



Emerging Markets Group

EMG Working Paper Series

WP-EMG-24-2009

***‘Capital Structure and Debt Maturity in Europe:
The Role of FDI in European Integration’***

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March 2010

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Capital Structure and Debt Maturity in Europe:

The Role of FDI in European Integration

We investigate capital structures and debt maturities of firms in Europe, a bank based financial system. We compare firms in EU-15 with firms in accession countries. In EU-15, there is a move towards equity financing. In accession countries, there is a move towards debt financing and debt maturities increase as they enter the EU. FDI is an important source of equity financing. Firms that fail to benefit from FDI fail to survive. High economic growth rates are financed by short-term debt, while FDI replaces long-term debt. This confirms the current plight of firms in Europe due to the credit crunch.

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This research was supported by a Marie Curie Intra-European Fellowship within the 7th European Community Framework Programme. We would like to thank Svetlana Boyarchenko, Cynthia Campbell, Meziane Lasfer, Mario Levis, Gilad Livne, Yan Wendy Lo, Alistair Milne, and conference participants at the FMA 2009 Meeting in Reno, the 2008 Euro Working Group Financial Modeling meeting in London, the 2009 Midwest Finance Association Meeting in Chicago and seminar participants at Cass Business School, at Ca'Foscari University of Venice, at Sabanci University, at Bogazici University for their helpful comments.

We investigate capital structures and debt maturities of firms in Europe. European financial systems are bank based unlike Anglo-Saxon systems. The European Union integration has lead accession countries into a well structured bank based system, while the larger countries of Europe moved towards a market based system. Forming a continental economic union is a unique integration experience. We investigate the firm level impact of those changes. We demonstrate that in EU-15 countries, firms' capital structure is sensitive to the size of the financial sector only. Debt maturity increases as the financial sector develops and as equity funding becomes available with stock market development.

In accession countries, capital structure changes in the direction of debt financing as these countries move toward a bank based system. Debt maturity increases when countries join the European Union (EU) and as Foreign Direct Investment (FDI) inflows provide equity financing. FDI substitutes long-term debt. We provide further analysis of small firms that are the engines of development of Europe, and of firms that could not survive European integration. Every country has a different mix of institutional arrangements and a distinct financial system. Historically in Europe, economies have had bank based systems where more than two-thirds of the financial assets and liabilities consist of bank loans and bank deposits (Vitols, 2001).^{1 2} However, during the past two decades, Europe has experienced two levels of integration: 1) integration at the European level and 2) integration at the worldwide level.³ Repercussions for the developed economies of Europe and the smaller and less developed accession countries have been different. Our analysis has implications for regulating the impact of international integration on the capital structure of firms.

¹ See Gerschenkron (1962) for a historical analysis of bank based systems in Europe and see Vitols (2001) for a detailed comparison of the historical development of bank based and market based systems.

² In contrast, in market based systems like the U.S., securities that are tradable in those markets are the dominant form of financial assets and banks constitute less than a quarter of the financial system.

³ See Rajan and Zingales (2003) for a detailed analysis of changing character of European financing from the banking system and markets.

Developed countries of Continental Europe already had well functioning financial systems, which were bank based. However, they expanded into the market based financial systems of the U.S. In Europe, larger economies' stock market capitalizations went up more than 13 times and the proportion of investments financed through equity increased more than 16 times during the two decades since 1980 (Rajan and Zingales, 2003). For smaller countries, this has not been the case. Many of these stock markets were created and initially used for mass privatizations (Claessens, Djankov, and Klugebiel, 2000). Subsequently, they levelled off and a more developed financial system similar to that of the larger economies of Europe emerged as the countries entered the EU (Caviglia, Krause, and Thimann, 2002). Caviglia et al. (2002) also note that foreign direct investments have been a viable alternative to transition economies in the absence of well established stock markets. They further suggest that with the transition, foreign ownership, especially in the banking sector, has increased significantly.

Early in the 2000s, the FDI flows in the region were mainly driven by Trans National Corporations' investment plans and related cross-border merger and acquisitions following the deregulation and integration in Europe due to the introduction of the Euro. Intra-EU, as well as extra-EU, FDI inflows were significant [See World Investment Report (WIR), 2000]. In developed Europe, the UK and Germany were the major recipients, as well as major outward investors. Central and Eastern European countries were experiencing higher FDI inflows mainly from EU, yet the total FDI inflows were modest at \$23 billion as of 1999. In the following two years, FDI flows decreased consecutively as a result of slow economic growth. This affected Trans National Corporation activity all over the world. A 22% decline in FDI flows to both developed and developing economies were recorded. Yet, Central and Eastern European countries received a record amount of FDI due to EU accession prospects of \$29 billion [See WIR, 2002]. According to WIR (2006), in 2005, FDI inflows into

developed countries rose by 37% to \$542 billion, or 59% of the world total. \$422 billion of this amount went to the EU-25 due to higher cross-border merger and acquisition (M&A) activities and higher market integration in the Euro zone. The major recipients from EU-15 were the U.K., France, and the Netherlands. The 10 new EU members as a group attracted \$34 billion, a rise of 19% over 2004. The new EU-10 member states continue to privatize, reduce corporate income taxes, and provide new incentives to attract more FDI. According to WIR (2007), EU-25 countries received 41% of total FDI flows in 2006. The majority of the FDI came from intra-EU M&As that were largely a result of cross-border corporate restructuring. FDI inflows to new member states increased to \$39 billion, while Germany and Italy remained the major sources of FDI for these countries. Policies to promote FDI in the EU played a role. In new member states, mass privatizations and market liberalizations were continuing, while in the developed economies of EU, several large scale privatizations were completed in 2006. Bevan and Estrin (2004) study the FDI flows from Western European Union countries to Central and Eastern European countries and confirm that EU announcements have been significant determinants of FDI among other common influences. They also detect unusually large FDI flows from smaller EU-15 countries to new member states during the integration process.

EU Accession triggered several changes in accession countries. New countries abided by the convergence criteria and developed closer trade links with the EU-15. Intra-industry trade increased, business cycles synchronized, and financial structures became similar. Accession countries export almost 60-70% of their exports to the EU-15 (Rostowski, 2002; Blaszkiewicz and Wozniak, 2003). FDI to new member states has increased and there has been an increase in the convergence of economic fundamentals of new member states and the EU-15 (Brzozowski, 2003). Financial assets of accession countries were low (Caviglia et al., 2002) and funds available to the private sector were limited. Stock markets have had a short

and disappointing history due to the unsuccessful mass privatizations following the transition. These countries expanded into European markets through FDI inflows. FDI inflows to new member states have increased considerably following the accession. Poland, the Czech Republic, and Hungary were the largest recipients.

Insert Figure I about here.

Adjustment to a new economic regime and operating in an integrated Europe require successful strategies at the firm level in every country. The purpose of our study is to investigate how changes at the macro level affected firms' financing decisions at the micro level. This is the first study to examine the impact of European integration on firms' financial decisions.⁴ Our focus is on the macro factors/financial institutions rather than institutional differences.⁵ In a recent paper, Fan, Titman, and Twite (2008) examine the effect of legal and institutional factors on the capital structure and debt maturities of 39 developed and developing countries. In our paper, we extend their analysis by examining the effect of macro economic and financial markets (particularly EU accession and FDI) on the capital structure and debt maturity choices of European firms. In our paper, we also include accessions states and present comparative findings with respect to EU-15 countries. In this respect, we demonstrate the differences in EU-15 and accession firms' capital structure and debt maturity choices during EU integration. Our data set includes not only listed and unlisted firms, but also small firms in Europe. Small firms form a significant portion of the corporate sector in

⁴ We are not looking into dynamic capital structure choices or optimal capital structure, which has been well studied in the literature by Flannery and Rangan (2006), Antoniou, Guney, and Paudyal (2008), Wanzenried (2006) and others. We are estimating a static model of the capital structure and debt maturity choices of European firms.

⁵ Studies that have looked into institutional determinants of capital structure and debt maturity choices have used various proxies for the legal system, tax system, corruption, and creditor rights. However, our focus is on the macro economic factors and the development of financial institutions. Accordingly, we use a set of financial determinants following Demirguc-Kunt and Maksimovic 1999, Booth, Arvazian, Demirguc-Kunt, and Maksimovic, 2001, Agca, De Nicolo, and Detragiache, 2007, and Fan et al., 2008.

Europe.⁶ We bring out the importance of FDI as a source of equity financing. Equity financing increases as FDI inflows increase. We show that entering EU, a bank based financial system, increases the availability of debt capital and increases term maturities. Our analysis indicates that European companies that fail to benefit from FDI inflows eventually fail to survive.

Our paper is structured as follows. Section I presents the literature, Section II explains the methodology and data, Section III presents our empirical findings while Section IV provides our conclusions.

I. Economic Environment, Financial Markets, and Capital Structure

In this section, we review the literature that has examined the importance of economic and financial factors on the capital structure and debt maturity of firms. Macroeconomic conditions affect the financing decisions of firms (Hackbarth, Miao, and Morellec, 2006; Antoniou et al., 2008). We use the growth rate of real GDP and interest rates as measures of development of macro economic conditions. Leverage is positively related to GDP growth (Nivorozhkin, 2005; Booth et al., 2001; De Haas and Peters, 2006). As Demircuc-Kunt and Maksimovic (1999) suggest, it is an indicator of firms' financing needs. Alternatively, Frank and Goyal (2009) suggest that firms may prefer internal funds during growth periods, as firms would be more profitable in accordance with the pecking order theory. For this reason, the expected sign of the relationship can be either positive or negative. However, considering the established banking system in EU-15 countries, we would expect a positive relationship between leverage and the GDP growth (Booth et al., 2001; Joeveer, 2006). In accession countries with weaker financial systems, supply side issues may rise. Therefore, we would expect a negative association between leverage and GDP growth in accession countries

⁶ "In practice, 99% of businesses in the European Union are SMEs and they provide two-thirds of all private sector jobs," http://ec.europa.eu/enterprise/entrepreneurship/facts_figures.html, Facts and Figures: SMEs in Europe.

(Hussain and Nivorozhkin, 1997; Cornelli, Portes, and Schaffer, 1998). Fan et al. (2008) demonstrate that debt maturity increases with economic development. Greater economic growth lessens the risk of uncertainty and, as such, firms would be willing to borrow more with longer term maturities. Accordingly, we would expect longer debt maturities as real GDP growth rate increases during integration for accession and EU-15 countries.

We use interest rates to proxy the cost of borrowing. Barry, Mann, Mihov, and Rodriguez (2008) find that firms prefer debt financing when interest rates are lower than historical levels. However, it is harder for small and financially constrained firms to execute debt issuance timing to benefit from lower rates as compared to larger firms. Booth et al. (2001) determine that higher interest rates result in lower long-term debt in developing economies. The expected sign of the relationship between interest rates and leverage is negative for both accession and EU-15 countries. As interest rates decrease, the cost of borrowing decreases for corporations resulting in an increase in total liabilities and longer term maturity is expected for both accession and EU-15 countries.⁷

In fact, developing countries have lower long-term debt compared to developed countries (Demirguc-Kunt and Maksimovic, 1999; Fan et al., 2008). Agca et al. (2007) also confirm that firms in emerging economies have shorter maturities when compared to firms in developed economies. Considering the fact that accession countries have shorter stock market histories and less established financial systems when compared to developed EU-15 countries, we would expect to see shorter maturities and lower long-term debt for accession companies.

Increased stock market activity and the development of the financial sector increase long-term borrowing (Delcours, 2007; Demirguc-Kunt and Maksimovic, 1996, 1999). We

⁷ Studies that have used inflation rather than interest rates to proxy for the cost of debt had found a negative relationship between inflation and debt levels (Demirguc-Kunt and Maksimovic, 1999; Booth et al., 2001; Joeveer, 2006). We have also used inflation in alternative estimations. The conclusions do not change. Due to greater correlation between inflation and interest rates, it was not included as an additional variable in the final regression analysis.

measure stock market activity by the stock market turnover ratio. The relationship between leverage and stock market activity can be viewed two ways.⁸ Higher stock market activity may result in either higher equity financing due to greater liquidity in the market or higher debt financing due to lower information asymmetries as a result of greater external monitoring. Agca et al. (2007) and Beck, Demirguc-Kunt, and Maksimovic (2008) find that higher stock market liquidity is actually associated with greater equity financing. We expect to see higher equity financing and longer debt maturities as stock markets develop in accession and EU-15 countries.

In Europe, stock market activity declines in accession countries. Instead, when they enter the European Union, they are exposed to a well established bank based financial system and access to bank loans. We measure development of the financial sector with the ratio of deposit money bank assets to GDP ratio. Beck et al. (2008) demonstrate that a higher level of financial sector development is associated with higher levels of external finance. Thus, we would expect a developed financial sector to enable greater access to external funds and, accordingly, make a positive impact on leverage in accession and EU-15 countries (Demirguc-Kunt and Maksimovic, 1999; Peev and Yurtoglu, 2008). With respect to the sign of the debt maturity, Demirguc-Kunt and Maksimovic (1999) discuss the external monitoring function of financial intermediaries regarding availability of short-term vs. long-term funds. While Fan et al. (2008) find a negative association between debt maturities and the size of the financial sector, Demirguc-Kunt and Maksimovic (1999) find a positive correlation for small firms. We would expect shorter debt maturities in accession countries whose financial systems are still smaller than their EU-15 counterparts and longer debt maturities in EU-15 countries with more established financial systems.

⁸ We have also used stock market capitalization to GDP ratio as a proxy for stock market development. However, its sign was not significant in our analyses consistent with Demirguc-Kunt and Maksimovic (1999).

In Europe, FDI is a particular source of equity financing and a de facto measure of financial integration.⁹ We measure FDI as the ratio of FDI inflows to GDP ratio. FDI acts as a substitute for most local stock markets in accession countries (Claessens, Lee, and Zechner, 2003). In most of them, stock markets have declined as a result of unsuccessful mass privatizations and cross-listings have diverted trade away from local exchanges (Pajuste, 2002). Domestic credit is scarce due to underdeveloped financial systems and FDI becomes a substitute for domestic credit (Krkoska, 2001). Agca et al. (2007) report that financial openness results in greater leverage and foreign affiliates have lower external debt in countries with insufficient capital markets. Thus, they fulfil their financing needs from their parent companies (Desai, Foley, and Hines, Jr., 2004). Accordingly, we would expect higher FDI inflows to result in an increase in equity financing in both accession and EU-15 countries. Conversely, foreign-owned companies are able to outperform local companies, as they can borrow from their parent companies or access to international capital markets and borrow at a lower cost (Blalock, Gertler, and Levine, 2008). If this is the case, we would expect to observe higher debt financing. As a result, foreign ownership matters as it improves access to capital markets. It is a measure of world integration. Agca et al. (2007) demonstrate that financial openness results in longer term maturities in developed countries, but shortens term maturities in emerging markets. Thus, we would expect higher FDI flows to be associated with shorter debt maturity for accession countries and longer debt maturity for EU-15 countries.

Entry to Europe is an important change for accession countries. We measure it separately with a dummy variable. EU membership has a significant effect on international asset holdings and trade flows (Buch and Piazzolo, 2000). As such, capital and trade flows to new members increase once they accede (Clausing and Dorobantu, 2005). We expect new

⁹ Please refer to Kose, Prasad, and Terrones (2008) for a detailed discussion of de jure and de facto measures of financial openness.

member states to have greater access to external financing as FDI becomes available via accession mainly from developed EU-15 countries. However, Haiss and Marin (2003) mention Continental European banks' willingness to lend to new members. Therefore, entry to EU may either increase or decrease leverage, while we expect to observe longer debt maturities.¹⁰

Firm size is an essential factor for access to financing (Titman and Wessels, 1988). Large firms have less probability of financial distress (Rajan and Zingales 1995, Titman and Wessels, 1988) and better access to financing (Klapper, Sarria-Allende, and Sulla, 2002; Demirguc-Kunt and Maksimovic, 1999; Beck et al., 2008; Frank and Goyal, 2009). Therefore, for both accession and EU-15 countries, we would expect smaller firms to have less leverage and long-term debt, which is more difficult to find. Firm size also matters for term maturities. Large firms are subject to less monitoring costs when compared to smaller ones. Additionally, they have higher fixed assets, which eventually enable them to issue secured and long-term debt more easily than smaller firms. Demirguc-Kunt and Maksimovic (1999) point out that large firms have access to bank loans despite an undeveloped banking system. As such, they are "inframarginal" borrowers whereas small firms' borrowing would be more subject to the size of the financial system. Beck et al. (2008) report that weaker financial and institutional development results in poorer access to external financing, especially bank financing for smaller firms. Small firms use less bank credit and rely on informal credit in developing economies. Thus, small firms would be more reliant on the development of the financial sector to access external funds compared to larger firms, while large firms could benefit more from active stock markets. Hence, we would expect small accession firms to have lower long-term debt and work with shorter debt maturities compared to small EU-15 firms.

¹⁰ A "Start of Negotiations" dummy was also constructed. This dummy takes the value one if negotiations with EU have started and zero otherwise. Alternative estimations were conducted with this dummy. Coefficient estimates were mostly insignificant. Results not reported here are available from the authors.

Although capital structure determinants have been widely studied in the literature, the consequences of these decisions on firms' survival have been neglected. We address this issue for European firms by examining the behavior of non-survivor firms. European integration, as mentioned previously, is taking place on financial grounds not only for EU-15 firms, but also for accession firms. The cost of borrowing is declining, economies are growing, there is a greater flow of FDI capital, and financial systems are becoming more established and integrated. In this respect, we would expect to find that non-surviving firms would be the ones who failed to become a part of this change. We would assume that non-surviving European firms' would fail to increase equity financing in response to higher FDI flows and that they would lengthen their debt maturities with respect to lower interest rates and higher GDP growth. Evans (1987) suggests that probability of firm survival is positively associated with firm size while Bridges and Guariglia (2006) find that higher leverage and lower collateral result in a lower probability of survival. Accordingly, we would expect non-survivor firms to have higher debt and lower tangibility.

Asset tangibility, size, and profitability are the most common factors explaining capital structures and debt maturities (Myers and Majluf, 1984; Rajan and Zingales, 1995; Frank and Goyal, 2009). This is the case for bank oriented financial systems as well (Antoniou et al., 2008)¹¹. European managerial views are similar to U.S. managerial views (Bancel and Mittoo, 2004) and firm-specific variables that have explanatory power in the U.S. are used to explain firm leverage in other countries (Rajan and Zingales, 1995; Booth, et al., 2001).¹² We use them to control for firm level factors in all estimations.

II. Methodology

¹¹ Antoniou et al. (2008) analyse G5 countries.

¹² Rajan and Zingales (1995) examine the firm-level determinants of leverage in G7 countries. Booth et al. (2001) analyze the financial leverage decisions of listed companies from 1980-1990 across 10 developing countries including India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan, and Korea.

We estimate the following model:

$$\begin{aligned} DebtRatio_{c,i,t} = & \alpha + \beta_1 INT_t + \beta_2 GRRGDP_t + \beta_3 DMGDP_t + \beta_4 SMTO_t + \dots \\ & + \beta_5 EU_t + \beta_6 FFGDP_t + \beta_7 NFATA_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 PROFITABIL ITY_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where *DebtRatio* is one of the four leverage and debt maturity ratios ($c=1\dots4$) for firm *i* at time *t*. c_1 is the ratio of total liabilities to total assets, c_2 is the ratio of current liabilities to total liabilities, c_3 is the ratio of long-term liabilities to total assets, and c_4 is the ratio of current liabilities to total assets. We discuss each of them in detail in Section III below. *INT* is lending rates, *GRRGDP* is the growth rate of real GDP, *DMGDP* is the deposit money bank assets to GDP ratio, *SMTO* is stock market turnover, *EU* is the European Union Accession dummy, *FFGDP* is Inward FDI flows to GDP ratio, *NFATA* is the net fixed assets to total assets ratio, *SIZE* is the log of total assets, *PROFITABILITY* is the ROA calculated as the ratio of earnings before interest and taxes to total assets, and ε is the error term. The model is estimated in the panel using Ordinary Least Squares with fixed effects to allow for country specific intercepts.^{13 14} All estimations are conducted with white period standard errors and covariance (d.f. corrected). The model is estimated separately for the accession firms and EU-15 firms.¹⁵

We repeat the estimations for small firms and non-survivor firms. We rank firms according to their total assets in accession and EU-15 samples separately. Each subsample is then split into quartiles and firms that belong to the bottom 25th percentile are defined as small firms.¹⁶ The average small firm sizes in EU-15 and accession samples are respectively

¹³ The Hausman test (1978) is conducted confirming the use of fixed effects estimation for panels. Alternative estimations are made with random effects and results are qualitatively similar. The conclusions do not change.

¹⁴ Alternative estimations are made using GMM estimators in all subsamples. The results are qualitatively similar and the conclusions do not change.

¹⁵ A potential problem in the data is the limited number of observations for Estonia and the extreme observations for the DMGDP ratio for Luxembourg. However, estimations made by excluding Estonia and Luxembourg from the sample does not change the conclusions, so they are kept in the sample.

¹⁶ The scale for measurement of total assets is in million Euros.

23 and 46 million Euros. Small firms in EU-15 countries are considerably smaller than small firms in accession countries. Note that the average size of firms in accession countries is smaller than the average size of firms in EU-15, 708 million Euros and 2189 million Euros, respectively. Non-survivor firms are the companies that became inactive during the research period according to Compustat database. The database also classifies companies that were involved in M&As as inactive companies. However, we do not include them in our analysis as non-survivors. Accordingly, 9% of EU-15 countries' firm-year end observations and 16% of accession countries' firm-year end observations were classified as non-survivors.

III. Description of Data and Preliminary Analysis

A. Data

Our dataset includes both publicly traded and non-traded firms from Europe.¹⁷ 97% of our firm-year end observations are from traded firms and 3% are from non-traded firms. We have 29,921 firm year-end observations of which 29,132 are from EU-15 and 789 are from accession countries. Firm level data is collected from the WRDS Compustat Global Industrial/Commercial database. Most macro economic data is from World Bank's World Development Indicators Database. We use data from the Economic Intelligence Unit database for GDP growth rates and data from UNCTAD for FDI flows. The research period is from 1996-2006, covering the negotiations phase and the accession of new member states and the transition of EU-15 countries to the European Economic and Monetary Union^{18 19}.

¹⁷ The sample includes all of the European Union 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the UK and new member states including Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Poland, Slovakia, and Slovenia. Bulgaria, Malta, Latvia, and Romania are not included in the sample due to lack of sufficient firm-level data in the Compustat Global database.

¹⁸ Cyprus, Czech Republic, Estonia, Hungary, Poland, and Slovenia started accession negotiations at the beginning of 1998, while the remaining accession countries started at the beginning of 2000. All of the countries have acceded to EU as of 2004.

¹⁹ The implementation of EMU had started in 1993 and the third stage of EMU was launched as of 1999 involving an ongoing transition for EU-15 member states as well as for new member states, which have started acceding in 2007.

The sample includes all the active and inactive firms and, therefore, does not have a survivorship bias.

The dependent variables measure the capital structure and debt maturity choices of firms. Leverage is measured by the ratio of total liabilities to total assets (TLTA)²⁰. Term maturity is measured by the ratio of current liabilities to total liabilities (CLTL). We use two further variables to measure debt maturity. The ratio of long-term debt to total assets (LTDTA), where long-term debt is calculated as total liabilities minus the current liabilities, and the ratio of current liabilities to total assets (CLTA). Our construction of book leverage follows Demirguc-Kunt and Maksimovic (1999), which is comparable to Fama and French's (2002) definition of leverage.²¹

We measure the cost of borrowing with the interest rates (INT).²² We gauge economic growth with the growth rate of real GDP (GRRGDP). We use three measures of access to financing. The first one is the ratio of deposit money bank assets to GDP (DMGDP), which is a proxy for the size and development of the financial sector.²³ The second measure of access to financing is stock market activity. We use the stock market turnover ratio (SMTO), which is the total value of shares traded during the period divided by the average market capitalization for the period.²⁴ A higher ratio implies a more developed stock market

²⁰ We conduct alternative estimations using interest bearing leverage and debt maturities. The results are qualitatively similar and conclusions do not change.

²¹ We use a broad measure of book leverage, which includes non-debt items. Rajan and Zingales (1995) also discuss the definition of leverage with respect to non-debt items and suggest that "in countries or specific classes of firms, which use trade credit as a means of financing, accounts payables should be included in measures of leverage." Atanasova (2007) discusses the importance of trade credit as a means for access to financing for companies. She finds that in tight money periods, credit constrained firms rely on trade credit and substitute it for institutional financing. Kayhan and Titman (2007) further suggest that "indeed, credit rating agencies state that traditional measures focusing on long-term debt have lost much of their significance and that non-interest bearing liabilities like pension obligations should be considered as being similar to debt in many respects." See Standard & Poor's Corporate Ratings Criteria (2004).

²² When the lending rate is missing, the missing value is replaced with the long-term interest rates published by the IMF.

²³ Demirguc-Kunt and Maksimovic (1999) use the exact same measure, while Booth et al. (2001), Nivorozkin (2004) and Fan et al. (2008) use liquid assets to GDP measure, while Beck et al. (2008) use private credit to GDP ratio.

²⁴ Average market capitalization is calculated as the average of the end-of-period values for the current period and the previous period.

(Demirguc-Kunt and Maksimovic, 1999). The third measure of access to financing is the ratio of inward FDI Flows to GDP (FFGDP). It is an indicator of world integration through direct investments. We use an EU dummy (EU) which takes the value one if the country is in the EU and zero otherwise.²⁵

We use the following measures for firm level determinants of leverage. We measure tangibility as the ratio of net fixed assets to total assets (NFATA). We measure size as the log of total assets (TA) and profitability as the return on assets ratio (ROA).

B. Preliminary Analysis

Table I presents mean leverage and debt maturities for the sample.²⁶ Column 1 reports the means for leverage. The average leverage is 42% in accession countries and 57% in EU-15 countries. The range for leverage is from 25% for Estonia to 49% for Cyprus and Slovakia in accession countries and from 52% for Ireland to 64% for Portugal in EU-15 countries. Leverage in accession countries is significantly lower than EU-15 countries; so much so that Cyprus and Slovakia, who have the highest leverage among accession countries with 49%, still have lower leverage than Ireland who has the lowest leverage ratio in EU-15 with 52%. Also note that the range for accession countries between 25%-49% is much wider than the range for EU-15, which is between 52%-64%. Accession firms had significantly higher leverage in the post-EU period (43%). However, this is still significantly lower than EU-15 firms' leverage. Small accession companies have lower leverage (39%) than small EU-15 companies' leverage (50%). Small European firms have significantly lower leverage than their large counterparts, while non-survivor firms of both samples had significantly higher leverage than their survivor counterparts, 46% and 59%, respectively.

²⁵ The Accession countries have all entered the Union as of May 2004. The EU-15 countries had already acceded long before the investigation period of 1996-2006.

²⁶ Following Aivazian, Ge, and Qiu (2005), we applied a cut-off of zero and one for both debt maturity and leverage to avoid the effect of outliers.

Insert Table I about here.

Table I, Column 2 reports the means for debt maturity measured as the ratio of current liabilities to total liabilities. Current liabilities are 66% of total liabilities for accession countries and 63% for EU-15 countries. The range of current liabilities to total liabilities ratio varies from 56% for Lithuania to 73% for Poland, while the lowest ratio in the EU-15 is 52% for Germany and the highest is 69% for the UK. Debt maturities are significantly different among the two country groups while the range is slightly larger for accession countries. Current liabilities are 67% of total liabilities during the pre-accession period and 63% during the post accession period. While accession firms had significantly longer debt maturities after accession, they are still less than EU-15 firms. Alternatively, both small accession firms and small EU-15 firms had significantly shorter debt maturities, 81% and 74%, when compared to the larger firms. However, note that small accession firms were more reliant on short-term liabilities as compared to EU-15 firms. Non-survivor accession firms' current liabilities were 63% of total liabilities, while survivor firms' were 67%. These firms had significantly longer debt maturities, which may have made them more sensitive to interest rate fluctuations.

Table I, Columns 3 and 4 report the means for long-term debt to total assets and current liabilities to total assets ratios. The mean of long-term debt in total assets is 14% for accession and 22% for EU-15 countries. The range for accession countries is from 11% for Estonia to 18% for Cyprus, while for the EU-15, the lowest and highest figures are observed as 17% for the UK and 30% for Germany. T-tests significantly reject the equality of means between accession countries and EU-15 countries. Although post-accession long-term debt increases significantly to 17% for accession countries, it is still different than EU-15 countries at the 5% level of significance. We find similar patterns for both small accession

and EU-15 firms in terms of less use of long-term debt and greater reliance on short-term liabilities when compared to their larger counterparts. The average current liabilities in total assets are 27% for accession and 35% for EU-15. After accession, use of current liabilities doesn't change much and remains lower than the EU-15 average. Yet, we demonstrate that non-survivor firms in accession and EU-15 countries had higher current liabilities when compared to survivor firms.

Insert Table II about here.

Table II reports the means for firm level determinants of leverage and term maturity. Accession countries have higher net fixed assets to total assets ratios than do EU-15 countries. On average, the ratio for accession countries is 50% compared to 30% for EU-15 countries. Small accession and EU-15 firms had significantly lower net fixed assets than large firms, 37% and 23%, respectively. The average size of accession firms' is less than EU-15 firms. Accession firms are also more profitable than EU-15 firms. The average ROA is 9% for accession firms, whereas it is 4.2% for EU-15 firms. Small and non-survivor EU-15 firms were also significantly less profitable as compared to large and survivor EU-15 firms.

Insert Table III about here.

Table III reports the means for macro economic determinants of leverage and term maturities. Interest rates are higher for the accession countries; 11% compared to 6% in EU-15 during the sample period. The lowest and highest interest rates are observed in Cyprus (7%) and Poland (15%), respectively, among the accession countries and in Netherlands (4%) and Greece (11%) among the EU-15 countries. Following EU accession, interest rates declined from 13% to 7% for accession countries and were significant at 1 % level.

Copenhagen Criteria required acceding countries to have a functioning market economy and that their producers have the capability to cope with competitive pressure and market forces within the Union. Yet, when joining the Eurozone, acceding countries had to abide by the Maastricht Criteria, which sets ceiling rates for inflation, budget deficits, government debt, and long-term interest rates in addition to joining the ERM. In fact, Table IV confirms the integration process to the Eurozone. Interest rates are negatively associated with economic growth rates, FDI flows and size of the financial system.

Insert Table IV about here.

Real GDP growth rate is used to measure the effect of economic growth on the firms' financing needs. During the sample period, the average GDP growth rate was 4% in accession countries and 2.7% in EU-15 countries. Accession countries all had positive growth rates except for Hungary.²⁷ The highest growth is found for Lithuania (9.7%) in accession countries and for Ireland (6.5%) in EU-15 countries. In the Post-EU period, real GDP growth rates increased from 2% in accession countries to more than 9%, which is significantly different than the 2.7% average growth in EU-15.

Deposit money bank assets to GDP ratio is 28% for accession countries and 53% for the EU-15 countries.²⁸ Cyprus and Luxembourg had the most established financial sectors in accession and EU-15 countries, respectively. During the accession, the size of the financial sector increases from 26%-36% of GDP for the accession countries.

The stock market turnover rate is 43%, on average, for accession countries and 92%, on average, for the EU-15 countries. This is a significant difference. Slovakia and Luxembourg had the highest stock market activity respectively in both samples. Stock market

²⁷ We double checked the EIU data with the OECD data to confirm the negative growth rate of Hungarian real GDP.

²⁸ This is the mean excluding Luxembourg which deviates the mean considerably.

turnover declines from 47%-35% during accession. This is possibly as a result of stock market trade diverting from local exchanges (Pajuste 2002). Still, the stock market activity in accession countries is significantly less than that of EU-15 countries. Stock market capitalizations are also considerably smaller in accession countries as compared to EU-15 countries (Table V).

Insert Table V about here.

For the accession countries, the average ratio of FDI to GDP is 9.6% while it is 4.4% for the EU-15 countries. Accession countries had higher FDI flows, especially during the accession as the ratio of FDI in GDP increases from 5%-21%. As the EU continues to enlarge, accession firms start attracting FDI more than ever. T-tests reject the equality of means between accession and EU-15 means, pre and post-EU accession means, and, finally, between post-EU accession and EU-15 means.

The EU dummy is designed to capture the structural break date of EU Accession. Overall examination of the descriptive reveals the following financial landscape for the European companies. Interest rates have decreased almost to the half of the pre-EU period level and have approached the EU-15 average. Alternatively, the real economy growth has increased fivefold in the post-EU period and has considerably exceeded the EU-15 average. However, we do not observe a proportional increase in the size of the financial sector accompanying the real GDP growth. We also observe a decrease in the stock market activity of accession countries in the post-EU period, while the comparable stock market activity of EU-15 is threefold. The inward FDI flows increase by fourfold in accession countries. Equity capital becomes more readily available through foreign partners than through stock exchanges. Accession countries start their transition with establishing a market based Anglo-

Saxon system with mass privatizations in the initial stages. In the course of integration with the EU, they move toward a bank based European system. Bank assets to GDP ratio increases, stock market activity declines, and equity capital becomes available through international flows.

IV. Empirical Evidence

Tables VI and VII present the results of Equation (1) for EU-15 and accession firms, respectively. We focus on the macro economic determinants of capital structure and term maturity choices of European firms. The determinants of capital structure and debt maturity choices of EU-15 and accession firms are different. The coefficient estimates for firm-specific variables are of the expected sign when they are significant in both EU-15 and accession countries and consistent with capital structure theories. We will first discuss our results for firms from the EU-15 countries then for the Accession Countries. Then, we will report our results for small firms and for non-survivors from both country groups.

Table VI presents the results for the EU-15 firms. The first column reports the coefficient estimates for leverage (TLTA). We find a negative relationship between the size of the financial sector (DMGDP) and leverage. Firms reduce leverage and increase equity financing in response to an increase in the size of the financial sector. This is the only determinant of capital structure with a significant coefficient estimate for EU-15 firms. The second column indicates the coefficient estimates for debt maturity (CLTL). The coefficient estimates for the size of the financial sector (DMGDP) and stock market activity (SMTO) are negative. When the financial sector expands and when stock market activity increases, firms reduce short-term borrowing and increase their debt maturities.

Insert Table VI about here.

Columns 3 and 4 of Table VI present the results for the ratios of long-term debt to total assets (LTDTA) and current liabilities to total assets (CLTA), respectively. Coefficient estimates support the findings for debt maturity. The coefficient estimate for the size of the financial sector (DMGP) is negative for CLTA estimations. We observe that when the financial sector expands, the ratio of current liabilities to total assets declines. The coefficient estimate for stock market activity (SMTO) is positive for LTDTA estimations and negative for CLTA estimations. We can see that when stock market activity increases, the ratio of long-term debt to total assets increases and the ratio of current liabilities to total assets declines. The coefficient estimate for FDI flows (FFGDP) is negative for CLTA estimations. EU-15 firms decrease current liabilities as FDI inflows increase.

Capital structures of EU-15 firms' switch to equity financing as financial sectors develop. Debt maturities increase not only as the financial sector develops, but also as stock market activity and FDI flow increases. Firms replace their short-term debt with long-term debt and equity capital as it becomes available from portfolio flows in the stock markets. EU-15 firms are moving toward a market oriented system. However, they continue to benefit from the expansion of the already strong bank based financial sector and increased FDI activity in Europe. They increase term maturities.

Table VII reports results for accession firms. The first column presents results for leverage (ratio of total liabilities to total assets). The coefficient estimate for the interest rate (INT) is negative. Firms increase leverage as interest rates decline. The coefficient estimates for the economic growth rate (GRRGDP), stock market activity (SMTO), and FDI flows are negative. Firms decrease leverage and increase equity financing as economic growth rates (GRRGDP), stock market turnover (SMTO), and FDI inflows (FFGDP) increase.

Insert Table VII about here.

Second column of Table VII reports the results for debt maturity (the ratio of current liabilities to total liabilities). Coefficient estimates for the economic growth rate (GRRGDP) are positive. Firms decrease debt maturities as the economic growth rate increases. High growth is financed by short-term debt. The coefficient estimate for stock market activity (SMTO) is negative. Firms increase debt maturities when stock market activity increases. The coefficient estimate for the EU dummy is negative. Firms decrease current liabilities and increase debt maturities when they enter the EU. The coefficient estimate for FDI inflows (FFGDP) is positive. Firms decrease debt maturities as FDI inflows increase.

Columns 3 and 4 of Table VII report results for the ratios of long-term debt to total assets (LTDTA) and current liabilities to total assets (CLTA), respectively. The coefficient estimate for interest rate (INT) is negative for LTDTA estimations. Firms increase long-term debt as interest rates decrease. Coefficient estimates for the economic growth rate (GRRGDP), size of the financial sector (DMGDP), and for FDI flows (FFGDP) are also negative. Firms decrease long-term debt as the economic growth rate increases, the financial sector grows, and FDI flows increase. We find a negative coefficient estimate for stock market activity (SMTO) for CLTA estimations. Firms decrease short-term debt as stock market activity increases.

Accession firms increase debt financing when interest declines and increase equity financing when economic growth rates increase and equity becomes available from increased stock market activity and FDI inflows. In accession countries, the major source of equity financing is FDI. Foreign direct investments increased fourfold, while stock market activity slowed down during the post-accession period. Debt maturities increase when they enter the EU and stock market activity increases. Higher stock market activity enables greater external

monitoring and borrowing with longer maturities becomes feasible as asymmetric information decreases. Debt maturities decline when economic growth rates and FDI inflows increase. We have seen above that high economic growth is financed by equity. In terms of debt maturities, economic growth is financed by short-term debt and FDI inflows provide a long-term financing alternative to long-term debt. Consistent with our previous results, short-term debt decreases as stock market activity increases while long-term debt decrease as FDI flows increase.

There are noteworthy similarities and differences between the EU-15 and accession firms' capital structure and debt maturity choices. Both accession and EU-15 firms decrease short-term debt, thereby increasing debt maturities as stock market activity increases. This is the only similarity. Generally, different macro economic factors are important for the capital structure and debt maturity choices of accession and EU-15 firms. The most striking differences are with respect to the size of the banking sector and FDI flows. As the size of the banking sector grows, EU-15 firms increase debt maturities, while accession firms decrease long-term debt. This could be due to supply side issues. FDI flows are a significant determinant of both leverage and debt maturities of accession firms; however, it is only significant for the short-term debt of EU-15 firms. EU-15 firms decrease short-term debt as FDI flows increase.

A. Are Small Firms Different?

We examine small firms separately for both the EU-15 and accession samples. As presented in the literature, large firms have higher leverage and are able to access external financing even if the financial system is not properly established. Thus, development of the financial markets and the integration process has more positive influences on smaller firms.

We present small firms separately also because large firms dominate our findings and different factors are important for small firms in both the accession and EU-15 samples.

Table VIII presents our results for small firms. Panel A reports the results for EU-15 firms. We report leverage in Column 1. The coefficient estimate for interest rate is positive. Firms reduce leverage and increase equity financing as interest rates decline. Economic growth also has a positive sign. Small firms increase leverage as growth rates increase. The coefficient estimate for the FDI inflows is negative. Firms reduce leverage and increase equity financing as FDI inflows increase. The second column of Panel A presents results for debt maturities. The coefficient estimates for the size of the financial sector and stock market activity is similar to the EU-15 aggregate sample estimations. However, the coefficient estimate for the size of the financial sector is more significant for small firms. Small firms increase debt maturities more as the financial sector grows. The coefficient estimate for FDI inflows is negative. Small firms reduce short-term debt and increase debt maturities as FDI inflows increase.

Insert Table VIII about here.

Columns 3 and 4 of Panel A report results of estimations for LTDTA and CLTA for EU-15 firms. The coefficient estimate for interest rate and size of the financial sector are positive for the LTDTA estimation. Small EU-15 firms decrease long-term debt as interest rates decline, while increasing it as the financial sector grows. We find similar coefficient estimates for CLTA estimations as compared to the aggregate EU-15 sample.

Small firms in developed Europe increase leverage as the economic growth rate increases. However, they rely on short-term debt as the economy grows. EU-15 firms increase equity financing as interest rates decline and as equity capital becomes available via

FDI flows. Debt maturities increase as financial sector grows. Access to bank loans improves. Firms decrease short-term debt as FDI flows increase. FDI is a significant source of external funding. We demonstrate that small EU-15 firms' capital structure move toward market based systems of the UK and the U.S.

Table VIII, Panel B displays the results for the accession firms. The first column presents the results of the leverage estimation. The coefficient estimates for interest rates, the economic growth rate, stock market activity, and FDI flows are similar to the aggregate accession sample. However, we find significant positive coefficient estimates for size of the financial sector and the EU dummy. Small firms increase leverage as the size of the financial sector increases and upon entry to the EU. The second column of Panel B reports the results for debt maturities. The coefficient for the interest rate is positive. Small accession firms increase debt maturities as rates decline. Coefficient estimates for the EU dummy and FDI flows are similar to the aggregate accession sample. Small firms decrease debt maturities as FDI flows increase.

Columns 3 and 4 present results for the LTDTA and CLTA estimations for small accession firms, respectively. We find that small firms' financing choices are similar to the aggregate sample except for stock market activity and EU dummy coefficients. The coefficient estimates for stock market activity are negative for the LTDTA estimation. Small firms increase long-term debt as stock market activity decreases and as they accede to the EU. The size of the financial sector and FDI flows have a positive impact on current liabilities. Small accession firms increase short-term debt as the size of the financial sector and FDI flows increase. Coefficient estimates for stock market activity and the EU dummy are negative. Firms decrease short-term debt as stock market activity increases and upon entry to the EU.

We find that small accession firms increase leverage as the financial sector grows and as they enter the EU unlike the rest of the accession firms. They are also able to increase debt maturities with respect to lower interest rates and upon entry to the EU. They replace long-term debt with short-term debt as FDI flows increase. A greater size of the financial sector results in higher short-term debt for small accession firms; small firms rely on short-term funding. Small accession firms gain access to the bank based system of Continental Europe, while FDI inflows play a major role in their capital structure choices.

Small firms in developed and developing Europe react similarly to increases in FDI flows. Small firms increase equity financing as FDI flows become available during the European integration. FDI is a significant source of external funding for small European firms. Higher FDI flows result in higher debt maturities in the EU-15 firms and lower debt maturities in the accession firms. In line with our previous results, small EU-15 firms move toward a market based system, while small accession firms move toward a bank based system. EU-15 firms increase equity financing with respect to lower interest rates, while accession firms increase leverage and debt maturities. This fact could be explained by the willingness of Continental European banks' to lend to new members (Haiss and Marin, 2003) and increased access to bank loans for accession firms.

B. Are Non-Survivors Different?

We present separate, in-depth analysis for non-survivor firms in our samples to provide policy implications to manage the EU integration for firms in both the EU-15 and accession countries. We present non-survivor firms' sample results separately also because survivor firms dominate our findings and different factors are important for non-survivors in both accession and EU-15 samples. Again, we pronounce the differences as survivor firms dominate our findings.

Table IX, Panel A presents the results for non-survivor EU-15 firms. The first column reports the coefficient estimates for leverage. The coefficient estimate for interest rate is positive. Non-survivor firms decrease leverage as interest rates decline. This is the only significant variable for leverage estimations. The second column of Panel A displays the debt maturities. The coefficient estimate for interest rate is positive. Firms increase debt maturities as interest rates decline.

Insert Table IX about here.

Columns 3 and 4 of Panel A present the LTDTA and CLTA ratios. We find a negative association between growth rate and long-term borrowing. Firms decrease long-term debt as economic growth accelerates. The coefficient estimate for stock market activity is positive, similar to the aggregate findings, yet the relationship is more strongly pronounced. Firms increase long-term debt as stock market activity increases. The coefficient estimates for interest rate and economic growth are positive for the CLTA estimation. Non-survivors decrease short-term debt as interest rates decline, while increasing it as economic growth increases.

Interest rate (INT) is a significant determinant for non-survivor firms. Non-survivor EU-15 firms fail to increase leverage as the cost of borrowing decreases and increase equity financing. Firms also increase debt maturities as interest rates decline. As the size of the financial sector grows, non-survivor firms increase debt maturities. However, firms replace long-term debt with short-term debt as the economy grows. FDI is not a significant factor in any of the estimations. Thus, non-survivor EU-15 firms grow via short-term borrowing and fail to benefit from FDI inflows. Accordingly, they fail to move toward a market based system unlike small EU-15 firms.

Table IX, Panel B presents regression results of non-survivor accession firms. The first column gives the coefficient estimates for leverage. The coefficient estimates for the economic growth rate, stock market activity, and the EU dummy are negative, similar to the aggregate sample results. Non-survivor firms increase equity financing as the economy grows, as stock market activity increases, and upon entry to the EU. The second column of Panel B reports debt maturity. The coefficient estimate for the size of the financial sector is positive. Non-survivor firms decrease debt maturities as the financial sector expands.

Columns 3 and 4 of Panel B display the results for the LTDTA and CLTA ratios. The coefficient estimates for the EU dummy and FDI flows are positive for LTDTA estimations. Long-term debt increases as firms accede and FDI inflows increase. The results of the CLTA estimation support these findings.

Different than aggregate sample results, non-survivor firms increase equity financing instead of increasing leverage upon entry to the EU. This implies that non-survivor firms have not had access to the bank based system of the EU; hence, they have not fully integrated to it. This reliance on short-term debt and shorter debt maturities in response to the greater size of the financial sector support this finding. Non-survivor firms replace short-term debt with long-term debt upon accession and as FDI flows increase. This is also different. Unlike the rest of the accession firms, FDI capital does not replace long-term debt of non-survivor firms. Non-survivors in the accession sample also fail to benefit from FDI flows as equity capital.

Determinants of capital structure and the debt maturity choices of non-survivor accession firms were different from non-survivor firms in the EU-15. Accordingly, we present different capital structure and debt maturity strategies for both samples for survival during the European integration. For EU-15 firms, we demonstrate that decreasing debt financing as interest rates decline and reliance on short-term debt as the economy grows were

reasons for failure. However, for accession firms, failure to benefit from higher FDI inflows in terms of increasing equity financing and replacing long-term debt with FDI equity played a role.

6. Conclusions

The supply of financing has changed noticeably in Europe during the integration process over the past decade. This is largely due to the expansion policy of the European Union to include new member states. Administrative barriers were reduced in Europe and corporations had access to foreign sources of financing. In the developed countries of Europe, while the financial system continued expanding, a market oriented system was introduced through increased activity in stock exchanges. In accession countries, interest rates declined toward EU rates and corporations had access to both to equity and debt financing from the EU through Foreign Direct Investments and the strong financial system that expanded to include them. In this paper, we demonstrate how these transformations have changed corporations' use of financing.

We use very large cross-country panel data and a novel approach that studies European financing practices at the corporate level with reference to changes in the macro economic environment. This helps us understand the established difficulties in the complex integration process in Europe. Developed countries had a well established financial system and moved toward a market oriented system, while accession countries, the emerging markets of Europe, moved toward the old bank oriented system. While the financial system continues expanding and growth rates are humble in the developed countries of Europe, interest rates decline sharply and growth rates are high in the accession countries. Whereas stock markets expand in the developed countries of Europe, stock market activity declines considerably in accession countries following mass privatizations. By relying on a

comprehensive analysis of the unique features of integration in Europe between the developed and developing countries, we are able to understand the capital structure and term maturity choices of European corporations.

We find that international financial integration in Europe is mainly through direct investments rather than stock markets. This is novel. The availability of Foreign Direct Investments is a unique feature of integration in Europe. While stock market activities declined, direct investments increased to accession countries especially from the EU-15 members. Improved access to Foreign Direct Investments decreased leverage and increased equity in capital structures. Inconsistent with the expectations from a bank based system, in the developed countries of Europe, leverage decreases as financial sector size increases. Meanwhile improved access to international credit markets and lower interest rates increased the leverage of small European firms to finance high growth rates.

Debt maturities in the emerging markets of Europe increased as they entered the EU and interest rates declined. A shift from long-term debt to equity with increased availability of FDI reduced term maturities. Debt maturities in the developed markets of Europe increased due to the availability of equity financing from increased stock market activity. Overall, we observe that FDI is a significant source of international financing for the emerging markets of Europe in the absence of well established stock markets and financial systems. FDI flows are also an important source of international financing for the developed countries of Europe who are moving toward a market oriented system. These results suggest that the benefits of integration in Europe are not only in terms of the reduced cost of capital and increased availability of it through the stock exchanges, but also through direct investments.

Our findings provide some insight into the severe impact of the current credit crunch on the real sector in Europe. We demonstrate that reliance on short-term debt during growth

periods has not proved to be a successful strategy for European firms, while FDI flows turned out to be an important and reliable source of capital.

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Table I. Descriptive Statistics for Leverage and Debt Maturities

TLTA is the ratio of total liabilities to total assets. CLTL is the ratio of current liabilities to total liabilities. LTDTA is the ratio of long-term debt to total assets. CLTA is the ratio of current liabilities to total assets. The results of t-tests are reported at the 5% significance level; (a) denotes that there is a significant difference between the means of accession and EU-15 firms, (b) denotes that there is significant difference between the means of Pre-EU and Post-EU accession firms, (c) denotes that there is significant difference between the means of Post-EU accession and EU-15 firms, (d) denotes that there is significant difference between the means of small and large firms in each panel, and (e) denotes that there is significant difference between the means of non-survivor and survivor firms in each sample. The first row for each country denotes the mean values while the second row denotes the standard deviations.

| <i>Accession Panel</i> | | | | | |
|------------------------|------------------------|--|--|--|--|
| | Number of Obsv. | TLTA | CLTL | LTDTA | CLTA |
| Cyprus | 16 | 0.492 <i>0.299</i> | 0.594 <i>0.105</i> | 0.186 <i>0.107</i> | 0.306 <i>0.209</i> |
| Czech Republic | 167 | 0.413 <i>0.144</i> | 0.566 <i>0.278</i> | 0.178 <i>0.123</i> | 0.236 <i>0.154</i> |
| Estonia | 2 | 0.256 <i>0.062</i> | 0.573 <i>0.240</i> | 0.117 <i>0.088</i> | 0.139 <i>0.026</i> |
| Hungary | 190 | 0.364 <i>0.159</i> | 0.671 <i>0.233</i> | 0.135 <i>0.118</i> | 0.229 <i>0.123</i> |
| Lithuania | 13 | 0.344 <i>0.075</i> | 0.559 <i>0.169</i> | 0.145 <i>0.053</i> | 0.199 <i>0.089</i> |
| Poland | 308 | 0.454 <i>0.214</i> | 0.728 <i>0.188</i> | 0.132 <i>0.130</i> | 0.322 <i>0.162</i> |
| Slovakia | 41 | 0.492 <i>0.167</i> | 0.644 <i>0.199</i> | 0.170 <i>0.096</i> | 0.322 <i>0.154</i> |
| Slovenia | 52 | 0.358 <i>0.172</i> | 0.630 <i>0.138</i> | 0.134 <i>0.073</i> | 0.223 <i>0.119</i> |
| Accession | 789 | 0.418^a <i>0.188</i> | 0.663^a <i>0.226</i> | 0.146^a <i>0.121</i> | 0.272^a <i>0.155</i> |
| Pre-EU Accession | 653 | 0.414 <i>0.186</i> | 0.671 <i>0.225</i> | 0.142 <i>0.118</i> | 0.273 <i>0.154</i> |
| Post-EU Accession | 136 | 0.436^c <i>0.196</i> | 0.625^b <i>0.228</i> | 0.167^{b,c} <i>0.131</i> | 0.270^c <i>0.160</i> |
| Small Accession | 196 | 0.391^d <i>0.192</i> | 0.816^d <i>0.155</i> | 0.076^d <i>0.085</i> | 0.315^d <i>0.163</i> |
| Large Accession | 196 | 0.476 <i>0.171</i> | 0.534 <i>0.197</i> | 0.222 <i>0.113</i> | 0.254 <i>0.140</i> |
| Non-Survivor Accession | 129 | 0.468^e <i>0.159</i> | 0.627^e <i>0.261</i> | 0.168^e <i>0.113</i> | 0.301^e <i>0.174</i> |
| Survivor Accession | 660 | 0.408 <i>0.192</i> | 0.671 <i>0.218</i> | 0.142 <i>0.122</i> | 0.266 <i>0.151</i> |

Table I. Descriptive Statistics for Leverage and Debt Maturities (Continued)

| <i>EU-15 Panel</i> | | | | | |
|--------------------|------------------------|--|--|--|--|
| | Number of Obsv. | TLTA | CLTL | LTDTA | CLTA |
| Austria | 586 | 0.605 <i>0.197</i> | 0.547 <i>0.214</i> | 0.276 <i>0.159</i> | 0.328 <i>0.166</i> |
| Belgium | 283 | 0.585 <i>0.183</i> | 0.609 <i>0.207</i> | 0.231 <i>0.141</i> | 0.354 <i>0.155</i> |
| Denmark | 789 | 0.558 <i>0.172</i> | 0.627 <i>0.197</i> | 0.215 <i>0.141</i> | 0.343 <i>0.150</i> |
| Finland | 869 | 0.539 <i>0.157</i> | 0.612 <i>0.203</i> | 0.221 <i>0.144</i> | 0.318 <i>0.128</i> |
| France | 4,389 | 0.624 <i>0.185</i> | 0.685 <i>0.197</i> | 0.203 <i>0.151</i> | 0.421 <i>0.168</i> |
| Germany | 4,729 | 0.607 <i>0.220</i> | 0.518 <i>0.236</i> | 0.304 <i>0.192</i> | 0.302 <i>0.170</i> |
| Greece | 631 | 0.560 <i>0.171</i> | 0.653 <i>0.222</i> | 0.200 <i>0.151</i> | 0.360 <i>0.162</i> |
| Ireland | 407 | 0.526 <i>0.216</i> | 0.589 <i>0.254</i> | 0.233 <i>0.184</i> | 0.293 <i>0.157</i> |
| Italy | 1,469 | 0.629 <i>0.199</i> | 0.628 <i>0.191</i> | 0.240 <i>0.154</i> | 0.389 <i>0.173</i> |
| Luxembourg | 53 | 0.542 <i>0.146</i> | 0.530 <i>0.198</i> | 0.264 <i>0.143</i> | 0.279 <i>0.114</i> |
| Netherlands | 1,198 | 0.616 <i>0.184</i> | 0.662 <i>0.198</i> | 0.213 <i>0.147</i> | 0.403 <i>0.165</i> |
| Portugal | 398 | 0.642 <i>0.187</i> | 0.599 <i>0.208</i> | 0.258 <i>0.157</i> | 0.384 <i>0.173</i> |
| Spain | 1,182 | 0.584 <i>0.180</i> | 0.591 <i>0.240</i> | 0.246 <i>0.174</i> | 0.338 <i>0.173</i> |
| Sweden | 1,981 | 0.535 <i>0.190</i> | 0.618 <i>0.237</i> | 0.219 <i>0.169</i> | 0.317 <i>0.160</i> |
| UK | 10,168 | 0.528 <i>0.202</i> | 0.691 <i>0.233</i> | 0.170 <i>0.152</i> | 0.358 <i>0.182</i> |
| EU-15 | 29,132 | 0.575 <i>0.200</i> | 0.635 <i>0.232</i> | 0.219 <i>0.168</i> | 0.356 <i>0.175</i> |
| Small EU-15 | 7,323 | 0.500^d <i>0.221</i> | 0.743^d <i>0.219</i> | 0.132^d <i>0.134</i> | 0.368^d <i>0.195</i> |
| Large EU-15 | 7,323 | 0.658 <i>0.167</i> | 0.515 <i>0.206</i> | 0.323 <i>0.168</i> | 0.335 <i>0.161</i> |
| Non-survivor EU-15 | 2,688 | 0.596^e <i>0.219</i> | 0.640 <i>0.239</i> | 0.219 <i>0.174</i> | 0.376^e <i>0.199</i> |
| Survivor EU-15 | 26,444 | 0.570 <i>0.199</i> | 0.637 <i>0.231</i> | 0.217 <i>0.167</i> | 0.353 <i>0.173</i> |

Table II. Descriptive Statistics for Firm-Level Variables

NFATA is the ratio of net fixed assets to total assets. Size is the total assets in million of Euros. Profitability is the return on assets ratio. The results of t-tests are reported at the 5% significance level; (a) denotes that there is a significant difference between the means of accession and EU-15 firms, (b) denotes that there is significant difference between the means of Pre-EU and Post-EU accession firms, (c) denotes that there is significant difference between the means of Post-EU accession and EU-15 firms, (d) denotes that there is significant difference between the means of small and large firms in each panel, (e) denotes that there is significant difference between the means of non-survivor and survivor firms in each sample. The first row for each country denotes the mean values while the second row denotes the standard deviations.

| <i>Accession Panel</i> | | | | |
|------------------------|------------------------|--------------------------|---------------------------|--------------------------|
| | Number of Obsv. | NFATA | Size | Profitability |
| Cyprus | 16 | 0.676 | 208 | 0.039 |
| | | <i>0.109</i> | <i>111</i> | <i>0.101</i> |
| Czech Republic | 167 | 0.618 | 1099 | 0.078 |
| | | <i>0.175</i> | <i>1853</i> | <i>0.086</i> |
| Estonia | 2 | 0.345 | 30 | 0.212 |
| | | <i>0.033</i> | <i>2</i> | <i>0.079</i> |
| Hungary | 190 | 0.495 | 612 | 0.088 |
| | | <i>0.189</i> | <i>1252</i> | <i>0.077</i> |
| Lithuania | 13 | 0.777 | 568 | 0.093 |
| | | <i>0.101</i> | <i>338</i> | <i>0.077</i> |
| Poland | 308 | 0.409 | 631 | 0.097 |
| | | <i>0.201</i> | <i>1680</i> | <i>0.108</i> |
| Slovakia | 41 | 0.521 | 792 | 0.139 |
| | | <i>0.163</i> | <i>829</i> | <i>0.365</i> |
| Slovenia | 52 | 0.563 | 415 | 0.081 |
| | | <i>0.119</i> | <i>319</i> | <i>0.054</i> |
| Accession | 789 | 0.501^a | 708^a | 0.091^a |
| | | <i>0.204</i> | <i>1514</i> | <i>0.123</i> |
| Pre-EU Accession | 653 | 0.505 | 599 | 0.092 |
| | | <i>0.198</i> | <i>1274</i> | <i>0.13</i> |
| Post-EU Accession | 136 | 0.484^c | 1234^{b,c} | 0.086^c |
| | | <i>0.232</i> | <i>2282</i> | <i>0.08</i> |
| Small Accession | 196 | 0.368^d | 47^d | 0.104 |
| | | <i>0.177</i> | <i>21</i> | <i>0.114</i> |
| Large Accession | 196 | 0.602 | 2350 | 0.099 |
| | | <i>0.163</i> | <i>2369</i> | <i>0.179</i> |
| Non-survivor Accession | 129 | 0.536^e | 307^e | 0.087 |
| | | <i>0.199</i> | <i>318</i> | <i>0.215</i> |
| Survivor Accession | 660 | 0.495 | 787 | 0.092 |
| | | <i>0.205</i> | <i>1638</i> | <i>0.095</i> |

Table II. Descriptive Statistics for Firm-Level Variables (Continued)

| <i>EU-15 Panel</i> | | | | |
|--------------------|------------------------|--|--|---|
| | Number of Obsv. | NFATA | Size | Profitability |
| Austria | 586 | 0.327 <i>0.199</i> | 874 1,749 | 0.043 <i>0.122</i> |
| Belgium | 283 | 0.314 <i>0.200</i> | 1,267 3,349 | 0.069 <i>0.136</i> |
| Denmark | 789 | 0.335 <i>0.195</i> | 752 1,996 | 0.069 <i>0.116</i> |
| Finland | 869 | 0.326 <i>0.202</i> | 1,370 3,392 | 0.089 <i>0.11</i> |
| France | 4389 | 0.202 <i>0.172</i> | 2,988 11,529 | 0.059 <i>0.149</i> |
| Germany | 4729 | 0.252 <i>0.190</i> | 2,666 12,699 | 0.03 <i>0.209</i> |
| Greece | 631 | 0.364 <i>0.214</i> | 559 1,143 | 0.099 <i>0.084</i> |
| Ireland | 407 | 0.402 <i>0.278</i> | 788 1,636 | 0.041 <i>0.819</i> |
| Italy | 1,469 | 0.276 <i>0.195</i> | 4,801 15,040 | 0.055 <i>0.094</i> |
| Luxembourg | 53 | 0.337 <i>0.230</i> | 2,146 2,627 | 0.025 <i>0.134</i> |
| Netherlands | 1,198 | 0.284 <i>0.195</i> | 3,154 12,424 | 0.074 <i>0.159</i> |
| Portugal | 398 | 0.412 <i>0.197</i> | 1,483 3,322 | 0.056 <i>0.056</i> |
| Spain | 1,182 | 0.383 <i>0.232</i> | 3,716 14,693 | 0.072 <i>0.145</i> |
| Sweden | 1,981 | 0.252 <i>0.218</i> | 1,397,978 56,322,649 | -0.005 <i>0.344</i> |
| UK | 10,168 | 0.339 <i>0.261</i> | 1,362 8,161 | 0.016 <i>1.086</i> |
| EU-15 | 29,132 | 0.298 <i>0.228</i> | 2,189 <i>14,539</i> | 0.042 <i>0.266</i> |
| Small EU-15 | 7,323 | 0.230^d <i>0.218</i> | 23^d <i>13</i> | -0.033^d <i>0.463</i> |
| Large EU-15 | 7,323 | 0.346 <i>0.229</i> | 8,519 28,583 | 0.077 <i>0.089</i> |
| Non-survivor EU-15 | 2,688 | 0.284^e <i>0.226</i> | 775^e <i>3,613</i> | -0.003^e <i>0.318</i> |
| Survivor EU-15 | 26,444 | 0.297 <i>0.229</i> | 2,334 <i>15,214</i> | 0.045 <i>0.264</i> |

Table III. Descriptive Statistics for Macro Variables

The figures are annual averages for the period 1996-2006. The results of t-tests are reported at the 5% significance level; (a) denotes that there is a significant difference between the means of accession and EU-15 countries, (b) denotes that there is significant difference between the means of Pre-EU and Post-EU accession periods, and (c) denotes that there is significant difference between the means of Post-EU accession and EU-15.

| <i>Accession Panel</i> | | | | | | |
|-------------------------|----------------------------|----------------------------|---------------------------------|--------------------------|----------------------------|-----------|
| Countries | Interest | Real GDP Growth | Deposit Money Bank Assets / GDP | Stock Market Turnover | FDI Flow / GDP | EU |
| Cyprus | 0.078 | 0.031 | 1.589 | 0.219 | 0.117 | May 2004 |
| Czech Republic | 0.083 | 0.042 | 0.190 | 0.570 | 0.110 | May 2004 |
| Estonia | 0.087 | 0.063 | 0.143 | 0.308 | 0.145 | May 2004 |
| Hungary | 0.144 | -0.015 | 0.048 | 0.718 | 0.127 | May 2004 |
| Lithuania | 0.102 | 0.097 | 0.061 | 0.190 | 0.069 | May 2004 |
| Poland | 0.155 | 0.014 | 0.066 | 0.464 | 0.061 | May 2004 |
| Slovakia | 0.130 | 0.041 | 0.103 | 0.799 | 0.106 | May 2004 |
| Slovenia | 0.136 | 0.041 | 0.101 | 0.208 | 0.033 | May 2004 |
| <i>EU-15 Panel</i> | | | | | | |
| Countries | Interest | Real GDP Growth | Deposit Money Bank Assets / GDP | Stock Market Turnover | FDI Flow / GDP | EU |
| Austria | 0.050 | 0.017 | 0.464 | 0.408 | 0.020 | Jan. 1995 |
| Belgium | 0.073 | 0.017 | 0.695 | 0.459 | 0.051 | Mar. 1957 |
| Denmark | 0.064 | 0.020 | 0.451 | 0.699 | 0.047 | Jan. 1973 |
| Finland | 0.048 | 0.032 | 0.257 | 0.871 | 0.036 | Jan. 1995 |
| France | 0.061 | 0.017 | 0.410 | 0.783 | 0.028 | Mar. 1957 |
| Germany | 0.074 | 0.009 | 0.364 | 1.301 | 0.021 | Mar. 1957 |
| Greece | 0.109 | 0.033 | 0.143 | 0.591 | 0.007 | Jan. 1981 |
| Ireland | 0.043 | 0.065 | 1.836 | 0.574 | 0.084 | Jan. 1973 |
| Italy | 0.074 | 0.008 | 0.096 | 1.021 | 0.010 | Mar. 1957 |
| Luxembourg | 0.044 | 0.044 | 12.972 | 1.766 | 0.122 | Mar. 1957 |
| Netherlands | 0.043 | 0.021 | 0.586 | 1.168 | 0.066 | Mar. 1957 |
| Portugal | 0.059 | 0.018 | 0.276 | 0.616 | 0.029 | Jan. 1986 |
| Spain | 0.049 | 0.031 | 0.158 | 1.724 | 0.032 | Jan. 1986 |
| Sweden | 0.053 | 0.027 | 0.309 | 0.995 | 0.066 | Jan. 1995 |
| UK | 0.052 | 0.040 | 1.470 | 0.885 | 0.042 | Jan. 1973 |
| Accession Panel | 0.114^a | 0.039 | 0.288^a | 0.435^a | 0.096^a | |
| Pre-EU Accession Panel | 0.131 | 0.018 | 0.259 | 0.467 | 0.052 | |
| Post-EU Accession Panel | 0.070^{b,c} | 0.094^{b,c} | 0.363 | 0.345^c | 0.212^{b,c} | |
| EU-15 Panel | 0.060 | 0.027 | 1.366 | 0.924 | 0.044 | |

Table IV. Correlation Matrix of Macro Factors

| Accession Macro Factor Correlation Matrix | | | | | |
|--|--------------|--------------|---------------|------------|-------------|
| | DMGDP | FFGDP | GRRGDP | INT | SMTO |
| DMGDP | 1.000 | -0.007 | -0.037 | -0.273 | -0.196 |
| FFGDP | -0.007 | 1.000 | 0.119 | -0.308 | 0.075 |
| GRRGDP | -0.037 | 0.119 | 1.000 | -0.579 | -0.295 |
| INT | -0.273 | -0.308 | -0.579 | 1.000 | 0.307 |
| SMTO | -0.196 | 0.075 | -0.295 | 0.307 | 1.000 |

| EU-15 Macro Factor Correlation Matrix | | | | | |
|--|--------------|--------------|---------------|------------|-------------|
| | DMGDP | FFGDP | GRRGDP | INT | SMTO |
| DMGDP | 1.000 | 0.080 | 0.010 | -0.155 | 0.308 |
| FFGDP | 0.080 | 1.000 | 0.090 | -0.228 | -0.061 |
| GRRGDP | 0.010 | 0.090 | 1.000 | -0.312 | 0.072 |
| INT | -0.155 | -0.228 | -0.312 | 1.000 | -0.136 |
| SMTO | 0.308 | -0.061 | 0.072 | -0.136 | 1.000 |

Table V. Market Capitalization of Listed Companies (Current US \$ in millions) Source: WDI (November 2007)

| Accession Countries | | | | | | | | | | | |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| Cyprus | 2,355 | 2,011 | 2,618 | 6,950 | 4,351 | 6,187 | 4,990 | 4,804 | 4,880 | 6,583 | |
| Czech Rep. | 18,077 | 12,786 | 12,045 | 11,796 | 11,002 | 9,331 | 15,893 | 17,663 | 30,863 | 38,345 | 48,604 |
| Estonia | | 1,101 | 519 | 1,789 | 1,846 | 1,483 | 2,430 | 3,790 | 6,203 | 3,495 | 5,963 |
| Hungary | 5,273 | 14,975 | 14,028 | 16,317 | 12,021 | 10,367 | 13,110 | 16,729 | 28,711 | 32,576 | 41,935 |
| Lithuania | 900 | 1,693 | 1,074 | 1,138 | 1,588 | 1,199 | 1,463 | 3,510 | 6,463 | 8,183 | 10,191 |
| Poland | 8,390 | 12,135 | 20,461 | 29,577 | 31,279 | 26,017 | 28,750 | 37,165 | 71,102 | 93,873 | 149,054 |
| Slovakia | 2,182 | 1,826 | 965 | 1,060 | 1,217 | 1,558 | 1,904 | 2,779 | 4,410 | 4,393 | 5,574 |
| Slovenia | 663 | 1,625 | 2,450 | 2,180 | 2,547 | 2,839 | 4,606 | 7,134 | 9,677 | 7,899 | 15,182 |
| EU-15 Countries | | | | | | | | | | | |
| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| Austria | 33,953 | 35,724 | 34,106 | 33,025 | 29,935 | 24,512 | 31,899 | 54,528 | 85,815 | 126,324 | 191,300 |
| Belgium | 119,831 | 136,965 | 245,657 | 184,942 | 182,481 | 165,843 | 127,556 | 173,612 | 768,377 | 327,065 | 396,220 |
| Denmark | 71,688 | 93,766 | 98,881 | 105,293 | 107,666 | 88,370 | 76,788 | 121,616 | 151,342 | 178,038 | 231,014 |
| Finland | 63,078 | 73,322 | 154,518 | 349,409 | 293,635 | 190,456 | 138,833 | 170,283 | 183,765 | 209,504 | 265,476 |
| France | 591,123 | 674,368 | 991,484 | 1,475,457 | 1,446,634 | 1,174,428 | 966,962 | 1,355,643 | 1,857,235 | 1,710,029 | 2,428,571 |
| Germany | 670,997 | 825,233 | 1,093,962 | 1,432,190 | 1,270,243 | 1,071,749 | 691,124 | 1,079,026 | 1,194,517 | 1,221,250 | 1,637,825 |
| Greece | 24,178 | 34,164 | 79,992 | 204,213 | 110,839 | 86,538 | 68,741 | 106,845 | 125,242 | 145,013 | 208,283 |
| Ireland | 34,738 | 49,371 | 66,596 | 68,773 | 81,882 | 75,298 | 60,384 | 85,070 | 114,085 | 114,134 | 163,357 |
| Italy | 258,160 | 344,665 | 569,731 | 728,273 | 768,364 | 527,396 | 480,630 | 614,841 | 789,563 | 798,167 | 1,026,639 |
| Luxembourg | 32,692 | 33,892 | 35,403 | 35,940 | 34,016 | 23,783 | 24,733 | 37,333 | 50,144 | 51,254 | 79,524 |
| Netherlands | 378,721 | 468,736 | 603,182 | 695,209 | 640,456 | 458,221 | 401,465 | 488,647 | 622,284 | 727,515 | 779,645 |
| Portugal | 24,660 | 38,954 | 62,954 | 66,488 | 60,681 | 46,338 | 42,846 | 58,285 | 73,404 | 66,981 | 104,201 |
| Spain | 242,779 | 290,383 | 402,180 | 431,668 | 504,219 | 468,203 | 464,998 | 726,243 | 940,673 | 960,024 | 1,323,089 |
| Sweden | 247,217 | 272,730 | 278,707 | 373,278 | 328,339 | 236,514 | 179,335 | 289,877 | 376,781 | 403,948 | 573,250 |
| UK | 1,740,246 | 1,996,225 | 2,374,273 | 2,933,280 | 2,576,992 | 2,164,716 | 1,864,262 | 2,460,064 | 2,815,928 | 3,058,182 | 3,794,310 |

Table VI. OLS Results for EU-15 Firms

The data is gathered from the Compustat Global Industrials and Commercials database and is composed of the balance sheet and income statements for the companies in each country from 1996-2006. TLTA is the ratio of total liabilities to total assets. CLTL is the ratio of current liabilities to total liabilities. LTDTA is the ratio of long-term debt to total assets. CLTA is the ratio of current liabilities to total assets. INT is lending rates, GRRGDP is the growth rate of real GDP, DMGDP is the deposit money bank assets to GDP ratio, STMO is the stock market turnover, FFGDP is the ratio of FDI flows to GDP, NFATA is the net fixed assets to total assets ratio, Size is the log of total assets, and Profitability is the ROA ratio. For each variable, the first row is the beta coefficients and the second row is White's (1980) heteroskedasticity-consistent standard errors.

| | TLTA | CLTL | LTDTA | CLTA |
|------------------------|------------------|------------------|------------------|------------------|
| C | 0.462 | 1.009 | -0.048 | 0.509 |
| | <i>0.033</i> | <i>0.034</i> | <i>0.03</i> | <i>0.014</i> |
| INT | 0.188 | 0.034 | 0.002 | 0.185 |
| | <i>0.302</i> | <i>0.366</i> | <i>0.297</i> | <i>0.18</i> |
| GRRGDP | 0.033 | 0.048 | -0.021 | 0.054* |
| | <i>0.033</i> | <i>0.031</i> | <i>0.025</i> | <i>0.029</i> |
| DMGDP | -0.056*** | -0.067* | 0.021 | -0.077*** |
| | <i>0.019</i> | <i>0.035</i> | <i>0.025</i> | <i>0.018</i> |
| SMTO | 0.004 | -0.034** | 0.024* | -0.021** |
| | <i>0.017</i> | <i>0.016</i> | <i>0.014</i> | <i>0.01</i> |
| FFGDP | -0.117 | -0.09 | 0.024 | -0.141** |
| | <i>0.109</i> | <i>0.064</i> | <i>0.064</i> | <i>0.063</i> |
| NFATA | -0.003 | -0.407*** | 0.241*** | -0.244*** |
| | <i>0.05</i> | <i>0.036</i> | <i>0.046</i> | <i>0.019</i> |
| SIZE | 0.027*** | -0.033*** | 0.030*** | -0.002** |
| | <i>0.002</i> | <i>0.003</i> | <i>0.001</i> | <i>0.001</i> |
| PROFITABILITY | -0.008** | 0.004 | -0.006*** | -0.003 |
| | <i>0.004</i> | <i>0.003</i> | <i>0.001</i> | <i>0.003</i> |
| Number of Observations | 29,132 | 29,132 | 29,132 | 29,132 |
| Adjusted R-squared | 0.12 | 0.354 | 0.353 | 0.152 |

***significant at 1 %

** significant at 5%

* significant at 10%

Table VII. OLS Results for Accession Firms

The data is gathered from the Compustat Global Industrials and Commercials database and is composed of the balance sheet and income statements for the companies in each country from 1996-2006. TLTA is the ratio of total liabilities to total assets. CLTL is the ratio of current liabilities to total liabilities. LTDTA is the ratio of long-term debt to total assets. CLTA is the ratio of current liabilities to total assets. INT is lending rates, GRRGDP is the growth rate of real GDP, DMGDP is the deposit money bank assets to GDP ratio, STMO is the stock market turnover, EU is European Union accession dummy, FFGDP is the ratio of FDI flows to GDP, and NFATA is the net fixed assets to total assets ratio. Size is the log of total assets and Profitability is the ROA ratio. For each variable, the first row is the beta coefficients and the second row is White's (1980) heteroskedasticity-consistent standard errors.

| | TLTA | CLTL | LTDTA | CLTA |
|------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| C | 0.485 <i>0.017</i> | 1.075 <i>0.049</i> | -0.008 <i>0.009</i> | 0.493 <i>0.015</i> |
| INT | -0.328*** <i>0.089</i> | 0.282 <i>0.222</i> | -0.248*** <i>0.055</i> | -0.08 <i>0.115</i> |
| GRRGDP | -0.135*** <i>0.039</i> | 0.110*** <i>0.033</i> | -0.115*** <i>0.028</i> | -0.021 <i>0.039</i> |
| DMGDP | -0.06 <i>0.086</i> | 0.039 <i>0.084</i> | -0.076* <i>0.045</i> | 0.016 <i>0.058</i> |
| SMTO | -0.045*** <i>0.017</i> | -0.042* <i>0.025</i> | -0.003 <i>0.014</i> | -0.042*** <i>0.007</i> |
| EU | -0.007 <i>0.013</i> | -0.044* <i>0.023</i> | 0.013 <i>0.008</i> | -0.02 <i>0.014</i> |
| FFGDP | -0.121** <i>0.058</i> | 0.190*** <i>0.064</i> | -0.121*** <i>0.041</i> | 0 <i>0.033</i> |
| NFATA | -0.299** <i>0.138</i> | -0.412*** <i>0.083</i> | 0.071 <i>0.058</i> | -0.370*** <i>0.082</i> |
| SIZE | 0.038*** <i>0.013</i> | -0.043*** <i>0.007</i> | 0.033*** <i>0.006</i> | 0.005 <i>0.008</i> |
| PROFITABILITY | -0.381** <i>0.149</i> | -0.024 <i>0.048</i> | -0.084 <i>0.051</i> | -0.297*** <i>0.098</i> |
| Number of Observations | 789 | 789 | 789 | 789 |
| Adjusted R-squared | 0.209 | 0.337 | 0.238 | 0.295 |

***significant at 1 %
 ** significant at 5%
 * significant at 10%

Table VIII. OLS Results for Small Firms

The firms in the sample are divided into quartiles according to total asset size and the bottom 25th percentile is defined as small firms. TLTA is the ratio of total liabilities to total assets. CLTL is the ratio of current liabilities to total liabilities. LTDTA is the ratio of long-term debt to total assets. CLTA is the ratio of current liabilities to total assets. INT is lending rates, GRRGDP is the growth rate of real GDP, DMGDP is the deposit money bank assets to GDP ratio, STMO is the stock market turnover, EU is European Union accession dummy, FFGDP is the ratio of FDI flows to GDP, and NFATA is the net fixed assets to total assets ratio. Size is the log of total assets and Profitability is the ROA ratio. For each variable, the first row is the beta coefficients and the second row is White's (1980) heteroskedasticity-consistent standard errors.

| Small EU-15 Firms | | | | |
|------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| | TLTA | CLTL | LTDTA | CLTA |
| C | 0.518 <i>0.021</i> | 0.981 <i>0.021</i> | 0.004 <i>0.013</i> | 0.514 <i>0.016</i> |
| INT | 0.524* <i>0.314</i> | -0.33 <i>0.233</i> | 0.288*** <i>0.092</i> | 0.236 <i>0.289</i> |
| GRRGDP | 0.074** <i>0.036</i> | 0.042 <i>0.027</i> | -0.013 <i>0.018</i> | 0.087*** <i>0.029</i> |
| DMGDP | -0.03 <i>0.021</i> | -0.088*** <i>0.031</i> | 0.045** <i>0.018</i> | -0.075*** <i>0.019</i> |
| SMT0 | -0.004 <i>0.024</i> | -0.030* <i>0.016</i> | 0.016 <i>0.013</i> | -0.021 <i>0.016</i> |
| FFGDP | -0.319** <i>0.167</i> | -0.108* <i>0.065</i> | -0.038 <i>0.074</i> | -0.281*** <i>0.104</i> |
| NFATA | 0.064 <i>0.061</i> | -0.376*** <i>0.049</i> | 0.229*** <i>0.05</i> | -0.165*** <i>0.023</i> |
| SIZE | -0.008 <i>0.006</i> | -0.010** <i>0.005</i> | 0.003 <i>0.004</i> | -0.011*** <i>0.003</i> |
| PROFITABILITY | -0.004*** <i>0.002</i> | 0.001 <i>0.002</i> | -0.001 <i>0.001</i> | -0.003* <i>0.002</i> |
| Number of Obsv. | 7,323 | 7,323 | 7,323 | 7,323 |
| Adjusted R-sqr. | 0.038 | 0.211 | 0.177 | 0.091 |
| Small Accession Firms | | | | |
| | TLTA | CLTL | LTDTA | CLTA |
| C | 0.603 <i>0.044</i> | 0.806 <i>0.05</i> | 0.122 <i>0.025</i> | 0.481 <i>0.024</i> |
| INT | -0.221*** <i>0.052</i> | 0.394** <i>0.169</i> | -0.249*** <i>0.042</i> | 0.029 <i>0.048</i> |
| GRRGDP | -0.138** <i>0.069</i> | 0.198 <i>0.15</i> | -0.108** <i>0.051</i> | -0.03 <i>0.102</i> |
| DMGDP | 0.871*** <i>0.241</i> | 0.874 <i>0.615</i> | -0.067 <i>0.241</i> | 0.939*** <i>0.191</i> |
| SMT0 | -0.094*** <i>0.015</i> | 0.034 <i>0.032</i> | -0.038** <i>0.018</i> | -0.056*** <i>0.008</i> |
| EU | 0.010** <i>0.005</i> | -0.058*** <i>0.015</i> | 0.029*** <i>0.005</i> | -0.019*** <i>0.005</i> |
| FFGDP | -0.086** <i>0.033</i> | 0.111*** <i>0.018</i> | -0.094*** <i>0.035</i> | 0.008*** <i>0.003</i> |
| NFATA | -0.228** <i>0.098</i> | -0.368*** <i>0.095</i> | 0.123*** <i>0.046</i> | -0.351** <i>0.135</i> |
| SIZE | -0.015 <i>0.018</i> | 0.001 <i>0.01</i> | -0.004 <i>0.006</i> | -0.011 <i>0.014</i> |
| PROFITABILITY | -0.425*** <i>0.108</i> | 0.05 <i>0.074</i> | -0.095*** <i>0.026</i> | -0.330*** <i>0.091</i> |
| Number of Obsv. | 196 | 196 | 196 | 196 |
| Adjusted R-sqr. | 0.217 | 0.255 | 0.097 | 0.29 |

***significant at 1 %

** significant at 5%

* significant at 10%

Table IX. OLS Results for Non-Survivor Firms

Non-survivor companies are defined as companies who are inactive for one of the following reasons: bankruptcy, liquidation, reverse acquisition, leveraged buyout, or the company no longer files with the SEC. INT is the lending rates, GRRGDP is the growth rate of real GDP, DMGDP is the deposit money bank assets to GDP ratio, STMO is the stock market turnover, EU is European Union accession dummy, FFGDP is the ratio of FDI flows to GDP, and NFATA is the net fixed assets to total assets ratio. Size is the log of total assets and Profitability is the ROA ratio. For each variable, the first row is the beta coefficients and the second row is White's (1980) heteroskedasticity-consistent standard errors.

| Non-Survivor EU-15 Firms | | | | |
|-------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| | TLTA | CLTL | LTDTA | CLTA |
| C | 0.397 <i>0.065</i> | 0.902 <i>0.046</i> | -0.043 <i>0.028</i> | 0.44 <i>0.062</i> |
| INT | 1.524*** <i>0.377</i> | 0.766** <i>0.387</i> | 0.205 <i>0.178</i> | 1.319*** <i>0.392</i> |
| GRRGDP | 0.116 <i>0.077</i> | 0.084 <i>0.06</i> | -0.065* <i>0.037</i> | 0.180** <i>0.071</i> |
| DMGDP | -0.078 <i>0.083</i> | -0.075** <i>0.037</i> | 0.019 <i>0.021</i> | -0.097 <i>0.079</i> |
| SMTO | 0.044 <i>0.036</i> | -0.024 <i>0.019</i> | 0.038** <i>0.017</i> | 0.006 <i>0.028</i> |
| FFGDP | -0.255 <i>0.185</i> | -0.026 <i>0.087</i> | -0.055 <i>0.1</i> | -0.2 <i>0.143</i> |
| NFATA | 0.003 <i>0.049</i> | -0.349*** <i>0.036</i> | 0.204*** <i>0.037</i> | -0.200*** <i>0.038</i> |
| SIZE | 0.026*** <i>0.005</i> | -0.031*** <i>0.006</i> | 0.032*** <i>0.005</i> | -0.006* <i>0.003</i> |
| PROFITABILITY | -0.014 <i>0.012</i> | -0.015 <i>0.027</i> | 0.001 <i>0.017</i> | -0.015 <i>0.01</i> |
| Number of Observations | 2688 | 2688 | 2688 | 2688 |
| Adjusted R-squared | 0.112 | 0.303 | 0.291 | 0.155 |
| Non-Survivor Accession Firms | | | | |
| | TLTA | CLTL | LTDTA | CLTA |
| C | 0.256 <i>0.198</i> | 1.012 <i>0.079</i> | -0.016 <i>0.057</i> | 0.273 <i>0.147</i> |
| INT | 0.262 <i>0.266</i> | -0.305 <i>0.401</i> | 0.168 <i>0.198</i> | 0.094 <i>0.102</i> |
| GRRGDP | -0.045** <i>0.022</i> | 0.132 <i>0.113</i> | -0.135*** <i>0.039</i> | 0.090* <i>0.05</i> |
| DMGDP | 0.056 <i>0.041</i> | 0.388*** <i>0.125</i> | -0.266*** <i>0.077</i> | 0.322*** <i>0.053</i> |
| SMTO | -0.077*** <i>0.022</i> | -0.035 <i>0.024</i> | -0.015 <i>0.012</i> | -0.062*** <i>0.012</i> |
| EU | -0.134*** <i>0.017</i> | -0.422*** <i>0.039</i> | 0.109*** <i>0.02</i> | -0.244*** <i>0.026</i> |
| FFGDP | 0.102 <i>0.126</i> | -0.004 <i>0.103</i> | 0.262*** <i>0.061</i> | -0.160* <i>0.096</i> |
| NFATA | -0.385*** <i>0.112</i> | -0.613*** <i>0.067</i> | 0.135** <i>0.052</i> | -0.520*** <i>0.063</i> |
| SIZE | 0.081*** <i>0.022</i> | -0.007* <i>0.004</i> | 0.022*** <i>0.004</i> | 0.058*** <i>0.018</i> |
| PROFITABILITY | -0.114*** <i>0.004</i> | -0.149*** <i>0.054</i> | 0.032 <i>0.026</i> | -0.146*** <i>0.026</i> |
| Number of Observations | 129 | 129 | 129 | 129 |
| Adjusted R-squared | 0.343 | 0.158 | 0.053 | 0.359 |

***significant at 1 %

** significant at 5%

* significant at 10%

Figure I. Inward FDI Flows to 10 New Member States (Source: UNCTAD)

