the bank deposit and loan interest rates in all countries, especially The Baltic States, had declined significantly, which indicates efficiency gains. It can be attributed to privatization and consequent restructuring of the Baltic's banking sector. It is important to note that public banks were sold-off to western foreign investors during privatization process. Therefore, interest rates in Baltic banks became more similar to western banks' interest rates. Efficiency of banks was significantly influenced by strong competition achieved through privatization and entry of foreign banks, bringing innovation (strong management and new skills, technology and products).

3.5.2 Securities market

Development of securities markets contributes to economic growth significantly because developed securities markets offer financial intermediation at a lower cost than banking sector, diminish informational asymmetry in the economy, and allow allocating risks efficiently.

The first stock exchange in The Baltic States began its activities in Lithuania (The National Stock Exchange of Lithuania – NSEL) in 1993, followed by Latvia – The Riga Stock Exchange (RSE) in 1995, and Estonia – The Tallinn Stock Exchange (TSE) in 1996.

[11] Source: EBRD Transition Reports.

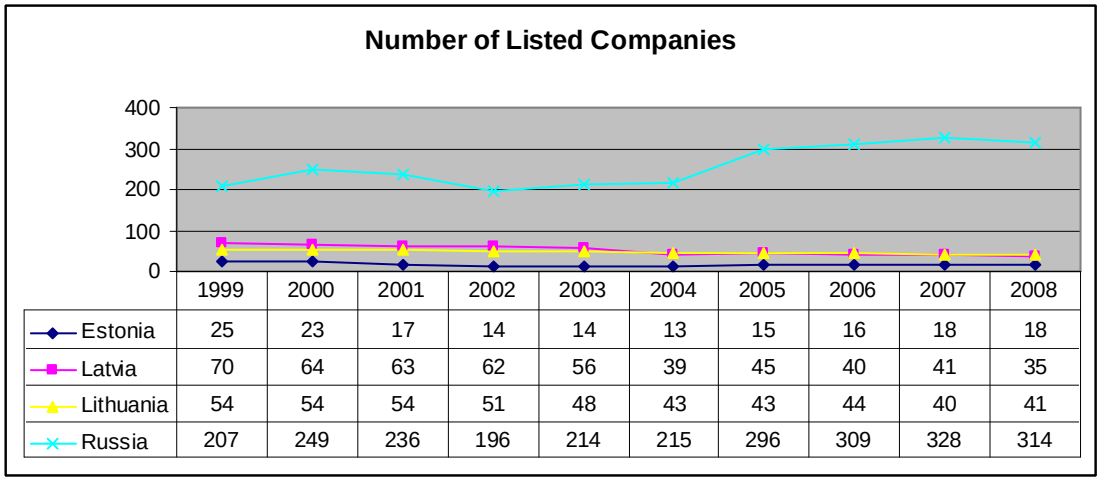
The first Stock Exchange in Russia - St Petersbourgh Stock Exchange (SPBEX) - was founded in 1990. The first regulated stock exchange RTS (Russian Trading System) in Russia was established in 1995 in Moscow. It consolidated various exchange floors into one exchange. Since 2001 futures and options have been added. Another stock exchange – Moscow Interbank Currency Exchange - MICEX started trading in 1995.

The model and progress of privatization played a major role in the development of capital markets at an early stage. Lithuania launched stock market in order to enable the transfer of ownership rights following voucher mass privatization. Estonia and Latvia established their stock markets with a small number of stocks offered by direct sale through initial public offerings (IPOs) to those outside business. Russia combined the transfer of voucher shares and the listing of companies traded through IPOs.

Mass corporatization in Russia led to more than thirty thousand open joint stock companies created during the period of privatization, which is more than in the rest Eastern and Central Europe and the CIS combined. The continuing state's participation in the capital of many Russian enterprises caused inefficiency of their economic operations and led to some political and corporate scandals. Dominance of insiders at the initial stage of privatization (in 1994 insiders held 60-65% of shares in privatized enterprises, outside holders had 18-22%, state – 17%) was related to the violation of shareholders' rights. Companies' struggle for information disclosure also slowed down capital market development not only in Russia but The Baltic States as well. (Vassiliev, 2001).

The small Baltic exchanges naturally suffered from low liquidity and thin investment portfolio. In 2000 the three Baltic exchanges established a list of Baltic blue-chip securities - The Baltic list - and any Baltic dealer could freely trade the shares from the list on all three Baltic stock exchanges. In 2002 Estonia sold a majority stake of the TSE to the Helsinki stock exchange and became its subsidiary (adopted Finnish trading system). In 2001 The NSEL signed a cooperation agreement with the Warsaw stock exchange (WSE). The RSE was acquired by the HEX in July 2002. In 2004 stock exchanges of The Baltic States became a part of OMX Group (since 2008, NASDAQ OMX Group).

Graph 3. Number of Listed Companies (1999-2008)[12]



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Estonia	25	23	17	14	14	13	15	16	18	18
Latvia	70	64	63	62	56	39	45	40	41	35
Lithuania	54	54	54	51	48	43	43	44	40	41
Russia	207	249	236	196	214	215	296	309	328	314

An average size of the listed company in 2008 was $ 4209.7 million in Russia; $ 107.4 million in Lithuania; $ 70.7 million in Estonia, and $ 62.9 million in Latvia (Standard and Poors Global Stock Market Factbook 2009). As we can see in Graph 3, the number of companies listed in Stock Exchanges decreased in all Baltic States from 1999 to 2008. The biggest decrease is noticed in Latvia – the number of companies halved within 10 years. The number of listed companies was increasing in Russia most of the years, which lets us make an assumption that financial sector was moving to the right direction and that the trading conditions were improving. Although many Russian companies are listed in foreign stock exchanges too.

[12] Source: Standard and Poors Global Stock Market Factbook 2009.

4 EMPIRICAL RESEARCH

Cross-sectional and time-series analysis has been carried out in order to define the variables influencing the choice of capital structure.

4.1 Sample

Two sets of variables – macroeconomic and microeconomic - were analysed in order to define their influence on companies' choice of capital structure. The macroeconomic variables help us to identify the influence of a country's economic situation and its changes on capital structure whereas microeconomic variables help us to identify the influence of a company's "inner" factors and its business outlook on capital structure.

Macroeconomic data was obtained from Economist Intelligence Unit (EIU.com) database, EBRD Transition Reports, and The Statistics Departments of each particular country. Financial data was obtained from Central Banks and Standard & Poors Global Stock Market Factbook. Secondary data on firms' financial statements was obtained from The AMADEUS/ORBIS database.

The sample for research targets the one hundred and fifty most profitable firms registered in each country analysed. Financial firms and real estate companies are excluded because they are regulated by more specific rules and regulations, and their leverage is severely affected by exogenous factors. The time period of 2002 – 2008 was used in this analysis.

The selection criteria required all firms to have all variables available for all seven analysed years. Firms that failed to meet this requirement, were excluded from the sample. Table 4 displays the main characteristics of the chosen sample.

Table 2. Number of firms in the original and final sample[13]

	Estonia		Latvia		Lithuania		Russia	
150 most profitable firms in 2008	150	100%	150	100%	150	100%	150	100%
Non-financial/non-real estate firms	146	97.3%	143	95.3%	143	95.3%	109	72.7%
Firms that do not have all variables needed available in AMADEUS	24	16%/ *16.4%*	44	29.3%/ *30.8%*	67	44.7% / *46.9%*	74	49.3% / *67.9%*
Final sample size	**122**	**81.3%/ *83.6%***	**99**	**66% / *69.2%***	**76**	**50.7% / *53.1%***	**35**	**23.3% / *32.1%***

From the table above, the number of Russian companies in the sample is small compared with that of The Baltic States. In order to make the Russian sample more representative, the number of companies in it was increased to 100 by adding additional companies from the database which met the requirements.

4.2 Methodology

The influence of the following country macroeconomic and financial indicators to capital structure was analysed using correlation model: GDP growth, Lending Interest Rate, Domestic Credit provided by banking sector to GDP, Inward Direct Investment, Stock Market Capitalization to GDP, Number of Banks and Increase/decrease of companies listed in Stock Market per year.

This research analyses how the capital structure depends on the main firm-specific variables: Tangibility (Fixed Assets/Total Assets), Size (ln Sales), Business risk (Standard deviation of EBIT/Total Assets during the sample period), Profitability (ROA), Asset Turnover (Sales[14]/Total Assets) and Liquidity (Total Current Assets/Total Current Liabilities). All firm-specific variables except of risk have been averaged over the sample period.

There are four equations specifying the leverage ratio in terms of debt maturity used for calculating the dependent variables: Total debt leverage ratio, Long term leverage ratio, Short term debt leverage ratio and Trade Credit/Total Assets ratio. The latter

[13] Note: The first percentage figure indicates the percentage of the original sample, the second percentage figure (in *Italic*) indicates the percentage of non-financial and non-real estates companies sample.
[14] Sales indicator is unavailable on Amadeus for Russian Federation firms, therefore, Operating Revenue/Turnover indicator is used instead.

indicator is chosen because it makes a big part of short term liabilities in all Baltic States and Russia.

- *Total debt leverage ratio = C +Tangibility + Size + Business risk + Profitability + Asset Turnover + Liquidity*
- *Long term debt leverage ratio = C +Tangibility + Size + Business risk + Profitability + Asset Turnover + Liquidity*
- *Short term debt leverage ratio = C +Tangibility + Size + Business risk + Profitability + Asset Turnover + Liquidity*
- *Trade Credit/Total Assets ratio = C +Tangibility + Size + Business risk + Profitability + Asset Turnover + Liquidity*

The following formulas are used to calculate variables:

- *Total debt leverage ratio = Total debt / Total asset*
- *Long term debt leverage ratio = Long term debt / Total asset*
- *Short term debt leverage ratio = Short term debt / Total asset*
- *Trade Credit/Total Assets ratio = Trade Credit/Total Assets*

Multivariate analysis was carried out using OLS regression between dependent and independent variables. A significance level of 5% was used in the data interpretation section.

The calculation of variables calculations is done using Excel. They were then analysed using the EViews 6 econometric software. It is important to note that the results of this empirical research should be interpreted and used with caution because it does not perfectly reflect the totality of companies because the sample is small and includes only the most profitable firms available in AMADEUS/ORBIS.

4.3 Descriptive Statistics of Leverage

An average Total leverage in the Baltic States and Russia was relatively similar during the period of 2002 – 2008. It was 22.2% in Latvia and Lithuania, 19.6% in Russia and 15.8% in Estonia. It was still lower than in most of Western European countries. The Long term leverage indicator was higher than short term leverage indicator in Lithuania

(12.3% vs 9.9%) and Russia (12.4% vs 7.2%). Whereas Short term leverage indicator was higher than long term leverage indicator in Estonia (8.3% vs 7.5%) and Latvia (11.6% vs 10.3%). Trade Credit/Total Assets indicator (which was not included in Total leverage calculation) was almost as high as Total leverage indicator in Latvia (19.%), Lithuania (18.9%) and Russia (18.5%), and even higher than Total leverage in Estonia (19.4%).

Analysis of the structure of Total Liabilities confirms once again the importance of Trade Credit in the liabilities portfolio of companies in developing companies. Trade Credit made an average of 37.5% of Total Liabilities in Estonia, 35.7% in Lithuania, 33.5% in Russia and 28.7% in Latvia. Long term debt was the second most important type of liabilities in Lithuania (21.5%), Russia (18.7%) and Estonia (13.4%). Short term debt made a bigger part of Total Liabilities than Long term debt in Latvia (17.1% vs 16.4%). Short term debt made an average of 15.5% of Total Liabilities in Lithuanian companies, 13.3% - in Estonian companies and 12.5% - in Russian companies. The difference between the proportion of Total Liabilities made by Long term debt and Short term debt is very small in Estonia (0.1%) and Latvia (0.7%), and bigger in Russia (6.2%) and Lithuania (6%). The composition of Total Liabilities indicates that managers tend to reduce their risk and borrowing costs by taking more Trade Credit, and diversifying the remaining need for finance by taking a similar amount of Long term and Short term debt. Russian and Lithuanian companies take more Long term debt presumably because of their greater need to modernise and buy new machinery and other tangible assets (an average of Tangible Assets in Russia and Lithuania was higher than in Estonia and Latvia).

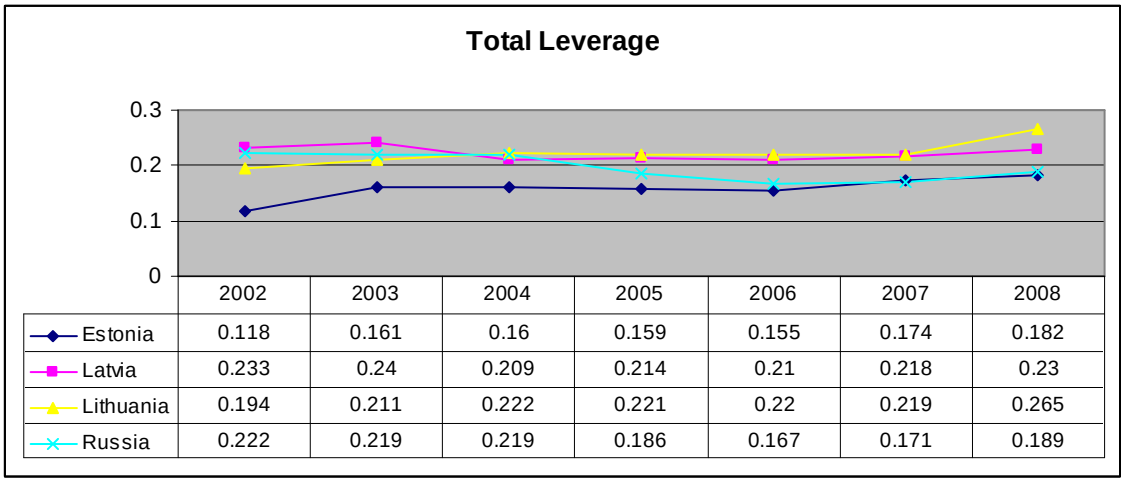
The highest Total leverage was reached in Lithuania in 2008 at 26.5%, in Latvia in 2003 at 24%, in Russia in 2002 at 22.2% and in Estonia in 2008 at 18.2%. The highest Long term leverage was in Lithuania at 14.6% in 2008, in Russia at 14.1% in 2003, in Latvia at 11.9% in 2008 and in Estonia in 2003 at 8.3%. The highest Short term leverage was reached in Latvia at 13.1%, Lithuania at 11.9% and Estonia at 11.2% in 2008 and in Russia at 9.2% in 2002. Trade Credit/Total Assets indicator was highest in Estonia in 2002 (22.3%), in Latvia in 2003 (20.72%), in Lithuania (20.4%) in 2002 and in Russia (19.8%) in 2008. The lowest Trade Credit/Total Assets indicator was found in 2008 in the Baltic States and in 2005 in Russia. It signals us either improved lending conditions (due to lower degree of asymmetric information) or of suppliers not willing to sell products on credit. (Note that economic crisis started in 2008.)

Table 3. Descriptive statistics of dependent variables (n = 7 of each country)

	Estonia	Latvia	Lithuania	Russia
TLEV				
Mean	0.158	0.222	0.222	0.196
Median	0.127	0.218	0.220	0.189
Standard deviation	0.155	0.012	0.021	0.024
Maximum value	0.613	0.240	0.265	0.222
Minimum value	0.000	0.209	0.194	0.167
LTLEV				
Mean	0.075	0.103	0.123	0.124
Median	0.029	0.101	0.122	0.122
Standard deviation	0.108	0.008	0.012	0.010
Maximum value	0.599	0.119	0.146	0.141
Minimum value	0.000	0.094	0.107	0.112
STLEV				
Mean	0.083	0.116	0.099	0.072
Median	0.043	0.112	0.097	0.069
Standard deviation	0.111	0.009	0.011	0.016
Maximum value	0.601	0.131	0.119	0.092
Minimum value	0.000	0.101	0.087	0.053
TC_TA				
Mean	0.194	0.192	0.189	0.185
Median	0.156	0.198	0.191	0.184
Standard deviation	0.157	0.016	0.011	0.008
Maximum value	0.765	0.207	0.204	0.198
Minimum value	0.001	0.165	0.171	0.175

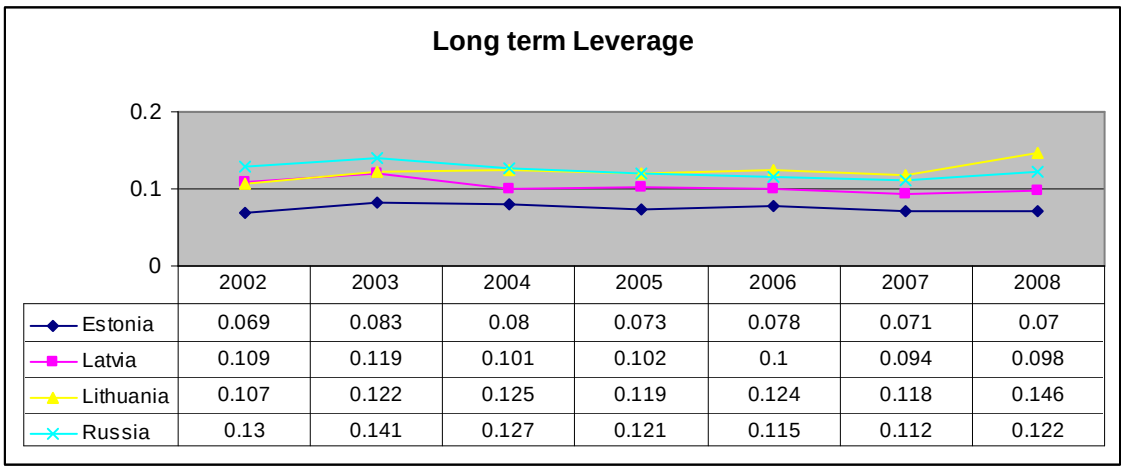
Graphs 4 - 7 reflect dynamics of companies Total, Long term and Short term leverage and Trade Credit/Total Assets indicator.

Graph 4. Total leverage in countries under analysis (2002 – 2008)



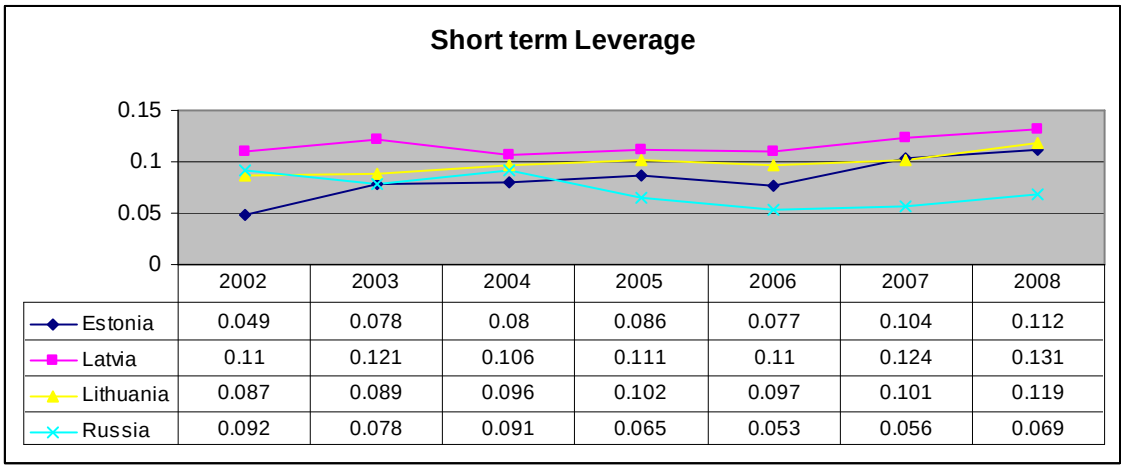
	2002	2003	2004	2005	2006	2007	2008
Estonia	0.118	0.161	0.16	0.159	0.155	0.174	0.182
Latvia	0.233	0.24	0.209	0.214	0.21	0.218	0.23
Lithuania	0.194	0.211	0.222	0.221	0.22	0.219	0.265
Russia	0.222	0.219	0.219	0.186	0.167	0.171	0.189

Graph 5. Long term leverage in countries under analysis (2002 – 2008)



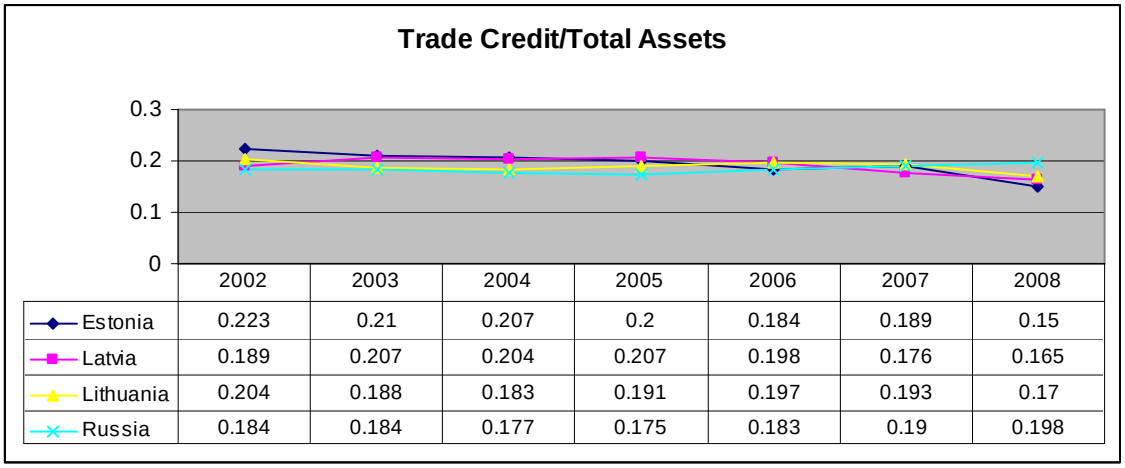
	2002	2003	2004	2005	2006	2007	2008
Estonia	0.069	0.083	0.08	0.073	0.078	0.071	0.07
Latvia	0.109	0.119	0.101	0.102	0.1	0.094	0.098
Lithuania	0.107	0.122	0.125	0.119	0.124	0.118	0.146
Russia	0.13	0.141	0.127	0.121	0.115	0.112	0.122

Graph 6. Short term leverage in countries under analysis (2002 – 2008)



	2002	2003	2004	2005	2006	2007	2008
Estonia	0.049	0.078	0.08	0.086	0.077	0.104	0.112
Latvia	0.11	0.121	0.106	0.111	0.11	0.124	0.131
Lithuania	0.087	0.089	0.096	0.102	0.097	0.101	0.119
Russia	0.092	0.078	0.091	0.065	0.053	0.056	0.069

Graph 7. Trade Credit/Total Assets indicator in countries under analysis (2002 – 2008)



	2002	2003	2004	2005	2006	2007	2008
Estonia	0.223	0.21	0.207	0.2	0.184	0.189	0.15
Latvia	0.189	0.207	0.204	0.207	0.198	0.176	0.165
Lithuania	0.204	0.188	0.183	0.191	0.197	0.193	0.17
Russia	0.184	0.184	0.177	0.175	0.183	0.19	0.198

5 EMPIRIC RESULTS ANALYSIS

5.1 Country-Specific Results Analysis

Correllation analysis was used to analyse the influence of macroeconomic variables to the capital structure of companies included in the sample (see Appendix 1).

Total Leverage in Estonia had a strong positive correlation with Domestic Credit and Number of banks, which shows that credit market development played an important role. The Lithuanian Total leverage was also strongly and positively correlated with Domestic Credit and negatively correlated with GDP growth, which shows that companies tend to reinvest their earned money and this way to avoid borrowing costs. The Russian Total leverage indicator had quite unusual set of strong correlations: positive correlation with Interest Rates and Number of banks and negative correlation with Domestic Credit and Stock Market capitalization. Theoretically, only negative correlation with Stock Market capitalization and positive correlation with Number of banks can be explained – increased competition in the banking sector forced banks to offer loans to the companies at better conditions and costs than equity issue in Stock Exchange. There were no strong correlations with macroeconomic variables in Latvian Total leverage model.

Long term leverage was strongly positively correlated with Stock Market capitalization which signals that increased transparency in reporting reduces asymmetric information and allows banks to offer better borrowing conditions. Latvian long term leverage was strongly negatively correlated with Domestic credit and Inward direct investment, which signals that an important portion of FDI was used to finance companies long term needs, and that companies do not take into account credit market development when they are making long term financing decisions. Whereas, Lithuanian companies, on the contrary, take into account credit market development. Long term leverage in Russia was strongly positively correlated with Number of banks and negatively correlated with Domestic Credit and Stock Market capitalization. It shows that increased number of banks creates more competition and banks tend to offer better financing solutions than Stock Market.

Short term leverage had a strong positive correlation with the number of banks in all analysed countries except of Lithuania. Domestic credit was strongly positively correlated with Short term leverage in Estonia and Lithuania. GDP growth was strongly

negatively correlated with Short term leverage in Lithuania which proves that companies were more likely to finance their short term needs with their profit, gained when economy grew. Stock market capitalization was strongly negatively correlated with Short term leverage suggesting that companies tend to better take a loan than to issue an equity when Stock Market is not developed enough. To sum up, all companies short term financing decisions were based on the situation in credit market and loan conditions. In addition to that, Stock Market development played an important role in both long- and short-term financing decisions in Russia.

Trade Credit/Total Assets indicator in Estonia and Latvia was strongly negatively correlated with the number of banks, which suggests that companies tend to choose Trade Credit in order to avoid unfavourable borrowing conditions. Strong negative correlation with Domestic credit and positive correlation with Stock Market capitalization confirms that unfavourable borrowing conditions encourage companies to take Trade Credit instead of loan. A strong positive correlation between Trade Credit and GDP growth in Estonia signals that companies were more willing to provide Trade Credit, probably due to optimistic future predictions. A strong negative correlation between Trade Credit and Interest rates in Latvia cannot be explained theoretically.

The table below summarizes variables strongly correlated to debt.

Table 4. Variables strongly correlated to debt (0.7 – 1.0)

	Total Leverage	**Long term Leverage**	**Short term Leverage**	**Trade Credit / Total Assets**
Estonia	Domestic Credit (+), Number of Banks (+)	Stock Market Capitalization (+)	Domestic Credit (+), Number of Banks (+)	Growth of GDP (+), Domestic Credit (-), Stock Market Capitalization (+), Number of Banks (-)
Latvia	-	Domestic Credit (-), Inward Direct Investment (-)	Number of Banks (+)	Interest Rates (-), Number of Banks (-)
Lithuania	Growth of GDP (-), Domestic Credit (+)	Domestic Credit (+)	Growth of GDP (-), Domestic Credit (+)	-
Russia	Interest Rates (+), Domestic Credit (-), Stock Market Capitalization (-), Number of Banks (+)	Domestic Credit (-), Stock Market Capitalization (-), Number of Banks (+)	Interest Rates (+), Stock Market Capitalization (-), Number of Banks (+)	-

As we can see the Credit market development played an important role in all analysed countries when making financing decision. Stock market development level played an important role in Russian companies financing decision making process because the Stock Market is much bigger and more developed than in the Baltic States. GDP growth helps companies in Estonia and Lithuania to reduce their borrowings from banks by financing their needs by their profit and Trade Credit.

Other variables, such as Interest rates, Inward direct investment and Growth/decrease in the number of companies listed in the Stock Exchange, were less important in financial decision making process of management during the period analysed in of our research.

5.2 Firm-Specific Variables Analysis

Explanatory power of our analysed firm-specific models of leverage varies between 8.9 – 14.5% (Estonian Total leverage model) and 62.5 – 66 % (Lithuanian Trade Credit/Total Assets model). Trade Credit/Total Assets models have the biggest explanatory power compared with other three models in all analysed countries, varying from 33.8 – 37.8 % in Estonia to 62.5 – 66% in Lithuania (Appendix 2).

Table 5. Statistically significant firm-specific variables

	Total Leverage	**Long term Leverage**	**Short term Leverage**	**Trade Credit / Total Assets**
Estonia	Liquidity (-)	Tangibility(+)	Tangibility (-) Liquidity (-)	Tangibility (-) Liquidity (-)
Latvia	Age (-)	Tangibility (+)	Liquidity (-) Age (-)	Tangibility (-) Turnover (-) Liquidity (-)
Lithuania	Tangibility (-) Profitability (-) Liquidity (-) Age (-)	-	Tangibility (-) Profitability (-)	Tangibility (-) Turnover (+) Liquidity (-)
Russia	Risk (+) Profitability (-)	Risk (+) Profitability (-) Tangibility (+)*	Tangibility (-)	Tangibility (-)

*Tangibility t-statistics in Russian Long term Leverage is 1.998, very near to the significance at 5 % level.

Statistically significant variables are listed in Table 5. We will now look more closely at their influence on the financing decisions at the companies in our samples.

Liquidity was the only statistically significant variable negatively related to Total leverage in Estonia. Investors tend to choose more liquid companies to invest in. Therefore, less liquid companies have to take on more debt to finance their needs. Age was the only statistically significant negative variable in the Total leverage calculation in Latvia, suggesting that younger companies take more debt to finance their needs because, as they are still at the early stages of the business growth they do not have sufficient internal funds. Whereas, older firms either have more internal financing solutions or can more easily issue equity to raise their funds. Total leverage in Lithuania is negatively influenced by Liquidity and Age, as is Latvia too. In addition to that, Tangibility and Profitability also have a strong negative impact on Total leverage in Lithuania as well, suggesting that companies tried to reinvest their retained earnings in order to satisfy their financial needs, first of all. Then they might issue some equity and take debt as the last source of finance. It helps companies to reduce their risk and borrowing costs. This scenario is quite common in developing countries because the bond market is still developing, shareholders' rights protection legislation is weak, banks provide short-term liquidity loans rather than long-term financing to enterprises. Therefore, companies tend to rely on equity to finance their capital investments especially because in this way managers reduce their risk of failure and share capital may be a cheap or even a free source of finance. Therefore, managers may perceive retained earnings to be the quickest and easiest source of financing followed by new equity issuance and bank loan.

Tangibility was a statistically significant positive variable in the Long term leverage models of Estonia, Latvia and Russia, suggesting that the amount of collateral available influences the size of loan available. Tangibility's positive correlation with leverage can be explained by Agency Costs Theory (particularly, conflicts between shareholders and debtholders). As shareholders tend to take risky decisions and invest into risky projects, debtholders have to consider those decisions more carefully: to consider asymmetric information factors, like the risk of adverse selection or moral hazard, especially in smaller firms. Thus, lenders require higher collateral, and firms having higher collateral can obtain a higher level of debt. In terms of debt maturity, collateral is more important for long-term debt, as it is more risky than short-term debt. Collateral is even more important in developing countries where economic environment and business conditions are not yet completely settled. Positive correlation between Risk and Long term leverage suggests that managers of companies with higher business risk tend to finance their needs by long term loan rather than equity, even

though additional credit risk supplement might be required. Equity for companies with higher business risk may not be available due to strict Stock Market regulations or asymmetric information problem. This positive correlation between Long term debt and Business risk can be explained by the liberal firms crediting policy in banks of these developing countries and loan market's segmenting, when more risky firms receive mispriced debt, forming higher target debt level in the firms. It only suggests that leverage in these countries is affected not by supply, but by demand. Profitability is statistically significantly negatively correlated with Russian Long term leverage which confirms Pecking Order theory. There are no statistically significant variables in Lithuanian Long term leverage equation.

Tangibility was a statistically significant negative variable in Short term leverage models in all countries, except in Latvia. It confirms once again that companies in developing countries are very much dependent on collateral when it comes to taking a loan. Therefore, companies with smaller tangible assets are taking more short term debt. Liquidity was a statistically significant negative variable in Estonian and Latvian Short term leverage models. It means that less liquid companies use Short term debt as the most available financing option, as equity and long term debt may not be available for them due to strict conditions set by banks. Age played an important role in Latvian Short term leverage model signalling that the younger firms have more short term debt, probably due to better short term debt availability for them in banks and less requirements. Profitability is a statistically significant negative variable in Lithuanian Short term leverage which again confirms Pecking Order theory.

Tangibility was a statistically significant negative variable in Trade Credit/Total Assets model in all countries under analysis. Liquidity was also a statistically significant negative variable in Trade Credit/Total Assets model in all countries, except in Russia. These results are quite similar to Short term leverage models' results. They once again confirm the fact that the collateral plays the key role in debt availability, and companies having less tangible assets take more Short term debt and Trade Credit. In The Baltic States less liquid firms take more Trade Credit because their Short term liabilities are already big and they tend to avoid more debts and borrowing costs. Turnover was statistically significant in both Latvian and Lithuanian Trade Credit/Total Assets model. However, their signs are different. Turnover was negatively related to Trade Credit in Latvian model, suggesting that companies with the lower turnover have more Trade Credit. It might be due to strict banks' borrowing policy that firms with the lower

turnover find Trade Credit as the only alternative to finance their needs. Whereas Turnover was positively related to Trade Credit, suggesting that suppliers tend to trust and give more credit to more efficient firms.

To sum up, the most factor influencing financial decisions of most of firms in our samples was Tangibility, which proves the importance of collateral in loans sector in the countries which just went through transition period. Collateral reduces the risk of loss for the banks. This strong attitude towards avoiding risk (both – for banks and firms) is strongly influenced by uncertainty of economy and business conditions, which came a long way from the Soviet times. Liquidity was an important determinant in defining capital structure in The Baltic States, especially in Short term leverage and Trade Credit models. It signals about companies being risk averse and avoiding taking big loans. Whereas, Russian companies, on the contrary, tend to take more Long term debt to finance their projects. Profitability was also an important negative variable in most of companies in Lithuanian and Russian samples, confirming existence of Pecking Order Theory. Firm size was not significant determinant in any of our analysed models.

6 CONCLUSIONS

Our analysis covered country-level, financial and firm-level determinants of capital structure in Estonia, Latvia, Lithuania and Russia, all economies which recently went through a transition process from a planned to a market economy. Even though the transition process started in 1990s, countries' economies improved a lot. The growth of the economy was empowered by collaboration with Western countries, their expertise and investments, foreign trade and open market in the European Union for The Baltic States. Privatization and legislation played important roles in the countries development as well and influenced further growth of these economies.

An average of Total leverage in The Baltic States and Russia was similar during the period of 2002 – 2008 at between 15.8% in Estonia and 22.2% in Latvia and Lithuania with a Russian average of Total leverage was 19.6%. These leverages are still lower than in most of Western European countries, but will be presumably similar with European countries leverages assuming continued strengthening business relations and partnerships.

Trade Credit was the most important source of finance for all countries in our analysis, making about one third of Total Liabilities in all countries. Trade Credit is found to be important in other developing countries, analysed by other researchers, as well, as it is the least risky source of finance and is available at the lowest borrowing costs, if any occurs. Long term debt and Short term debt made about the same proportion of Total Liabilities, with Long term debt taking more significant part in Lithuanian and Russian Total Liabilities portfolio. Long term debt was so important in Lithuania and Russia because they had the biggest part of Tangible Assets, and this type of assets needs to be renovated and modernised periodically.

Credit market development (Domestic credit and Number of banks) played the most important role in our analysed countries when forming capital structure. The more the credit market developed, the more debt was taken. An increased number of banks created more tough competition and forced banks to provide better lending conditions. Stock market development had a significant influence on leverage level in Russia because there the Stock market is much bigger and has more investors in Russia. The higher Stock market capitalization was, the less debt companies took. Market Timing Theory can explain this balancing of Russian companies between the choice of debt

and equity issue depending on the situation in both credit and equity markets. GDP growth encouraged Estonian and Lithuanian companies to finance most of their financial needs by their presumably increased profit and easier available Trade Credit (because of optimistic future forecasts).

Tangibility was the only significant determinant in firm-related models, especially Long term leverage models, uniting countries in this investigation. The importance of collateral in the credit market and the need for investments into Tangible Assets stipulates it. Liquidity was an important determinant in all Baltic States, especially in Short term leverage and Trade Credit/Total Assets models. It suggests that less liquid firms tend not to increase their debt and to take less risk by taking more Short term debt or (and) Trade Credit. Besides, Short term debt and Trade Credit are less expensive than Long term debt. Russian companies, on the contrary, tend to take more debt, especially Long term debt, when the company has higher business risk. This might be influenced by strict regulations in the Stock Exchange market, which prevents investors from equity issues of risky companies or current shareholders do not allow management to issue more stocks (Agency Costs Theory). Therefore, these companies are forced to take Long term debt (even at the high costs) to finance their needs. Profitability is an important determinant in Lithuanian and Russian companies, signalling about the existent Pecking Order Theory, when companies tend to finance their needs using their own internal funds first. Age was an important determinant in Latvian and Lithuanian companies, where younger companies tend to take more debt. It was probably due to the lack of internal funds and inability to issue equity in Stock Exchange. Age is statistically significant in Latvian Short term leverage formula specifying that younger companies tend to have more Short term debt – either because they want to avoid higher borrowing costs or because banks do not want to give them Long term debt due to the fact that they are newly established, less experienced and more risky firms. Assymetric Information factor might have some influence here as well.

To sum up, the level of leverage of The Baltic States and Russia were quite similar during the period of 2002 - 2008. Even though joining the European Union sped up the development of The Baltic States economies, but it did not have any significant influence on their capital structure.

Determinants of capital structure were similar in The Baltic States and Russia as well: Credit market development and Tangibility had the biggest influence when making

financing decisions. However, the Russian capital structure was influenced by Stock market development as well. An important difference was noticed in risk acceptance perspective: risky Russian companies were more willing to take more debt, especially Long term debt. It might be due to larger size of companies in Russian sample, compared with the samples of the Baltic States, and their expectation to be “too big to fail”.

Finally, all companies have their own specific business models, financial needs and management which make capital structure decisions. These decisions may depend on both objective and subjective factors. Some of them can be measured, while others cannot. Therefore, the results of this research should be treated with caution as it only provides the statistic and econometric analysis of the factors that allegedly influenced the capital structure of the companies in our samples. However, business environment, credit and stock market development and conditions, and, most importantly, managers and banks’ risk perception and attitude towards debt (which was influenced by uncertainty in the economy and Soviet thinking) had key importance during our analysed period. Therefore, further research of the choice of capital structure could be extended into analysis of managers decision making procedure and analysis of the impact the choice of capital structure has to company’s performance.

REFERENCES

Berger, P. G., Ofek, E. and Yermack, D. L. (1997). 'Managerial entrenchment and capital structure decisions', The Journal of Finance, 4 (52), pp. 1411-38.

Bevan, A. A. and Danbolt, J. (2002). 'Capital structure and its determinants in the UK – a decompositional analysis', Applied Financial Economics, 12, pp. 159-70.

Booth, L., Aivazian, V., Demirguc-Kunt, A. and Maksimovic, V. (2001). 'Capital structure in developing countries', Journal of Finance, 56, pp. 87-130.

Bradley, M., Jarrell, G. A. and Kim, E. H. (1984). 'On the existence of an optimal capital structure: theory and evidence', Journal of Finance, 39, pp. 857-77.

Chandler, M. et al. (2002), Growth: experience of and prospects for the Baltic Economies, http://www.cerge.cuni.cz/pdf/gdn/grp_final_baltics.pdf [21-09-2009].

Chaplinsky, S. and Niehaus, G. (1993), 'Do Inside Ownership and Leverage Share Common Determinants?', Quarterly Journal of Business and Economics, 32, pp. 51-65.

Chen, J. J. (2003). 'Determinants of capital structure of Chinese-listed companies', Journal of Business Research, 57, pp. 1341-51.

Copeland, T. E. et al. (2003). Financial Theory and Corporate Policy. 4th ed. London: Addison-Wesley. P. 559.

Cornelli, F., Portes, R. and Schaffer, M. (1998) 'The Capital Structure of Firms in Central and Eastern Europe', in Bouin, O., Coricelli, F. and Lemoine, F. (eds.), Different Paths to a Market Economy: China and European Economies in Transition, CEPR/CEPII/OECD.

Delcoure,N. (2007). 'The determinants of capital structure in transitional economies', International Reviews of Economics and Finance, 16, pp. 400-15.

Demirguc-Kunt, A. and Levine, R. (2001). 'Bank-based and market-based financial systems: Cross-country comparisons', in Demirguc-Kunt, A. and Levine, R. (eds.), Financial Structure and Economic Growth: A Cross-country Comparison of Banks, Markets, and Development. Cambridge: MIT Press, pp. 81-140.

Demirguc-Kunt, A. and Maksimovic, V. (1999). 'Institutions, financial markets, and firm debt maturity', Journal of Financial Economics, 7, pp. 77-99.

Drobetz, W. And Fix, R. (2005). 'What are the determinants of the capital structure? Some evidence from Switzerland', Swiss Journal of Economics and Statistics, 141, pp. 71-113.

EBRD Transition Reports. www.ebrd.com

Filer, R.K., Gylfason, T., Jurajda, S. and Mitchell, J (2000). Markets and Growth in the Post-Communist World. http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.31.1584 [22-09-2010].

Frank, M. Z. And Goyal, V. K. (2002). 'Testing the pecking order theory of capital structure', Journal of Financial Economics, 67, pp. 217-48.

Friend, I. and Lang, L. (1988). 'An empirical test of the impact of managerial self-interest on corporate capital structure', Journal of Finance, 43, pp. 271-81.

Global Competitiveness Reports: 2002-2008. World Economic Forum: http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/PastReports/index.htm [13-09-2010].

Hamid, J. and Singh, A. (1992). 'Corporate Financial Structures in Developing Countries', Technical Paper, No. 1, Washington: International Finance Corporation.

Joeveer, K. (2006). 'Sources of capital structure: evidence from transition countries', Working Paper Series 2006-2, Bank of Estonia.

Jong, A., Kabir, R. and Nguyen, T. T. (2008). 'Capital structure around the world: The roles of firm- and country-specific determinants', Journal of Banking & Finance, 32, pp. 1954-69.

Kester, C. W. (1986). 'Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations', Financial Management, pp. 5-16.

Kim, W. S. and Sorensen, E. H. (1986). 'Evidence on the impact of the agency costs of debt on corporate debt policy', Journal of Financial and Quantitative Analysis, 21, pp. 131-44.

Kipišas, T. (2004). 'Kapitalo struktūros optimizavimo problema Lietuvos įmonėse eurointegracinių procesų sąlygomis', Organizacijų Vadyba: Sisteminiai Tyrimai, 31.

Lainela, S. (1994). 'Small countries establishing their independent monetary system: the case of the Baltics', Review of Economics in Transition 5 (1994), pp. 41-57.

Modigliani, F. and Miller, M. (1958). 'The cost of capital, corporate finance, and the theory of investment', American Economic Review, 48, pp. 261-97.

Nivorozhkin, E. (2003). 'The dynamics of capital structure in transition economies', BOFIT Discussion Paper 2, Bank of Finland, Institute for Economies in Transition, 20. BOFIT.

Norvaišienė, R. and Stankevičienė, J. (2007). 'The interaction of internal determinants and decisions on capital structure at the Baltic listed companies', Economics, of Engineering Decisions, 2 (52), pp. 7-17.

Panno, A. (2003). 'An empirical investigation on the determinants of capital structure: the UK and Italian experience', Applied Financial Economics, 13, pp. 97-112.

Rajan, R. G. and Zingales, L. (1995). 'What do we know about capital structure? Some evidence from international data', Journal of Finance, 50 (5), pp. 1421-60.

Standard and Poors Global Stock Market Factbook (2009).

Šabūnas, A. (2002). 'Įmonių kapitalo struktūros formavimas pereinamojo laikotarpio ekonomikos šalyse', The summary of the Doctoral Dissertation. Vytautas Magnus University, Kaunas, Lithuania.

Titman, S. and Wessels, R. (1988). 'The Determinants of Capital Structure Choice', Journal of Finance, 43 (1), pp. 1-19.

Vasiliauskaitė, A. and Rumšaitė, D. (2000). 'Įmonės finansinio sverto sprendimams įtaką darančių veiksnių tyrimas', Socialiniai Mokslai, 4 (25).

Vasilliev, D. (2001). 'Capital Market Development in Russia /Draft Paper/. World Bank. http://lnweb90.worldbank.org/eca/eca.nsf/Attachments/Vassiliev/$File/VassilievPaper.pdf [11-11-2010]

Webber, G. (2009). 'Foreign Direct Investment by Commercial Banks: A Russia Perspective', Business Leadership Review VI:IV. Association of MBAs. http://www.mbaworld.com/blr-archive/issues-64/2/index.pdf (05-10-2010).

Wiwattanakatang, Y. (2001). 'The equity ownership structure of Thai companies', CEI Working Paper Series, No. 2001-8, Institute of Economic Research, Hitotsubashi University, Tokyo, Japan, http://hdl.handle.net/10086/13952.

World Bank Reports. www.worldbank.org

Appendix 1. Correlation of Country-specific variables with analysed leverage indicators and Trade Credit/Total Assets indicator

Estonia							
	GDP	INT	CRED	INV	CAP	BANK	COM
TLEV	-0.543	-0.271	0.719	0.393	-0.360	0.704	0.638
LTLEV	0.384	-0.597	-0.386	-0.007	0.734	-0.440	0.029
STLEV	-0.642	0.430	0.818	0.392	-0.555	0.819	0.627
TC_TA	0.735	-0.572	-0.879	-0.140	0.713	-0.895	-0.404
Latvia							
	GDP	INT	CRED	INV	CAP	BANK	COM
TLEV	-0.525	0.025	-0.374	-0.679	-0.679	0.105	0.089
LTLEV	0.014	-0.682	-0.814	-0.729	-0.144	-0.566	-0.021
STLEV	-0.687	0.665	0.554	-0.016	-0.578	0.816	0.102
TC_TA	0.679	-0.973	-0.624	-0.175	0.694	-0.895	0.021
Lithuania							
	GDP	INT	CRED	INV	CAP	BANK	COM
TLEV	-0.728	0.552	0.891	-0.048	-0.168	0.569	0.503
LTLEV	-0.655	0.475	0.784	-0.201	-0.196	0.502	0.461
STLEV	-0.750	0.593	0.938	0.127	-0.123	0.598	0.509
TC_TA	0.564	-0.489	-0.626	0.454	0.265	-0.540	-0.203
Russia							
	GDP	INT	CRED	INV	CAP	BANK	COM
TLEV	-0.465	0.762	-0.765	-0.644	-0.963	0.824	-0.354
LTLEV	-0.339	0.697	-0.731	-0.644	-0.834	0.785	-0.157
STLEV	-0.542	0.745	-0.692	-0.575	-0.938	0.744	-0.440
TC_TA	-0.176	0.108	0.677	0.693	0.478	-0.684	-0.504

Appendix 2. OLS Regression of Firm-specific variables with analysed leverage indicators and Trade Credit/Total Assets indicator

	Estonia			Latvia			Lithuania			Russia		
	TLEV	LTLEV	STLEV	TC_TA	TLEV	LTLEV	STLEV	TC_TA	TLEV	LTLEV	STLEV	TC_TA	TLEV	LTLEV	STLEV	TC_TA
Intercept	0.241 (0.267) [0.903]	-0.076 (0.171 [-0.445]	0.317 (0.185) [1.718]	0.321 (0.230) [1.395]	0.514 (0.206) [2.491]	0.171 (0.120) [1.418]	0.465 (0.138) [3.365]	0.153 (0.152) [1.009]	0.472 (0.242) [1.951]	0.209 (0.202) [1.038]	0.262 (0.171) [1.531]	0.306 (0.165) [1.853]	0.102 (0.261) [0.389]	-0.100 (0.216) [-0.463]	0.202 (0.105) [1.930]	0.489 (0.168) [2.915]
TANG	0.096 (0.061) [1.569]	0.198 (0.039) [5.057]	-0.102 (0.042) [-2.418]	-0.346 (0.053) [-6.569]	0.153 (0.090) [1.694]	0.246 (0.053) [4.667]	-0.103 (0.060) [-1.696]	-0.275 (0.066) [-4.137]	-0.226 (0.078) [-2.889]	0.123 (0.065) [1.893]	-0.349 (0.055) [-6.305]	-0.266 (0.053) [-4.983]	0.061 (0.090) [0.675]	0.149 (0.074) [1.998]	-0.088 (0.036) [-2.452]	-0.433 (0.058) [-7.496]
SIZE	-0.005 (0.020) [-0.247]	0.008 (0.013) [0.629]	-0.013 (0.013) [-0.940]	0.007 (0.017) [0.417]	-0.009 (0.017) [-0.515]	-0.010 (0.010) [-0.979]	-0.009 (0.011) [-0.755]	0.019 (0.012) [1.492]	0.005 (0.020) [0.242]	-0.005 (0.016) [-0.293]	0.010 (0.014) [0.686]	-0.007 (0.013) [-0.522]	0.005 (0.014) [0.366]	0.010 (0.012) [0.830]	-0.005 (0.006) [-0.805]	-0.003 (0.009) [-0.281]
RISK	0.229 (1.544) [0.148]	-1.077 (0.990) [-1.088]	1.306 (1.068) [1.223]	-0.736 (1.331) [-0.553]	-1.932 (1.689) [-1.144]	0.046 (0.984) [0.047]	2.112 (1.130) [-1.868]	0.798 (1.243) [0.642]	1.762 (2.146) [0.821]	1.321 (1.790) [0.738]	0.441 (1.521) [0.290]	0.088 (1.467) [0.060]	3.066 (1.514) [2.025]	3.419 (1.254) [2.726]	-0.356 (0.607) [-0.586]	-0.216 (0.973) [-0.222]
PROF	0.012 (0.032) [0.382]	-0.011 (0.020) [-0.566]	0.024 (0.022) [1.078]	-0.014 (0.027) [-0.532]	-0.301 (0.247) [-1.219]	-0.168 (0.144) [-1.171]	-0.080 (0.165) [-0.485]	-0.116 (0.182) [-0.638]	-0.786 (0.267) [-2.942]	-0.364 (0.223) [-1.633]	-0.422 (0.189) [-2.230]	-0.180 (0.183) [-0.987]	-0.687 (0.237) [-2.897]	-0.675 (0.196) [-3.434]	-0.012 (0.095) [-0.129]	-0.252 (0.152) [-1.655]
TURN	0.001 (0.002) [0.493]	0.001 (0.001) [0.596]	0.0002 (0.001) [0.161]	0.001 (0.002) [0.390]	0.006 (0.014) [0.398]	0.004 (0.008) [0.503]	-0.002 (0.009) [-0.257]	0.022 (0.010) [2.125]	0.006 (0.017) [0.345]	0.023 (0.014) [1.580]	-0.017 (0.012) [-1.373]	0.045 (0.012) [3.811]	-0.006 (0.007) [-0.886]	-0.007 (0.006) [0.268]	0.001 (0.003) [0.177]	0.002 (0.005) [0.410]
LIQ	-0.036 (0.010) [-3.604]	-0.011 (0.006) [-1.706]	-0.025 (0.007) [-3.631]	-0.039 (0.009) [-4.485]	-0.024 (0.019) [-1.227]	-0.001 (0.011) [-0.068]	-0.026 (0.013) [-2.040]	-0.047 (0.014) [-3.318]	-0.017 (0.008) [-2.068]	-0.008 (0.007) [-1.100]	-0.010 (0.006) [-1.623]	-0.020 (0.006) [-3.494]	-0.002 (0.008) [-0.250]	0.002 (0.006) [0.268]	-0.004 (0.003) [-1.183]	-0.009 (0.005) [-1.899]
AGE	0.0003 (0.001) [0.380]	0.0002 (0.001) [0.331]	0.0001 (0.001) [0.243]	-0.0004 (0.001) [-0.523]	-0.014 (0.006) [-2.230]	-0.005 (0.004) [-1.379]	-0.010 (0.004) [-2.303]	-0.001 (0.005) [-0.278]	-0.011 (0.005) [-2.225]	-0.008 (0.004) [-1.854]	-0.003 (0.003) [-0.959]	0.004 (0.003) [1.297]	8.35E- 05 (0.001) [0.138]	-0.0002 (0.001) [-0.299]	0.0002 (0.0002) [0.961]	-0.0004 (0.0004) [-1.011]
R-squared	0.145	0.271	0.195	0.378	0.182	0.254	0.227	0.435	0.381	0.181	0.487	0.660	0.121	0.204	0.112	0.528
Adjusted R-squared	0.089	0.224	0.143	0.338	0.119	0.197	0.168	0.392	0.317	0.097	0.434	0.625	0.054	0.143	0.045	0.486
S.E. of regression	0.148	0.095	0.103	0.128	0.172	0.100	0.115	0.127	0.125	0.105	0.089	0.086	0.190	0.157	0.076	0.121
F-statistic	2.613	5.745	3.745	9.371	2.886	4.432	3.823	10.008	5.984	2.148	9.219	18.876	1.814	3.369	1.664	12.717
N	116	116	116	116	99	99	99	99	76	76	76	76	100	100	100	100

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