THE SME FINANCING GAP IN SLOVENIA: A MACROECONOMIC PERSPECTIVE ON A MICROECONOMIC SME FINANCING PROBLEM

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Abstract

While according to most economic and international standards Slovenia is no longer thought of as a transition country, it has always been, and will continue to be a good comparative "yardstick" for the region (i.e. Former Yugoslavia). The general purpose of the paper is to analyze the capital structures of Slovenian non-financial, profit-oriented companies (which were not insolvent), estimate the determinants of their capital structures (in particular SME vs. large companies, as well as across specific industry subgroups), and further analyze the impact of the current economic and financial crisis on SME capital structures in the context of the so called SME financing gap. Within this context, the paper more specifically analyzes the issue of trade credit and the so called counter-cyclical substitution effect between trade and bank credit. Additionally, an objective of the paper is also to benchmark the obtained results of our analysis for Slovenia to other transition countries in the region, based on available secondary macroeconomic, banking, financial development, and company data. Our results confirm: (a) the impact of the current financial and economic crisis on all Slovenian companies; (b) a more favorable treatment of large and medium sized companies by the banking sector vis-à-vis micro and small companies in terms of access to finance; and (c) the existence of the so called counter-cyclical substitution effect between trade and bank credit; however only for some company groups, further indicating the 'privileged' status of certain segments of Slovenian companies. Based on the obtained results, further implications for other transition countries in the region are also discussed.

Key words: *SME financing gap, trade credit, counter-cyclical substitution effect, Slovenia*

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1. INTRODUCTION

1.1 Slovenia as a "yard stick"

In the past, Former Yugoslavia was perhaps best described as *"one country with two alphabets, three religions, four languages, five nations and six federal states called republics"*. It served as a *"meeting place of three world cultures and three powerful religions: the Catholic West, the Greek Orthodox East and the Muslim South"* (Horvat, 1971, p. 71). Since its turbulent disintegration in the beginning of the 1990s, each of the former republics and some autonomous territories (now also independent states) have followed their own developmental path.

From an economic perspective Yugoslavia was often compared to a *train*. On the one hand, the most western and economically developed Slovenia represented its *locomotive*. On the other hand, Serbia as its political center was considered as its *conductor*. Furthermore, Kosovo, as the least developed part, was often referred to as the train's *breaks*. The economic data in many ways support this analogy. While Slovenia e.g. represented less than 8 per cent of the total Yugoslav population, it produced close to 20 per cent of its GDP, and over 20 per cent of its industrial production. It also had a five times lover unemployment rate than the Yugoslav average (Silva-Jáuregui, 2004). Jointly, Slovenia and Croatia represented about 28 per cent of the Yugoslav population, but contributed over half to its GDP (Ferfila, 1992). The economic development context was correspondingly worst for Kosovo, and the most southern Yugoslav republics.

Despite the fact that Slovenia was the first Former Yugoslav republic to enter the European Union (EU) in 2004, join NATO, be the first EU accession state to become the member of the Eurozone in 2007, and became an OECD member in 2010, it has always cultured close economic, political and cultural ties with the territory of Former Yugoslavia. Thus, while according to most economic and international standards Slovenia is no longer thought of as a transition country, it has always been, and will continue to be a good comparative "yardstick" for the region.

This paper analyzes the SME financing gap in Slovenia, based on the analysis of the capital structures of Slovenian non-financial, profit-oriented companies available from The Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES), to which all Slovenian companies have to report to by law. In doing so, it analyzes a series of determinants of SMEs' capital structures, and their impact on company performance in a cross-sectional, robust, multi-linear regression model, with a series of interaction variables.

In particular, we focus in our analysis on the issue of *trade credit*, and its employment by various company size groups in an economic and financial crisis context; as a viable financing alternative.

Furthermore, we also analyze *effect size* changes in company capital structures, including trade credit, between 2006 and 2010, given the onset of the 2008 economic and financial crisis. In this regard it uses the Cohen's *d* coefficient *effect size* statistic, originating in psychometry and psychology research, but making a long overdue entry to economic and management research as well (Breaugh, 2003; Mörec & Rašković, 2011). Lastly, by understanding Slovenia as a comparative "yardstick" to other transition countries of Former Yugoslavia the paper also makes a series of conclusions about the "state" of the SME financing gap, and the issue of SME access to finance in the other Former Yugoslav transition environments; and ranks them according to their level of (dis)similarity to Slovenia.

The general purpose of the paper is to analyze the capital structures of Slovenian non-financial, profit-oriented companies (which were not insolvent), estimate the determinants of their capital structures (in particular SME vs. large companies, as well as across specific industry subgroups), and further analyze the impact of the current economic and financial

crisis on SME capital structures in the context of the so called SME financing gap. Within this context, the paper more specifically analyzes the issue of trade credit and the so called *counter-cyclical substitution effect* between trade and bank credit. Additionally, an objective of the paper is also to benchmark the obtained results of our analysis for Slovenia to other transition countries in the region, based on available secondary macroeconomic, banking, financial development, and company data.

The paper follows the work by Beck, Demirgüç-Kunt & Maksimovic (2008) in the *Journal of Financial Intermediation*, and Demirgüç-Kunt & Maksimovic (1998), and Booth et al. (2001) in the *Journal of Finance* on financing patterns and capital structures of companies in various countries, and their impact on company growth. Our analysis extends and complements the work by Črnigoj & Mramor (2009) on determinants of capital structure in emerging European economies on the case of Slovenia. While the authors focused on *company leverage per se*, our analysis focused specifically on the issue of *trade credit*, as well as highlighting the unique impact of the current economic and financial crisis on the use of trade credit among micro, small, medium sized and large companies separately. Furthermore, while the majority of literature in the area of companies' access to finance focus almost exclusively on company leverage, our analysis decomposes the use of leverage into different dimensions (i.e. bank credit vs. trade credit). In this context, we analyze solely trade credit, and use bank credit as an explanatory variable. Here, we directly build on the *dynamic behavior and trade-off perspective* between trade credit and bank credit, based on the cyclicality of the economic environment (Biais & Gollier, 1997; Huang, Shi & Zhang, 2011); and where the microeconomic issue of trade credit is also related to its macroeconomic implications (Biais & Gollier, 1997).

In particular, the focus in our analysis on *trade credit* can be seen as a contribution to the study of SME financing, since trade credit is believed to be particularly important for companies with an impaired access to credit institutions (Garciá-Teruel & Martínez-Solano, 2010; *cf.* Petersen & Rajan, 1997; Garciá-Teruel & Martínez-Solano, 2007; Beck, Demirgüç-Kunt & Maksimovic, 2008). However, as Garciá-Teruel & Martínez-Solano (2010) note how most studies examining the issue of trade credit have focused solely on large companies (e.g. Cheng & Pike, 2003; Pike et al., 2005). One exception is the study of Finish SMEs by Niskanen & Niskanen (2006); however their study focused mostly on commercial motives for trade credit among SMEs. Similarly, the study of Garciá-Teruel & Martínez-Solano (2010) published in the *International Small Business Journal* focuses on company motives for granting trade credit, whereby they also support the price discrimination theory, which we discuss further on in the paper.

A further contribution of our analysis should also be seen in the fact that, while most other studies exclude either just micro companies (e.g. Klapper, Sarria-Allende & Sulla, 2002) or both micro and small companies (e.g. Črnigoj & Mramor, 2009; Rajan & Zingales, 1995; Nivorozhkin, 2005), our study includes them in the models, since we believe such an important segment of the population should be the primary focus in the study of SME financing and the SME financing gap. Furthermore, while the so called *counter-cyclical substation effect* between trade and bank credit has been empirically tested on a small sample of listed Chinese companies by Huang, Shi & Zhang (2011), our contribution to this area lies in our data. Thus, our analysis is based on the whole population of Slovenian companies (subject by law to financial reporting), not just listed companies; and further examines the differences between the *counter-cyclical substitution effects* across micro, small, medium sized and large companies. In this context Huang, Shi & Zhang (2011) further point not only to limited empirical evidence on this issue in the literature overall, but particularly to a lack of empirical evidence from non-Western countries, emerging and transition countries. Furthermore, the authors reference only Love, Preve & Sarria-Allende (2007) to have

conducted an empirical analysis of this phenomenon in a non-Western, emerging market and crisis context in Indonesia, Malaysia, Mexico and the Philippines. To the best of our knowledge, this has not yet been employed in a Central or East European country context.

Our paper also builds on the recent study of financing patterns in transition countries by Haas, Ferreira & Taci (2010) published in the *Journal of Banking & Finance*. Furthermore, it complements and extends the limited scope of SME finance gap research in Eastern Europe (e.g. Egerer, 1995; Cornelli, Portes & Schaffer, 1996; Chaves et al., 2001; Črnigoj & Mramor, 2009 etc.). The paper makes an important theoretical contribution related to the study of the *SME access to finance* in general, and the *SME financing gap* in particular (e.g. Parker, 2002; Cressy, 2002; Carter et al., 2005; Rouse & Jayawarna, 2006; Claessens & Tzioumis, 2006; Hussain, Millman & Matlay, 2006); both in a particular regional transition context which has thus received very limited research attention within the research on SME financing in Eastern Europe. Thus, according to Jensen & Uhl (2008; p. 18; *cf.* Klapper, Sarria-Allende & Sulla, 2002) this area *"offers an interesting study base, because of the unique state of financial development and market characteristics, and therefore one can expect that SMEs incorporated in these countries will exhibit a different financing behavior, compared to Western companies"*.

The paper also makes an empirical contribution by analyzing company-level capital structures in a 5-year period, in both a pre-crisis and during-crisis period. This is particularly important, since despite a growing research interest and body of literature in the area of SME financing, most of this research is focused on North-American and Western European contexts (Jensen & Uhl, 2008; Klapper, Sarria-Allende & Sulla, 2002). Within this analysis, an important extension is made not only to the comparison of capital structures across various company sizes, and in particular SMEs; particularly with regards to the changes in the use of trade credit among micro, small, medium sized and large companies.

Importantly, we believe Slovenia is an ideal setting for the analysis of SME capital structures and SME access to finance issues, since it is a small, economically developed country, with a near transition history, and which the World Economic Forum ranks among the so called innovation-based economies. It has a strong bank-dominated financial system, an overwhelming share of SMEs in its business sector, and a widely acknowledge existence of both access to finance problems in general (e.g. World Economic Forum, European Investment Fund, Investment Climate Survey), as well as the SME financing gap in particular (e. g. European Investment Fund and its JEREMIE program; SID export and development bank; Mörec & Rašković, 2011).

1.2 A general comparative economic framework for Former Yugoslav countries

In this section we provide a very brief overview of some of the key economic performance indicators for Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Macedonia, Montenegro and Kosovo, which help set up a general economic and development comparative framework for these countries.

Table 1: Selected economic performance indicators of Former Yugoslav countries (data for 2010-2011)

Indicator	SLO	CRO	BiH	SRB	MAC	MNE	KOS
World competitiveness ranking (WEF)	45/139	77	102	96	79	49	n/a
Population (million)	2.0	4.4	3.8	9.9	2.0	0.6	1.8*
GDP per capita (USD)	24,417	14,243	4,279	5,809	4,482	7,300	2,750*
GDP growth as %	1.2	-1.2	0.8	1.7	0.7	1.4	3.5*
Inflation as %	1.8	1.1	2.1	6.3	1.5	0.5	4.8*
Unemployment rate as %	7.2	17.6	27.2	17.2	32.2	11.2	47 *est.**
Gross external debt as GDP %	108	100.3	15.5	75.9	60.4	45.1	56 *est.**
Government deficit as GDP %	5.7	5.6	4.5	4.8	2.5	3.9	2.6 *est.**
*Country risk rating (0-100) (EUI)***	37	40	52	57	50	n/a	n/a

Source: World Economic Forum, Global Competitiveness Report 2010-2011; IMF, 2011; World Bank, 2011a; SURS, 2011; Izvozno okno, 2011; Economist Intelligence Unit (EUI), 2011. * IMF estimate for Kosovo for 2010. ** Lover number meaning a lower risk rating.

As we can see from the comparison of selected indicators in Table 1, the *train analogy* still holds in many ways. According to most economic performance indicators, Slovenia as an EU member, and Croatia set to join the EU in 2013, are the most developed countries of the group. Comparing Slovenia's GDP per capita with other countries, its GDP per capita is close to twice higher compared to Croatia, four times to Serbia, six times to Bosnia and Herzegovina, and about eight times to Kosovo. In terms of overall economic performance and competitiveness Slovenia and Croatia represent the most developed parts of Former Yugoslavia, followed by Serbia and Montenegro, and Macedonia, Bosnia and Herzegovina, and Kosovo in the third subgroup.

Having outlined and benchmarked all the Former Yugoslav countries on selected key economic and competitiveness indicators, the next section more specifically addresses the issue of access to finance, and selected indicators of financial development in these countries.

1.3 The problem of access to finance in Slovenia and other Former Yugoslavia transition countries

With regards to *"access to finance"* being one of *"the most problematic factors for doing business"* the World Competitiveness Report (WEF, 2010-2011) reports as follows for the Former Yugoslav countries.

Table 2: Access to finance as one of the most problematic factors for doing business (data for 2010-2011)

Access to finance as a problem	SLO	CRO	BiH	SRB	MAC	MNE	KOS
Share of responses (in per cent)	17.4%	10.9%	13.5%	9.1%	15.1%	16.4%	n/a
Ranking among 15 listed factors	1st	5th	1st	4th	2nd	2nd	n/a

Source: World Economic Forum, Global Competitiveness Report 2010-2011.

In all of the compared Former Yugoslav countries, except for Kosovo where data is unavailable, access to finance is an important impediment to conducting business. Among the compared countries access to finance was perceived relatively most problematic in Slovenia (1st place ranking out of 15 "problematic factors"; 17.4 per cent of responses), and least problematic in Croatia (5th place; 10.9 per cent of responses) and Serbia (4th place; 9.1 per cent). While at first glance, it may appear that financing is much less problematic in Croatia and Serbia, a more careful examination of the most problematic factors for doing business in these two countries shows how *inefficient government bureaucracy*, *taxation* and *corruption*

are seen as relatively more important impediments to business in these two countries; and much less in Slovenia.

Table 3: Selected access-to-finance indicators for Former Yugoslav countries

Indicator	SLO	CRO	BiH	SRB	MAC	MNE	KOS
Ease of access to loans (WEF)	56/139	81	102	91	122	25	n/a
(Ease of) getting credit (WB)	116/183	65	65	15	46	32	32
Financial market development (WEF)	77/139	88	113	94	87	28	n/a
Availability of financial services (WEF)	77/139	88	119	111	122	76	n/a
Affordability of fin. services (WEF)	78/139	94	120	99	112	62	n/a
Financing through local equity (WEF)	84/139	96	102	101	85	50	n/a
Venture capital availability (WEF)	45/139	108	126	102	72	24	n/a
Soundness of banks (WEF)	110/139	66	100	115	78	94	n/a

Source: World Economic Forum, Global Competitiveness Report 2010-2011; World Bank, Doing Business In, 2011b.

Linking the selected access-to-finance and financial development indicators from the World Economic Forum *Global Competitiveness Report*, we see that while Slovenia scores relatively favorably on indicators such as e.g. *availability of financial services*, *financial market development* and *ease of access to loans*, it scores the worst in the area of *getting credit* and *soundness of banks*. Surprisingly, Slovenia and Montenegro score most comparably on the majority of selected indicators.

Since all compared countries score relatively low on *financing through local equity* market, and have a Continental-European, bank-based financing system Table 4 provides an overview of some of the key indicators of the banking systems in each of the compared countries.

Table 4: Selected indicators of banking systems of Former Yugoslav countries (where not stated otherwise the data given is the official data for 2010)

This table will showcase selected indicators of the banking sector and its development in the compared countries. We are still waiting for the 2010 data, so this table is still pending!

Source: European Banking Federation, 2011; annual reports for the year 2010 of national banks in every selected country.

2. SME FINANCING AND THE SME FINANCING GAP

2.1 The SME financing gap

Both institutional policy makers (e.g. European Investment Fund, European Investment Bank, World Bank, International Monetary Fund, OECD etc.) and the scientific literature (Storey, 1994; Berger & Udell, 1998; Gregory et al., 2005; Beck & Demirgüç-Kunt, 2006; Vos et al., 2007; Beck, Demirgüç-Kunt & Maksimovic, 2008 etc.) recognize a mismatch between the supply of quality-at-affordable-price financing, and the need (demand) for such financing among companies in the market. This discrepancy, often referred to as the *financing gap*, is thought to be most prevalent among SMEs, which correspondingly tend to display most sub-optimal capital structures (Ang, 1992; Avery, Bostic & Samolyk, 1998; Berger & Udell, 1998; Rouse & Jayawarna, 2006; Claessens & Tzioumis, 2006). In this regard, some describe SMEs as the *"disadvantaged real sector"* (Rouse & Jayawarna, 2006, p. 389), while others believe them to be *"financially frustrated"* (Vos et al., 2007, p. 2649). In addition, there is many anecdotal evidence that SMEs are the prime victims of the so called *"credit crunch"*, especially in times of financial crises (European Commission, 2009).

2.2. SME financing and the SME financing gap in transition countries

In an OECD (2006) country survey among 20 OECD and 10 non-OECD countries 80 per cent of the OECD and 90 per cent of the non-OECD countries confirmed the existence of the SME financing gap. Furthermore, according to the OECD report *"many OECD countries consider this gap to be an important policy challenge"* (OECD, The SME financing gap, 2006, p. 10). This clearly shows that the issues of SME financing and the so called SME financing gap are prevalent both in developed, as well as transition countries (Rašković & Durukan, 2010, Park, Lim & Koo, 2008; Jensen & Uhl, 2008; European Investment Fund, 2007; OECD, 2006). However, the OECD (2006, p. 13) believes that this gap is more *"pervasive"* in emerging and transition markets. Despite this, little research attention has so far been focused on holistically analyzing the characteristics of the SME financing gap *per se* in transition contexts. Existing studies in this area have thus only analyzed e.g. (1) the banking sector in transition countries as the main financing vehicle (e.g. Haas, Ferreira & Taci, 2010; Koutsomanoli-Filippaki, Margaritis & Staikouras, 2009; Beck, Demirgüç-Kunt & Maksimovic, 2008: Bratkowski, Grosfeld & Rostowski, 1998), (2) firm-level financing choices and capital structures of SMEs (e.g. Blalock, Gertler & Levine, 2008; Nivorozhkin, 2005; Agarwal & Mohtadi, 2004; Klapper, Saria-Allende & Sulla, 2002; Ramamurti & Vernon, 1991), or (3) financing of specific SMEs subgroups, like high-tech SMEs (e.g. Radas & Božić, 2009).

In analyzing the differences of the SME financing gap in transition countries, the specifics of these environments and their SME financing implications, are linked to both the *supply* and the *demand* side of the gap. Related to the two sides, an important observation is made by Jõeveer (2006), stating that *country-specific factors* (supply side) are believed to be more relevant of capital structures of unlisted companies; mainly SMEs. On the other hand, *firm-specific factors* (demand side) are believed to be more relevant in explaining the capital structures of large (unlisted) companies (Jensen & Uhl, 2008).

2.2.1 Country-specific (supply side) factors

With regards to the country-specific (supply side) factors relevant to SME financing, these can be grouped into the following three groups, namely: (1) the *general country environment for conducting business* (e.g. level of corruption; inflation, legal environment, tax system etc.); (2) *type of financial market and its development* (e.g. bank-dominated or equity-dominated; ownership and efficiency issues etc.); and (3) *type and development of the supporting institutional environment* (e.g. fragmentation, synchronization and efficiency of supporting and development finance institutions directly linked to SMEs).

2.2.1.1 General country (business) environment factors

Related to the general country (business) environment *corruption* has been posited to be closely linked to e.g. financial stability (Hillman & Krausz, 2005). Thus, according to the empirical findings of the two authors higher levels of corruption, which are symptomatic for transition environments, decrease companys' financing leverage, reduce financial intermediation, increases the uncertainty and risk, and leads to *"more expensive credit and/or less credit availability"* (Jensen & Uhl, 2008, p. 51). Similarly, a study by Beck, Demirgüç-Kunt & Maksimovic (2004) has also found corruption, together with the existence of financial and legal rights, to consistently *"constrain the growth of smaller firms"* in an extensive cross-country study (Berger & Udell, 2006). Also very important, the *"marginal benefit of lowering the corruption"* increases with higher levels of corruption (Jensen & Uhl, 2008, p. 26).

Next to corruption *inflation* has also been closely related to the study of the supply side of an impeded SMEs' access to finance. In a study of transition countries by Nivorozhkin (2005) the level of country inflation has been shown to be negatively related to company financing leverage, since according to Booth et al. (2001) companies seem to be able to *"borrow against real, but not inflationary growth prospects"* (Nivorozhkin, 2005, p. 148). Having said this, the negative impact of inflation on SME borrowing can thus be related to both the micro dimension of its real growth prospects, as well as the macro dimension of the stability of the economic environment as a whole, and the corresponding implications on the banking sector (and its borrowing/lending activity).

Next, the *legal environment and creditor protection* also directly impacts not just SME access to finance, but also the temporal length of such financing. E.g. Hall & Jörgensen (2006) have established a positive link between *creditor rights* (creditor protection) and *company leverage* across a sample of East European companies. La Porta et al. (1998) has also linked the efficiency of the overall legal environment to propensity and type of lending in a transition context. Adding to this, Egerer (1995) has shown on a sample of Czech companies the direct impact of the level of *creditor rights* and especially *collateral laws* on financing barriers of Czech companies. Similarly, Chaves et al. (2001) have been able to link the length of company financing (e.g. long-term financing) to the development and strength of the overall *legal system* in a study of country-specific factors in a sample of Romania companies. With regards to the issue of legal enforcement Arellano, Bai & Zhang (2007) have outlined how effective legal enforcement stimulates company financing, and acts as a sort of *subsidy*, while a weak and inefficient legal enforcement impedes company financing, and acts as a sort of *tax*.

A country's *tax system* does not only directly influence the behavior and company investment behavior as such, but can also be related to the a company's financing behavior and corresponding capital structures in the context of the *pecking order theory*. Going back to the earlier work of Modigliani & Miller (1958), and Modigliani & Miller (1963) companies were posited to use so called *tax shields* (related to interests), adjusting their financing behavior and corresponding capital structures to pay less taxes. Thus within the so called *trade-off theory*, tax regulation directly impact both the use of tax shields and cost of leverage (Jensen & Uhl, 2008; *cf.* Jensen & Meckling, 1976). Outlining this perspective empirically, Lopez-Garcia & Sogorb-Mira (2008) have shown a higher nod-debt tax shield leading to lower company leverage.

Table 5 provides a summarized comparison of the selected country-specific factors overviewed so far for the Former Yugoslav countries, which we be used in the discussion of the results towards the end of the paper.

Table 5: Summary of selected country-specific factors related to SME financing (data for 2010-2011)

Indicator	SLO	CRO	BiH	SRB	MAC	MNE	KOS
*Corruption (corruption perception index)**	6.6	4.1	3.2	3.5	4.1	3.7	2.8
Inflation (2010/2009 year-on-year change)	1.8	1.1	2.1	6.3	1.5	0.5	4.8**
Strength of legal rights index (0-10)	5.0	6.0	5.0	8.0	7.0	10.0	8.0
Legal rights index ranking	60/139	60	75	20	39	6	n/a
Strength of investor protection (0-10)	6.7	4.0	5.0	5.3	6.7	6.3	2.7
Enforcing contracts ranking	60/139	47	124	94	65	135	155
Paying taxes raking	80/139	42	127	138	33	139	41
Total (profit) tax rate as %	35.4	32.5	23.0	34.0	10.6	26.6	16.5

Source: Transparency International, 2010; World Bank, Doing Business In, 2011b; World Economic Forum, Global Competitiveness Report 2010-2011; IMF, 2011. *Corruption perception index measured on a scale from 0.0 to 10.0. A lower CPI score implies a higher level of perceived corruption in a given country. ** IMF estimate for Kosovo for 2010.

As can be seen from the comparison from Table 5 apart from Slovenia, most other Former Yugoslav countries display elevated levels of perceived corruption, which is extremely high particularly in Kosovo. While the 2010 data on average annual rates of inflation may not be particularly relevant, due to the current economic crisis, most of these countries were marked by higher levels of inflation prior to the crisis. Apart from Croatia, the enforcement of contracts is very poor (and only moderate in Croatia), while the tax system being consistently stated as unfavorable, and one of the most problematic factors for doing business across all of the compared countries (WEF, Global competitiveness report, 2010-2011).

Additionally, a series of other country-specific factors should also be taken into consideration, as e.g. *GDP and GDP growth* related to company leverage (Nivorozhkin, 2005), *cost of debt* and so called *distress cost* (Jensen & Uhl, 2008), *access to information and information transparency* (Jõeveer, 2006), *accounting standards* (Jensen & Uhl, 2008; *cf.* Jõeveer, 2006), *openness of the economy* and *trade barriers* (Lipczynski, 2006) etc.

2.2.1.2 Type of financial market and its development

Related to the type of financial market and its development an important distinction should first be made between a *bank-dominated* and *equity-dominated* financial market. In an extensive 40-country study Demirgüç-Kunt & Maksimovic (2002) have been able to establish a stronger propensity to short-term financing in a bank-dominated market, vis-à-vis a stronger propensity to long(er)-term financing in a equity-dominated market setting; holding all other things equal. Their findings however show that these two systems influence the capital structure of companies, but do not necessarily imply a difference in access to finance of companies *per se*.

Secondly, within a bank-dominated financial market, typical for continental Europe and its transition countries, an important point raised by myriad authors is related to the issues of bank *ownership* and bank *size* (Haas, Ferreira & Taci, 2010; Berger & Udell, 2002; Petersen & Rajan, 2002). In an extensive study of bank loan portfolios by Haas, Ferreira & Taci (2010, p. 389)[3] have shown domestic banks to be more inclined towards lending to local SMEs, as they *"tend to have a deeper understanding of local businesses and base their decisions on the 'soft' qualitative information that is available on local and smaller firms with whom they develop long-term relationships"*. Similar conclusions were also drawn by Berger, Klapper & Udell (2001), and Berger et al. (2008). Complementing this perspective, Claeys & Hainz (2007) further distinguish between *greenfield* and *brownfield* (acquisition) foreign ownership. According to the authors, while greenfield foreign banks rely only on hard client information, acquired banks are still able to tap into soft information on long time clients prior to the acquisition, but use only hard information on new clients due to standardized and newly institutionalized procedures (Van Tassel & Vishwasrao, 2007).

With regards to ownership Koutsomanoli-Filippaki, Margaritis & Staikouras (2009) have on the other hand shown foreign-owned banks to be better in terms of both *efficiency* and *productivity*, relative to domestically-owned and state-owned banks.

Related to bank *size* Haas, Ferreira & Taci (2010, p. 390) have outlined how *"large banks may have a comparative advantage in lending to large customers as they can exploit scale economies in evaluating the hard information that is available"* on large companies. On the other hand, small banks should be more able to tap into soft(er) information and have a comparative advantage in lending to SMEs. While De la Torre, Martinez Peria & Schmukler (2008) have suggested technological developments (e.g. credit sourcing and asset-based

[3] Their analysis was performed on two data sources: The Banking Environment and Performance Survey (BEPS) conducted in 2005, and BankScope.

lending) to lead to an eventual focus and development of economies of scope, and a comparative advantage in SME lending, the presented data on bank loan portfolios by Haas, Ferreira & Taci (2010) does not confirm this conjecture.

Lastly, both *leasing*, *trade credit* and *factoring* can also be used by SMEs to *"compensate"* for external bank financing (Beck, Demirgüç-Kunt & Maksimovic, 2008, p. 467; Frank & Maksimovic, 2001). However, as the results by a 39-country study by Beck, Demirgüç-Kunt & Maksimovic (2008, p. 468) show that *"small firms do not use disproportionately more leasing or trade finance"* and can thus not fully compensate their lack of external bank financing. The limited use of *trade credit* as an appropriate alternative to external debt financing was also analyzed by Garciá-Teruel & Martínez-Solano (2010, p. 215) in an elaborate European study of over 47,000 SMEs between 1996 and 2002. Their results have shown that companies with alternative sources of financing *"are less likely to resort to vendor financing"* and that SMEs tend to receive much less trade credit, compared to large companies; thus also supporting the inadequate nature of trade credit as a viable external financing source for SMEs.

2.2.1.3 Type and development of the (supporting) institutional environment

Fan, Titman & Twite (2003) showed 'institutional factors' to be a significantly higher predictor of company capital structure, relative to other factors, even industry affiliation. In a study of the role of *institutional factors* on the capital structures and debt-maturity choices of SMEs by La Rocca, La Rocca & Cariola (2010, p. 234) between different regions in Italy, their evidence has show that controlling for various company characteristics *"corporate financial decisions are not only the result of firm-specific or industry-specific characteristics, but are also based on the institutional climate in which a firm operates"*. The authors further reference a series of studies that have expanded the traditional research on company capital structures, and also include the influence of the affect of institutional factors on financing choices of companies, namely SMEs, and their corresponding capital structures; mainly debt maturity (see e.g. Demirgüç-Kunt & Maksimovic, 1996; Demirgüç-Kunt & Maksimovic, 2002; Giannetti, 2003; Hall, Hutchinson & Michaelas, 2004; Utrero-González, 2007; Hernandez-Canovas & Koeter-Kant, 2008).

In an examination of bank loan portfolios in 20 transition countries, Haas, Ferreira & Taci (2010) have also established a direct link between the *perceived quality of the institutional environment* and bank lending. In countries where the perceived quality of the institutional environment was higher all banks, and in particular foreign-owned banks, displayed a higher propensity towards SME lending.

The importance of institutional country factors was also tested directly in the measurement of the SME financing gap by Claessens & Tzioumis (2006, p. 12), based on selected institutional data from the World Bank's *Doing Business In* survey. The authors were able to show *"a countries' institutional environment is important"* and a determinant of the nature of the SME financing gap. This complements the earlier work by Claessens, Djankov & Nenova (2001, p. 1), where they were able to show in a sample of 11,000 companies across 46 countries that *"corporate financing patterns around the world reflect countries' institutional environments"*.

With regards to the institutional environments in transition countries, Hasan, Wachtel & Zhou (2009) outline the following institutional factors, and link them to both financial deepening and economic growth in China; namely: *legalization of the economy*, *property rights issues (and intellectual property)*, and *liberalization of political institutions*. More closely related to institutional environments in transition countries of Central and Eastern Europe (CEE), a very recent paper by Li & Ferreira (2011) in the *Journal of Business*

Research has particularly outlined the *inefficiency of regulatory systems*, a lower level of *supporting institutions* in CEE, and a *minimal efficiency of government-based institutions* as the three most important institutional impediments, related to access to finance issues. Thus the level of institutional development and efficiency does not only impact a country's credit rating (Chen, 1999), but may also contribute to a company's access to finance, since *"countries enduring institutional reconstruction [and instability due to inefficiency] tend to rely on informal sources of capital"* (Li & Ferreira, 2011, p. 371; *cf.* Khanna & Palepu, 1997). This has direct implications for SME financing, mainly within the pecking order theory. With regards to new business activity in emerging economies (which also needs financing) De Clercq, Danis & Dakhli (2010) have further confirmed a *"moderating effect of institutional context"* between the *"associational activity"* of companies and their new business activity. The authors were clearly able to show an increased utilization of informal social networks (and their corresponding sources of financing) in environments with a weak institutional environment.

Having provided a brief discussion of the various direct and indirect effects of the *institutional environment* and its various *factors*, with regards to company financing and SME access to finance, Table 6 provides a summarized comparison of Former Yugoslav countries on selected factors of institutional efficiency.

Table 6: *Summary of selected institutional factors related to SME financing (data for 2010-2011)*

Indicator	SLO	CRO	BiH	SRB	MAC	MNE	KOS
Institutions ranking	50/139	86	126	120	80	45	n/a
Institutions score (1-7)	4.4	3.6	3.1	3.2	3.8	4.5	n/a
Property rights ranking	58/139	87	133	122	105	48	n/a
Intellectual property protection	39/139	70	133	111	87	62	n/a
Burden of government regulation	52/139	136	107	131	90	31	n/a
Transparency of government policy-making	23/139	71	139	97	80	36	n/a
Strength of auditing and reporting standards	48/139	81	131	115	70	85	n/a
Efficiency of legal framework (settling disputes)	81/139	126	137	132	99	48	n/a
Efficiency of legal framework (changing regulations)	79/139	126	136	125	110	39	n/a

Source: World Economic Forum, Global Competitiveness Report 2010-2011.

With regards to the so called *development finance institutions* (DFIs) and other public supporting institutions for SMEs Mussasike et al. (2004, p. 2) also outline the importance of DFIs as *"conduits for fiscal [and financial] transfers"*; particularly in developing and transition countries with larger access to finance problems. While according to Mussasike et al. (2004, p. 3) *"DFIs address market, political or bureaucratic imperfections and asymmetry arising from perceived or actual financial risk by delivering a structured package of support to their clients"* and fill the *"gaps in domestic fiscal and term-lending capabilities of under-developed and developing countries"* they can themselves also be sources of further inefficiencies and irregularities. Thus, what is typical of transition environments is a highly fragmented, bureaucratic and non-synchronized support environment, which does not holistically evaluate its results and further facilitates dependency through subsidies and other non-returnable financing (e. g. Rašković, 2008; Rašković, 2009). Furthermore, as the empirical evidence by Beck, Demirgüç-Kunt & Maksimovic (2008, p. 468) has shown that government-based financing does not represent a sufficient alternative to other, mainly bank financing sources, since *"Surprisingly, small firms also do not finance their investment significantly more from government sources or development banks despite the fact that such*

programs are often politically justified as increasing financing for small firms. On the contrary, the coefficient is often negative and significant in some specifications."

2.2.2 Firm-specific (demand side) factors

In terms of *firm-specific* factors contributing to the existence and the deepening of the SME financing gap (and also closely connected to bank lending on the supply side) a series small company specifics can be outlined, namely (Mörec & Rašković, 2011):

- Lack of economies of scale in SMEs' operations (Tether, 1998);
- Lack of collateral (Fraser, 2004);
- Inseparability of the owner's and company's financial position (Berger & Udell, 2006);
- Lack of experience and know-how (Berger & Udell, 1998);
- Limited human resources (Rašković et al., 2011);
- Higher personal involvement and desire for control (Cosh & Hughes, 1994; Hamelin, 2011);
- Pecking order theory and the unwillingness of entrepreneurs to accept external financiers and/or investors (Hussain, Millman & Matlay, 2006; Beck, Demirgüç-Kunt & Maksimovic, 2008);
- Lack of information and knowledge about existing financing sources (Fraser, 2004);
- Lower involvement in various social networks (Vos et al., 2007); and
- Different business objectives, compared to large profit and growth-driven companies (Vos et al., 2007; Curran, 1986; Hakim, 1989).

Furthermore, as pointed out by Park, Lim & Koo (2008) there are conflicting views on the main reason for the existence of the SME sub-optimal capital structures, with some emphasizing more the supply-of-funds side and others more the issues on the demand-for-funds side. However, one thing is for sure: SMEs' capital structures are different compared to capital structures of large companies.

2.2.3 Trade credit and the SME financing gap

Garciá-Teruel & Martínez-Solano (2010, p. 215) define trade credit as a *"delay between the delivery of goods or the provision of services by a supplier and their payment"*. In general the authors outline how *"for the seller this represents an investment in accounts receivable, while for the buyer it is a source of financing that is classed under current liabilities on the balance sheet"*. In this regard, we have operationalized trade credit from the perspective of the buying company as *accounts payable over total liabilities* or assets.

Garciá-Teruel & Martínez-Solano (2010) provide an extensive and systematic overview of the various functions of trade credit, which can be grouped into *operational, commercial* and *financial benefits*. Table 7 provides a summarized overview of these benefits, which provide substantial reasons for the use of trade credit in both business practice, and as a viable financing source.

Table 7: *Summary overview of the various benefits and functions of trade credit*

Function / benefit	Aspect	Key authors
OPERATIONAL	*Aspect 1: The separation of delivery and payment of goods and services results in higher operational efficiency and lower cost of improvements, by reducing the amount of cash needed due to various types of uncertainty.* *Aspect 2: Provision of higher operational flexibility due to redistribution of response to fluctuations.* *Aspect 3: Stimulation of buyer purchases in times of low demand.* *Aspect 4: Stable production, due to impact of trade credit on sales lowers production costs and costs of production volume adaptations.*	Ferris, 1981; Emery, 1984; Emery, 1987;
COMMERCIAL	*Aspect 1: Trade credit as a form of price discrimination.* *Aspect 2: A tool of suppliers to offer implicit guarantees.* *Aspect 3: A tool for market segmentation.** *Aspect 4: A tool for transmitting trust and signaling commitment in a business relationship.**	Brennan et al., 1988; Mian & Smith, 1992; Petersen & Rajan, 1997; Smith, 1987; Lee & Stowe, 1993
FINANCIAL	*Aspect 1: Sellers are better able to assess creditworthiness of buyers due to better contact and relationship history (enabling access to "soft" information).* *Aspect 2: Sellers also have better control over customers, and can easier stop their supplies.* *Aspect 3: Sellers have advantage in the liquidation and case of non-payment.* *Aspect 4: Sellers may have better access to financing and may in turn be more willing to extend trade credit, or it may be cheaper for them to insure their accounts receivable.**	Emery, 1984; Mian & Smith, 1992; Petersen & Rajan, 1997; Schwartz, 1974; Smith, 1987

Source: Adopted from Garciá-Teruel & Martínez-Solano (2010, pp. 217-218). *Added by the authors.

With regards to the relationship between trade credit and bank lending Meltzer (1960) was one of the first to conduct a systematically analysis of the so called *substitution effect* between bank credits and trade credits, where in times of economic and financial constraints, companies with a better access to financing extended the "courtesy" in the form of better trade terms (trade credit) *"to downstream firms which are suffering from bank credit rationing"* (Huang, Shi & Zhang, 2011, p. 1860). This *trade-off perspective* was further expanded on by Schwartz (1974) to more explicitly outline the trade-off between trade and bank credit, either with regards to different costs of borrowing by different types of companies in a "normal" market setting, as well as in a "constrained" (crisis) market setting. More recently, this has perspective has evolved into the study of the so called *counter-cyclical substitution* between trade and bank credit, pursued mostly theoretically by Biais & Gollier (1997); Burkart & Ellingsen (2004); Mateut, Bougheas & Mizena (2006); and Bougheas, Mateut & Mizena (2009). Most recently, this *counter-cyclical substation effect* was empirically covered by Huang, Shi & Zhang (2011) on a small sample of 284 listed Chinese companies; and empirically confirmed.

However, not all empirical evidence fully supports the *trade-off* and *counter-cyclical substitution perspectives* with regards to trade and bank credit. Thus, e.g. Cook's (1999) results from a sample of small Russian companies actually establish a *complementary relationship* not a *substitution relationship*; albeit in a setting of *"extreme financial chaos"* in Russia (Huang, Shi & Zhang, 2011, p. 1861). A similar empirical observation has also been

outlined for manufacturing companies in Japan (Ono, 2001), and small companies in the US (Alphonse, Ducret & Severin, 2006).

3. DATA AND METHODOLOGY

3.1 Data set

Our data set was obtained from the official data of the Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES) to which all registered companies in Slovenia have to report to their financial statements, regardless of their size, for tax and statistical purposes. As the nature of non-profit organizations and financial companies significantly differs from the rest of the companies, we excluded them from our analysis. Our sample, obtained from the AJPES, therefore consist of all non-financial, profit oriented companies registered in Slovenia to conduct business between 2006 and 2010. Our analyses insolvent companies (companies with negative equity) were further omitted.

3.2 Operationalization of constructs

Table 8 provides an overview of the operationalized variables in our regression models, accompanied by a brief description and corresponding references in the literature, where they have been previously employed.

Table 8: *Overview of the operationalized variables*

Variable	Brief description	Reference
Trade credit ***(Trade_credit)***	*Accounts payable as a share of total liabilities*	Petersen & Rajan, 1997; Nivorozhkin, 2005; Garciá-Teruel & Martínez-Solano, 2010
Total bank debt (***Bank_debt***)	*Total liabilities to banks as a share of total liabilities*	Garciá-Teruel and Martínez-Solano, 2010
Size* ***(Size)***	*Natural logarithm of turnover*	Rajan & Zingales, 1995; Črnigoj & Mramor, 2009; Klapper, Sarria-Allende & Sulla, 2002; Titman & Wessel, 1988; Nivorozhkin, 2005; Garciá-Teruel & Martínez-Solano, 2010
Profitability ***(ROA)***	*Net operating profit before taxes during the period on assets at the beginning of the period*	Rajan & Zingales, 1995 Črnigoj & Mramor, 2009; Myers & Majluf, 1984; Nivorozhkin, 2005; Garciá-Teruel & Martínez-Solano, 2010
Growth ***(Growth)***	*One-year turnover growth*	Myers 1977; Klapper, Sarria-Allende & Sulla, 2002; Garciá-Teruel & Martínez-Solano, 2010
Collateral ***(Collateral)***	*Sum of tangible fixed assets and investment property as a share of total assets*	Črnigoj & Mramor, 2009; Rajan & Zingales, 1995; Titman & Wessels, 1988; Klapper, Sarria-Allende & Sulla, 2002; Nivorozhkin, 2005
Age ***(lnAge)***	*Years since incorporation (since 1997)***	Diamond, 1989; Nivorozhkin, 2005; Garciá-Teruel & Martínez-Solano, 2010

Source: Own representation. *This variable was further used also as a dummy variable in our regression analysis (*Size_d*).
**Data available only since 1997; however prior to this year companies could be founded in Slovenia with minimal starting capital, so the 1997 is not that relevant.

Having presented the operationalization of our constructions used in our regression analysis, the next section briefly outlines the *effect size* statistic (Cohen's *d* coefficient) and *type of regression* modeling employed.

3.3 Employed methodology

3.3.1 Effect size statistic

According to Breaugh (2003; *cf.* Cohen, 1994) the employment of *effect size* testing should be seen as a methodological upgrade from the traditional reliance on significance testing (DeVaney, 2001). Cohen (1988, p. 9-10) describes the concept of *effect size* as *"the degree to which the phenomenon is present in the population."* By substituting significance testing with effect size testing, we are directly addressing the problem of the influence of sample size on significance tests (Breaugh, 2003), as well as provide more information on the direction and size of the examined phenomenon (Cohen, 1994). This has lead to the emergence of the so called *power analysis* (Cohen, 1992), which has been gaining increasing employment in the scientific community (Rosenthal, Rosnow & Rubin, 2000; Breaugh, 2003).

Thompson (1999) structures the various types of effect size statistics in three group types, namely: (a) based on standardized differences between group means, (b) based on measures of explained variance (Richardson, 1996); and (b) based on measures of association.

In analyses of the descriptive statistics we employ Cohen's *d* statistic (Cohen, 1988), as one of the most widely used and useful effect size measures in power analysis (Breaugh, 2003); since it allows for comparison across samples and variables with different variance, and tackling the issue of heteroscadasticity (Cohen, 1988). Therefore, the use of Cohen's *d* effect size statistic is superior to simple t-test significance testing, as it explains both the amount and nature of the difference, and is unbiased by sample size and differences in variance. Formula 1 provides the mathematical operationalization of Cohen's *d* effect size statistic.

Formula 1: *Cohen's d effect size statistic*

$$d = (M_1 - M_2)/\sigma_{pooled} \text{ ; and where } \sigma_{pooled} = \sqrt{\frac{1}{2}(\sigma_1 + \sigma_2)}$$

Source: Cohen, 1988.

Based on Cohen's (1994) recommendations, the following critical values were used to classify the magnitude of the examined effect sizes, namely: (a) *small effect size* ($d > 0.2$); (b) *medium effect size* ($d > 0.5$); *large effect size* ($d > 0.8$).

3.3.2 Regression model

The dependent variable in our regression model was linked to the determinants of *trade credit* in the context of SMEs' capital structures. For this purpose a cross-sectional, robust, multi-linear regression model was employed, with a series of interaction variables (like e.g. Črnigoj & Mramor, 2009 etc.). We tested the parameters of the following regression model:

$$TradeCredit_i = \beta_0 + \beta_1 Size_i + \beta_2 lnAge_i + \beta_3 ROA_i + \beta_4 Bank_Debt_i + \beta_5 Growth_i + \beta_6 Collateral_i + \beta_1 Size_d_i + \varepsilon_i$$

In the model $Size_d_i$ is a dummy variable, which allows us to partition the sample into four subsamples according to company size class. As variability of the explanatory variables

is particularly strong among micro companies, we applied robust regression, where units with Cook's distance higher than 1 are omitted from estimation to achieve efficient estimation (see Hamilton, 1991). Furthermore, the estimated results for 2008 and 2010 (respectively by different company size groups) were tested with interaction variables to determine the statistical significance of change in regression coefficients.

4. RESULTS

4.1 General descriptive statistics

Table 9 shows that almost all companies (99%) in Slovenia are SMEs companies[4]. In the period 2007-2010 the total number companies increased by 14.2%, but only due to rapid establishment of new micro companies. On the other hand, in the light of the current financial and economic crisis the number of medium and large companies decreased partly due to shrinking business volume (e.g. companies moved to lower size class) or even bankruptcy. In other terms, the size structure of Slovenian companies is becoming very micro-entrepreneurial.

Table 9: *Slovenian company demographics for the 2007-2010 period*

Size	*Number of companies*		*Number of employees*		*Total assets (in mn EUR)*		*Turnover (in mn EUR)*	
	2007	**2010**	**2007**	**2010**	**2007**	**2010**	**2007**	**2010**
Micro	45,232	51,805	135,059	129,706	20,265	20,199	13,417	12,427
Small	1,973	2,434	64,595	72,272	9,912	12,713	8,300	9,359
Medium	797	774	81,211	75,511	10,202	9,907	11,158	10,991
Large	779	721	218,599	185,154	55,231	57,464	40,041	38,574
Total	*48,781*	*55,734*	*499,464*	*462,643*	*95,609*	*100,283*	*72,916*	*71,350*

Source: authors' calculations, based on AJPES database, 2011.

As can be seen from the general data in Table 9 the number of employees in companies of all sizes decreased significantly, due to the crisis. With regards to the increase in the number of micro companies, newly established (micro) companies were not able to replace the loss of jobs in medium and large companies. Furthermore, we can also observe a sharp decline in the growth of assets. After the rapid growth of turnover in the 2006-2008 period turnover steeply declined in 2009. In 2010 turnover, again began to slowly rise.

Next, Table 10 shows the declining share of companies with bank debt between 2007 and 2010. It should be noted, that number of companies (not percentage!) with liabilities to banks rose in the period from 2007 to 2010, primarily due to increasing number of micro companies with bank debt. However, this might be due to increasing number of bank overdrafts and not systematic bank lending.

[4] Classification is based on the Slovenian Companies' Act. Micro companies meet at least two of these criteria: average number of employees does not exceed 10, revenue does not exceed 2 mn EUR, and value of assets does not exceed 2 mn EUR, followed by: small companies (employees < 50; revenues < 8.8 mn EUR; assets < 4.4 mn EUR); medium companies (employees < 250; revenues < 35 mn EUR; assets < 17.5 mn EUR); large companies (all other).

Table 10: *Companies using bank financing and liabilities to banks between 2007 and 2010*

Size	***Number of companies with bank debt***		***Percentage of companies using bank financing***		***Share of total liabilities to banks, relative to total liabilities****	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**
Micro	13,148	14,023	29.1%	28.1%	18.6%	19.8%
Small	1,435	1,754	72.7%	73.4%	21.2%	22.3%
Medium	576	561	72.3%	73.5%	21.9%	23.2%
Large	593	592	76.1%	78.2%	21.4%	28.0%
Total	*15,752*	*16,930*	*32.3%*	*32.6%*	*n/a*	*n/a*
Size	***Number of companies with bank debt***		***Percentage of companies using bank financing***		***Share of total liabilities to banks, relative to total liabilities****	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Micro	14,503	14,887	29.1%	28.4%	19.4%	19.3%
Small	1,794	1,753	72.5%	72.0%	23.1%	24.0%
Medium	575	555	72.8%	71.7%	24.9%	25.6%
Large	573	538	75.7%	74.6%	29.5%	29.1%
Total	*17,445*	*1,.733*	*32.4%*	*31.8%*	*n/a*	*n/a*

Source: authors' calculations, based on AJPES database, 2011. *Median value for companies with bank financing.

Complementing the data in Table 10, Table 11 also provides a further short-term vs. Long-term breakdown of liabilities to banks, but only for companies with bank financing.

Table 11: *Short-term and long-term liabilities to banks between 2007 and 2010 –only for companies with bank financing*

	Percentage of companies using bank financing		***Share of long-term liabilities to banks relative to total liabilities****		***Share of short-term liabilities to banks relative to total liabilities****	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**
Micro	29.1%	28.1%	0.3%	0.1%	6.3%	6.8%
Small	72.7%	73.4%	6.0%	6.4%	8.6%	9.3%
Medium	72.3%	73.5%	6.1%	5.4%	10.7%	11.2%
Large	76.1%	78.2%	6.1%	6.2%	11.9%	14.2%
	Percentage of companies using bank financing		***Share of long-term liabilities to banks relative to total liabilities****		***Share of short-term liabilities to banks relative to total liabilities****	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Micro	29.1%	28.7%	0%	0%	6.8%	6.5%
Small	72.5%	72.0%	8.1%	8.6%	9.0%	8.5%
Medium	72.8%	71.7%	7.7%	8.5%	10.6%	10.5%
Large	75.7%	74.6%	9.8%	10.2%	13.7%	13.7%

Source: authors' calculations, based on AJPES database, 2011. *Median value for companies with bank financing.

Thy structural changes in the share of companies with bank debt financing, across various size groups can be seen; and one can observe: an overall (a) increase in the share of long-term liabilities to banks (compared to total liabilities) after 2008, complemented by a decrease of short-term liabilities to banks in the same period; and (b) a worsened relationship between long- and short-term liabilities to banks for micro companies, in particular. In this regards, the descriptive statistics support the claim of European Commission (2009), how the existence of the so-called credit crunch hit SME companies most severely. Table 12 further confirms this unfavorable trend.

Table 12: *Total liabilities to banks between 2007 and 2010 – only for companies, which use bank financing (median values)*

	2007		2008		2009		2010	
	*%**	*STBL***	*%**	*STBL***	*%**	*STBL***	*%**	*STBL***
Micro	29.1%	18.6%	28.1%	19.8%	29.1%	19.4%	28.7%	19.3%
Small	72.7%	21.2%	73.4%	22.3%	72.5%	23.1%	72.0%	24.0%
Medium	72.3%	21.9%	73.5%	23.2%	72.8%	24.9%	71.7%	25.6%
Large	76.1%	24.4%	78.2%	28.0%	75.7%	29.5%	74.6%	29.1%

Source: authors' calculations, based on AJPES database, 2011.

Notes: *% = percentage of companies that are using bank debt financing out of the whole population of sample companies in a given reference year; **STBL= share of total liabilities to banks, relative to total liabilities.

Lastly, according to data in Table 13 micro and small companies were forced to increase their working capital financing, while on the other hand medium sized and large companies were able to decrease their working capital. The burden of working capital financing in 2008 was inversely proportional to the size of the company, thus: large and medium sized companies were able to significantly reduce their inventories from 2006 to 2008, on the other hand trade credit (accounts payable) decreased in micro and small companies. Also it is worth to note that medium large company slightly decreased their share of short-term liabilities, and sharply increased their share of long-term liabilities 10.8% in 2007 to 15.4% in 2010.

Table 13: *Shares of selected asset and liability components in total assets between 2007 and 2010 - only companies, which use bank financing (median values)*

	INV		*NWC*		*STL*		*LTL*	
	2007	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**
Micro	2.3%	2.0%	10.7%	11.2%	49.6%	49.8%	12.1%	12.5%
Small	11.4%	10.7%	15.5%	15.7%	47.7%	46.9%	15.1%	15.9%
Medium	14.6%	14.4%	16.6%	17.2%	46.3%	46.3%	13.2%	13.4%
Large	8.0%	8.5%	8.4%	8.9%	40.0%	42.7%	10.8%	11.3%
	INV		*NWC*		*STL*		*LTL*	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**
Micro	1.9%	1.9%	12.1%	12.1%	50.6%	49.9%	11.7%	11.2%
Small	10.5%	10.0%	16.5%	15.9%	43.8%	43.0%	17.5%	17.5%
Medium	12.5%	12.4%	17.1%	15.1%	43.4%	42.5%	14.4%	14.2%
Large	6.1%	6.5%	7.6%	7.1%	39.0%	38.8%	15.4%	15.8%

Source: authors' calculations, based on AJPES database, 2011.

Notes: INV= share of inventories in total assets; NWC = share of net working capital in total assets (net working capital = accounts receivable + inventories - accounts payable); STL= share of short-term liabilities in total liabilities; LTL= share of long-term liabilities in total liabilities.

Based on the overview description statistics on selected components of company capital structures between 2007 and 2010 the next section of the paper provides an overview of the estimated *effect size* changes of selected capital structure components, due to the economic and financial crisis. These in turn provide the basis for our regression models.

4.2 Estimation of effect size changes due to crisis

Analysis still pending, due to lack of time.

4.3. Regression model

In this section we have included just the regression tables, since we are still working on the model. All comments related to the model would be greatly appreciated.

The regression coefficients in model 1 (1st regression table) indicate trade credit as an important source of finance for micro companies compared to the companies of other size groups (regression coefficients on Size_d1 positive and statistically significant). However, the level of trade credit in micro companies decreased from 2008 to 2010 compared to other companies (see 2nd regression table, regression coefficients on *Size_d1*d_2010* is negative and highly statistically significant).

On the other hand, trade credit as a source of finance is of lesser importance for medium sized and large companies (see 1st regression table, regression coefficients on Size_d3 and Size_d in model 3 and 4). Yet, both size groups increased share of trade credits in 2010 (see table 2, regression coefficients on *Size_d1*d_2010* and *Size_d1*d_2010* are both positive and highly statistically significant).

The results of our regression analysis indicate that large companies did not only manage to secure additional financing sources from banks (see Table 12 in descriptive statistics), but have also been able to increase trade credit, measured as a share of total assets. On the other hand SMEs, suppliers and contractors to medium and large Slovenian companies, were not only virtually cut off in terms of bank financing (see descriptive statistics), but were also compelled to finance working capital of medium sized and large companies.

	Model 1		Model 2		Model 3		Model 4	
	2008	2010	2008	2010	2008	2010	2008	2010
Constant	-0.276***	-0.186***	-0.110***	-0.063***	-0.124***	-0.069***	-0.135***	-0.085***
	[0.009]	[0.009]	[0.006]	[0.007]	[0.006]	[0.007]	[0.006]	[0.007]
Size	0.034***	0.027***	0.028***	0.022***	0.029***	0.022***	0.030***	0.024***
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
lnAge	-0.016***	-0.015***	-0.019***	-0.017***	-0.018***	-0.017***	-0.018***	-0.016***
	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]
ROA	-0.000	-0.000*	-0.000	-0.000*	-0.000	-0.000*	-0.000	-0.000*
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Bank_debt	-0.033***	0.001*	-0.036***	0.000	-0.038***	-0.000	-0.034***	0.001
	[0.003]	[0.001]	[0.003]	[0.001]	[0.003]	[0.001]	[0.003]	[0.001]
Growth	-0.000**	-0.000	-0.000**	-0.000	-0.000**	-0.000	-0.000**	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Collateral	-0.096***	-0.081***	-0.094***	-0.078***	-0.094***	-0.078***	-0.098***	-0.081***
	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]
Size_d1	0.089***	0.065***						
	[0.003]	[0.003]						
Size_d2			-0.019***	-0.015***				
			[0.004]	[0.003]				
Size_d3					-0.087***	-0.051***		
					[0.006]	[0.006]		
Size_d4							-0.152***	-0.119***
							[0.006]	[0.006]
N	33,230	32,567	33,230	32,567	33,230	32,567	33,230	32,567
R-sq.	0.092	0.070	0.080	0.063	0.083	0.064	0.091	0.070

Source: AJPES, 2011 and authors' own calculations.

Note: Table presents regression results of trade credit (as a share of total liabilities) on the following predictors: firm's size (*Size*), firm's age (*lnAge*), firm's profitability (*ROA*), firm's bank loan (*Bank_Debt*), firm's ability to grow (*Growth*), firm's collateral (*Collateral*) and dummies for size as determined by Slovenian Companies Act (*Size_d*). Standard errors in brackets. *** , ** and * indicates statistical significance at 0.01, 0.05 and 0.1, respectively.

	Model 1	Model 2	Model 3	Model 4
Constant	-0.276***	-0.114***	-0.127***	-0.138***
	[0.009]	[0.006]	[0.006]	[0.006]
Size	0.034***	0.027***	0.028***	0.029***
	[0.000]	[0.000]	[0.000]	[0.000]
lnAge	-0.014***	-0.017***	-0.017***	-0.016***
	[0.002]	[0.002]	[0.002]	[0.002]
ROA	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]
Bank_debt	-0.030***	-0.032***	-0.034***	-0.030***
	[0.002]	[0.002]	[0.002]	[0.002]
Growth	-0.000**	-0.000**	-0.000**	-0.000**
	[0.000]	[0.000]	[0.000]	[0.000]
Collateral	-0.093***	-0.089***	-0.090***	-0.094***
	[0.003]	[0.003]	[0.003]	[0.003]
*Size*d_2010*	-0.007***	-0.005***	-0.006***	-0.006***
	[0.001]	[0.001]	[0.001]	[0.001]
*lnAge*d_2010*	-0.002	-0.002	-0.002	-0.002
	[0.003]	[0.003]	[0.003]	[0.003]
*ROA*d_2010*	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]
*Bank_debt*d_2010*	0.030***	0.031***	0.033***	0.030***
	[0.002]	[0.002]	[0.002]	[0.002]
*Growth*d_2010*	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]
*Collateral*d_2010*	0.009**	0.008*	0.008*	0.010**
	[0.004]	[0.004]	[0.004]	[0.004]
d_2010	0.092***	0.056***	0.063***	0.059***
	[0.013]	[0.009]	[0.009]	[0.009]
Size_d1	0.087***			
	[0.003]			
*Size_d1*d_2010*	-0.022***			
	[0.005]			
Size_d2		-0.018***		
		[0.004]		
*Size_d2*d_2010*		0.003		
		[0.005]		
Size_d3			-0.085***	
			[0.006]	
*Size_d3*d_2010*			0.032***	
			[0.008]	
Size_d4				-0.149***
				[0.006]
*Size_d4*d_2010*				0.028***
				[0.009]
N	65,799	65,799	65,799	65,799
R-Sq.	0.081	0.072	0.074	0.081

Source: AJPES, 2011 and authors' own calculations.

Note: Table presents regression results of trade credit (as a share of total liabilities) on the following predictors: firm's size (*Size*), firm's age (*lnAge*), firm's profitability (*ROA*), firm's bank loan (*Bank_Debt*), firm's ability to grow (*Growth*), firm's collateral (*Collateral*), dummy for year 2010 (*d_2010*) and dummies size as determined by Slovenian Companies Act (*Size_d*). Standard errors in brackets. *** , ** and * indicates statistical significance at 0.01, 0.05 and 0.1, respectively.

5. IMPLICATIONS

Text still pending. Awaiting feedback from reviewers.

6. LIMITATION OF THE RESEARCH AND FUTURE RESEARCH

Text still pending. Awaiting feedback from reviewers.

7. CONCLUSION

Text still pending. Awaiting feedback from reviewers.

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