Determinants and Effects of Countries' External Capital Structure: A firm-level Analysis*

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Abstract

This paper investigates the impact of a firm's foreign liability composition on its resilience during economic turmoil and identifies the factors determining its foreign capital structure. Using firm-level data, we corroborate previous findings from the literature that the composition of foreign liabilities matters for a country's susceptibility to external shocks. We find that firms with a positive equity share in their foreign liabilities were less affected by the global financial crisis. This was mainly due to the availability of intra-firm trade credit and intra-firm loans, which acted as a financial buffer when external capital markets became distressed and domestic financing was scarce. Moreover, we show that firms with a positive foreign equity share were less likely to default after the crisis, highlighting the importance of (foreign) equity financing for firms' resilience to shocks and, hence, for financial stability.

Keywords: Firm-level data, External Liabilities, Foreign capital structure, FDI, Financial Crisis, Financial stability

JEL classification: E44, F21, F23, F32, F34, F36

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1 Introduction

Over the past decade, large and persistent current account imbalances have led to historic highs of countries' net international investment positions and raised concerns about the disorderly unwinding of the resulting stock imbalances (International Monetary Fund (2019)). The rapid tightening of monetary policy in advanced economies following the shocks of the COVID-19 pandemic and recent geopolitical tensions has led to a new period of financial and capital flow volatility. This raises complex challenges and trade-offs for policymakers and brings the question of countries' vulnerabilities to sudden capital flow reversals back to the forefront. These developments thus once again highlight the importance of understanding the specific factors determining countries' external vulnerabilities when exposed to global shocks.

Previous research found that the composition of foreign liabilities, namely the relative shares of items such as foreign direct investment (FDI), portfolio equity, and external debt in a country's gross foreign liabilities, is an important determinant of a country's vulnerability to external crises.[1] Given that liquidity crises are unlikely to be generated by sudden stops in equity flows but are often triggered by sudden stops in debt flows, a large share of equity in total liabilities can bolster macroeconomic and financial stability during times of distress when debt markets may freeze or become prohibitively expensive.

This paper provides new evidence on these issues at the *micro-level* using Slovenian firm-level data. The data contains detailed information on firm characteristics, their balance sheets, and, most importantly, information on the stock of firm liabilities vis-à-vis foreign residents. With this information, we construct a firm-level measure of the foreign equity share, which closely resembles measures used in the macroeconomic literature. We then exploit the 2009 global financial crisis shock to analyze whether the composition of foreign liabilities at the firm-level could provide information on the country's susceptibility to external shocks.

We emphasize three main findings. First, we find that firms with a positive foreign equity share (in total foreign liabilities) performed better with respect to sales growth after the global financial crisis than firms with no foreign equity on their balance sheets. We show that this result can be explained by intra-firm trade credit and intra-firm loans, which provided (short-term) liquidity in the post-crisis period when external capital markets became distressed and domestic financing tight. Second, we show that having a positive foreign equity share also made firms less likely to default in the aftermath of the crisis, highlighting the role of (foreign) equity

[1] See, e.g., Lane and Milesi-Ferretti (2000), Pistelli et al. (2007), Gourinchas and Obstfeld (2012), Catão and Milesi-Ferretti (2014), and Cubeddu et al. (2021).

financing as a long-term financial commitment by foreign investors, contributing to a country's financial stability. Finally, we examine the underlying factors determining the existing structure of countries' external liabilities. We show that larger, more open, and more productive firms exhibit a higher equity share in foreign liabilities. While previous studies have addressed this question from a cross-country perspective and have mostly focused on the role of institutional quality and financial development, we study this topic from a firm-level perspective.[2]

Finally, we document some interesting stylized facts about Slovenia's foreign capital structure. While the composition of foreign capital structure is relatively stable at the aggregate level, it masks substantial variation at the micro-level. Moreover, the fraction of firms with any foreign liabilities is remarkably stable over time. The same holds for a fraction of firms that exhibit a positive equity share in their foreign liabilities and for firms' mean equity share, which hovers around fifty percent. At the same time, individual firms' equity share could vary considerably both across firms and over time.

Related literature. This paper contributes to the literature on the effects of firms' (foreign) capital structure on countries' vulnerability to external shocks. There is an active body of literature that looks at firms' capital structure and its effect on performance during the Great Recession. However, these studies typically focus on the *overall financing structure* of firms. For example, Clarke et al. (2012) investigate how country and firm characteristics affected financial constraints and the default probability of firms during the Great Recession. Medina (2012) uses cross-sectional data from 48 developed and developing countries to identify resilience and vulnerability factors in the aftermath of the global financial crisis. Wu (2012) studies the effects of changes in external financing conditions on firm performance after the crisis. Kalemli-Ozcan et al. (2019) study the role of financial factors that have contributed to sluggish investment in Europe in the aftermath of the 2008-2009 crisis. In contrast to these studies, which look at the *overall financial leverage* of firms, we focus on the composition of *foreign liabilities*.

Another strand of literature focuses on access to *foreign debt financing* during the Great Recession (for example, Ongena et al. (2015) and Gabrijelčič et al. (2016)). These studies find that foreign debt, either bank or corporate, is an important driver for the transmission of external shocks. Kim et al. (2015) and Kim (2016) study the role of *currency composition* in firms' balance sheets on their performance after the crisis. Most closely related to our paper are Alfaro and Chen (2010) and Alfaro

[2]They find that, among other factors, better institutions and more developed financial markets tend to increase the aggregate equity share in countries' total external liabilities. See, for example, Faria et al. (2007), Faria and Mauro (2009), and Wei and Zhou (2018).

and Chen (2012), who study how multinational firms, i.e. firms with some foreign equity, responded to the Great Recession relative to local firms. They find that multinational subsidiaries performed better than local firms after the Great Recession. In contrast to the aforementioned literature, we focus specifically on the *foreign capital structure* and analyze whether the composition of foreign liabilities affects firm performance during the Great Recession.[3]

The structure of this paper is as follows. Section 2 discusses the data used in our analysis. Section 3 presents stylized facts, the empirical strategy, and our main results. Section 4 concludes.

2 Data description

We use annual data from a merged firm-level database containing qualitative and quantitative information about all Slovenian firms. The database is compiled from two different data sources. The first source is the Slovenian Business Register, which gathers (qualitative) information about firms with their principal place of business in Slovenia. We merge this data with information about firms' balance sheets (BS) and income statements (IS), provided by our second source, that is Annual Reports of Corporate Entities (JOLP).[4]

Our data is unique because the firms operating abroad must report BS and IS separately for their foreign operations and liability positions.[5] This enables us to calculate the share of foreign equity in total foreign liabilities – our main variable of interest – in a way that closely resembles the measure used in the relevant macroeconomic literature that focuses on cross-country differences (see, for instance, Faria and Mauro (2009) or Wei and Zhou (2018)).[6] In these studies, total equity consists of FDI and portfolio equity and is expressed as a share of total international liabilities; the latter comprises FDI, portfolio equity, and debt. In the balance of payments statistics, the debt category is further divided into portfolio debt (e.g., bills, bonds, and similar instruments typically traded in the financial markets) and other investment such as trade credits or typical bank loans.

In our analysis, we construct our *firm-level* measure of the foreign equity share as the sum of foreign capital, long and short-term loans, trade and consumption loans, as well as financial leasing from the rest of the world (where the foreign

[3]By foreign financing, we refer to financing sources coming from abroad. Note that this is different from the typical dichotomy between firms' internal and external sources of financing, as usually delineated in the corporate finance literature. See also Section 3.1 for more details.

[4]For a detailed description of the data, see Gabrijelčič et al. (2016) and Lenarčič and Papadopoulos (2020).

[5]This granular information is part of the raw data that is eventually used to compile Slovenia's balance of payments (BOP) statistics.

[6]See also Appendix A for the exact variable definition.

creditor owns more than 10 percent of the respective firm) divided by total liabilities to the rest of the world. These components are encompassed under FDI in countries' balance of payments statistics. We thus aim to follow the approach that is applied in cross-country analyses using aggregated data.

In principle, we would need information on all the above-mentioned components for individual firms (i.e. portfolio equity and tradable debt securities) to calculate a measure at the firm level that closely matches the variable used in cross-country analyses. However, since firms typically lack information on the ultimate owner of portfolio equity or tradable debt securities, these items are not directly reported by the firms in our dataset. Despite this missing information, the measure we construct with the available information is likely almost identical to the equity share based on aggregate country statistics. First, publicly-listed companies account for a minor share of all firms in the Slovenian economy (around 1 percent); portfolio equity held by foreign residents is thus nonexistent for the bulk of the firms in the Slovenian economy. Second, debt securities issuance of firms in Slovenia is negligible; instead, firms usually finance themselves via bank loans (see Gabrijelčič et al. (2016), Bank of Slovenia (2017)). As a result, portfolio debt liabilities are likely to be negligibly small.

We argue that all this makes Slovenia a particularly interesting country to study, as the literature typically tends to uphold the dichotomy "debt vs equity" or, put differently, "stable vs unstable" funding sources.[7] FDI is usually considered the most stable funding source and plays a significant role in the Slovenian economy. At the end of 2014, there were 2,899 Slovenian firms with inward FDI in the form of direct affiliation. Foreign investors invest most heavily in the non-financial corporate sector, which accounted for 83 percent of total inward FDI in value terms. Around 5 percent of all Slovenian firms had FDI liabilities. While this might seem to be a rather small proportion at first glance, companies with FDI liabilities play a significant role in the Slovenian corporate sector. They accounted for 19 percent of capital, 22 percent of assets, and 22 percent of the employees in the entire corporate sector. Moreover, most of the FDI in Slovenia is actually greenfield investment. Out of 3,531 inward FDIs in Slovenia, 62 percent were new (greenfield) investment (Bank of Slovenia (2014)). Thus, the case of Slovenia is, in our view, very informative for the analysis of crisis vulnerabilities and the composition of the stock of foreign liabilities.

For our analysis, we make four sample restrictions to our data. First, we restrict our sample to the period spanning 2005 – 2014. Although data for some earlier years are available, we prefer to start in 2005 to avoid any confounding effects resulting

[7] Herman and Lozej (2021) document that for most Slovenian firms, financing from abroad takes the form of either FDI or loans channelled through the domestic banking system.

from exchange rate changes.[8] Second, we exclude firms operating in the financial, insurance, and government sectors due to the peculiar structure of their balance sheets. Third, to avoid the influence of extreme outliers on our results, we trim 0.1 – 99.9 percent of our dependent variable on a year-by-year basis. Lastly, because we are interested in the foreign capital structure of operating firms, we also exclude all firms that went bankrupt.[9]

A potential concern is that excluding bankrupt firms would introduce a survival bias in our results. For example, bankruptcies might be more likely among firms with weak balance sheets and/or low growth potential. To the extent that these factors are also related to firms' foreign equity, bankruptcies might occur relatively more or less often among firms with a positive foreign equity share. Excluding firms that went bankrupt could thus lead to biased estimates. To alleviate potential concerns regarding a survival bias, Figure B.1 in the appendix shows the number of defaults across firm types over the sample period. Before the crisis, the number of defaults for both types of firms was very low. However, the number of defaults increased dramatically for firms without foreign equity after the crisis. The inclusion of bankrupt firms—assuming that defaulting firms perform on average worse than operating ones—-would tend to increase the difference in sales growth between firms with and without foreign equity.

[8] Slovenia entered the Exchange Rate Mechanism II in July 2004. Since then and until the Euro adoption in January 2007, its exchange rate was fixed to Euro.

[9] In total, this applies to 5,106 firms.

Table 1: Summary statistics

	A. Firms with positive foreign equity				B. Firms without foreign equity			
	Pre-crisis		Post-crisis		Pre-crisis		Post-crisis	
	Mean	p50	Mean	p50	Mean	p50	Mean	p50
Sales growth	18.32	10.24	9.73	1.77	15.15	9.73	3.57	0.10
Total liabilities / TA	67.74	61.52	74.61	59.38	77.14	70.48	82.25	68.37
Size - assets (1000 €)	11541.91	550.50	10072.24	384.00	3872.38	459.00	3663.48	451.00
Size - employment	86.33	9.00	70.54	8.00	29.89	5.00	23.83	5.00
Firm age	7.97	7.00	8.49	6.00	11.17	13.00	12.62	13.00
Tangibility	27.73	17.01	28.14	15.91	30.17	25.42	30.11	24.59
Firm openness	45.44	31.70	52.64	60.63	21.74	3.08	24.99	4.53
Productivity	63.26	38.56	55.67	36.74	40.72	28.64	37.50	28.58
Liquidity ratio	160.00	96.97	1082.92	103.37	108.38	81.58	135.80	85.15
Capital intensity	2285.56	71.15	1031.65	76.06	532.51	75.84	500.42	81.91
PLC	0.04	0.00	0.03	0.00	0.04	0.00	0.03	0.00
N	6398		13752		35086		63079	

Notes: This table reports summary statistics. We drop extreme outliers, where sales growth is larger than approximately 600 percent per year in absolute terms. This amounts to a total of 736 observations. Appendix A provides exact variable definitions.

Our sample could also be susceptible to what is known as "fire-sale FDI." This term describes a situation in which, due to the crisis, asset prices fall to the extent that FDI becomes attractive to foreign investors despite the ongoing crisis and the outflow of portfolio investments from the country (Krugman (2000)).[10] If this is the case, then our sample would upward bias results as new "fire-sale FDI" would facilitate the performance of firms with foreign equity.[11] Figure B.2 in the appendix plots the number of firms that changed their foreign equity status over the sample period. The number of firms that have changed their foreign equity status is small and stable over the examined period. More importantly, we have not seen any increase in FDI in Slovenia after the global financial crisis, which could indicate "fire-sale FDI" activity.

Table 1 provides summary statistics of the main variables used in our analysis. Panel (A) reports statistics for firms with a positive equity share, and Panel (B) reports statistics for all other firms. We further split the sample into a pre- and post-crisis period, where the cut-off year for the post-crisis period is 2009.[12] Looking at the table, one can observe that firms with a positive equity share are, on average,

[10]For example, Aguiar and Gopinath (2005) and Alquist et al. (2016) find that the number of foreign mergers and acquisitions in East Asia drastically increased during the 1997 Asian financial crisis.

[11]This could be due to additional liquidity, management, access to new technologies, etc.

[12]More precisely, the last year in the pre-crisis period is 2008, and the first year in the post-crisis period is 2009.

larger, have more employees, are more productive, and more open. At the same time, they are younger, less leveraged, have less tangible assets, and have a higher liquidity ratio. The share of publicly listed companies (PLC) is comparable across both sub-samples.

3 Empirical Analysis

This section presents some stylized facts about foreign equity shares and the empirical identification strategies used in our analysis. Finally, we report the results.

3.1 Stylized facts

Before presenting stylized facts, we clarify the terminology used throughout the empirical analysis. The focus of this paper is on the firm's equity share in total *foreign* liabilities, i.e.,

$$ForeignEquityLiabShare = \frac{Equity^{Foreign}}{Equity^{Foreign} + Debt^{Foreign}} \tag{1}$$

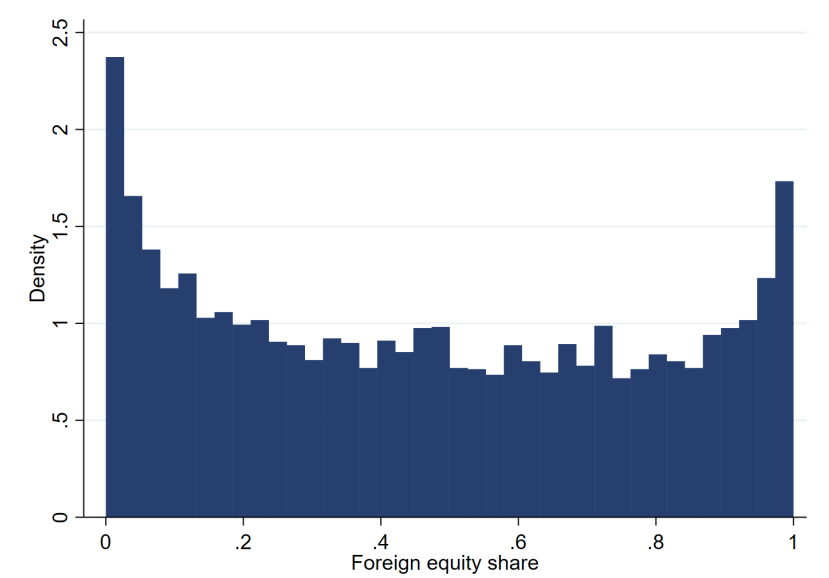
This measure is related to the overall capital structure of a firm, i.e., the particular combination of debt and equity used by a company to finance its overall operations and growth. The portion of the equity in a firm's financing structure (i.e., total equity divided by the sum of total debt obligations and equity liabilities) can be defined as

$$EquityLiabShare = \frac{Equity^{Home} + Equity^{Foreign}}{Equity^{Home} + Debt^{Home} + Equity^{Foreign} + Debt^{Foreign}} \tag{2}$$

While we would expect these two concepts to be highly correlated, there is no particular reason why the two shares should be identical. For instance, if a firm decides to take out a loan from a domestic bank, its overall equity share in (2) would decrease while the foreign equity share in (1) remains unchanged. Similarly, when the domestic owner of a firm sells her equity to a foreign investor, the foreign equity share would increase, whereas the overall financing structure of the firm does not change. Indeed, in our data, the two ratios are highly correlated but not identical (see also Figure B.3 in appendix). Still, it could be argued that a firm's decision of its desired mix of debt and equity in financing its assets and fund operating activities is under the direct control of the company, while the ability to influence its ultimate creditor is more limited. Since we are interested in the composition of firms' *foreign* liabilities, we control for the overall capital structure in our regression analysis, thereby focusing on the variation of the *foreign* capital structure that is not

explained by the firm's original decision of its external financing structure.

Figure 1: Distribution of foreign equity share at the firm level



Notes: Histogram of firm's foreign equity share in total foreign liabilities using the whole sample spanning 2005-2014.

Let us now turn to some stylized facts for the equity share in total foreign liabilities as defined in (1). Figure 1 displays the distribution of the individual firm's equity share in foreign liabilities for all those firms that exhibit any foreign liabilities. As can be seen, the foreign equity share is heterogeneous across firms, with an overall relatively uniform distribution marked by a small spike at either extreme end of the spectrum.

Table 2: Summary statistics for all firms

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of firms with foreign liab.	23	23	23	22	22	22	22	22	22	21
o/w equity liab.	10	10	11	11	11	11	11	12	12	13
Number of firms	38,165	39,782	42,786	45,856	47,851	49,086	52,197	54,577	56,957	59,856

Notes: All statistics are in percentage terms.

Table 2 provides summary statistics for the entire sample. The sample starts with 38,165 firms and increases over the 2005 – 2014 period. The fraction of firms that exhibit any foreign liabilities is remarkably stable over time, hovering around 22 percent. Similarly, about one out of every ten firms that have any foreign liabilities have at the same time equity liabilities vis-à-vis foreign residents. This fraction is also relatively stable over the sample period. Interestingly, the average number of

firms in our sample with a positive equity share in their foreign liabilities is around one thousand. This suggests that we are not just talking about a handful of (often very large) firms in the economy when analyzing the determinants and effects of a country's aggregate external capital structure.

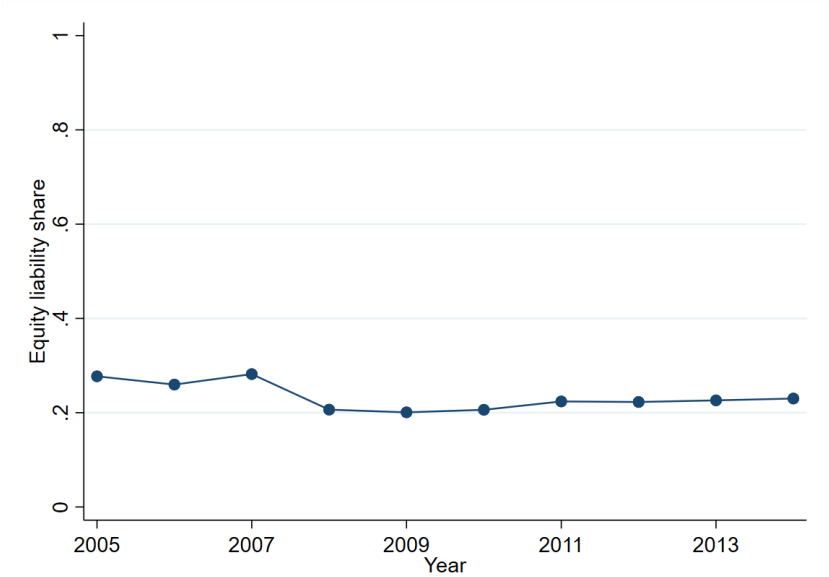
Table 3: Summary statistics by firm size

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of firms with foreign liab.										
Below median	7	7	7	7	7	7	7	7	7	6
Above median	39	38	39	38	38	37	37	36	36	36
o/w equity liabilities										
Below median	7	9	8	9	10	9	10	12	14	16
Above median	11	11	11	11	11	11	11	12	12	12
Mean equity share										
Below median	52	47	49	52	54	50	49	47	48	47
Above median	48	49	48	50	52	51	51	50	49	50

Notes: Firms below median are firms with assets below median size, and firms above median are firms with assets above median size each year. All statistics are in percentage terms.

Next, we show the summary statistics for our key variable of interest for firms above or below median size in Table 3. These conditional statistics shed light on the differential firm's existence and composition of foreign liabilities across firm size. Looking at the top panel of Table 3, we find that large firms (above the median) are more likely to have any foreign liabilities. Almost 40 percent of large firms have foreign debt or equity exposure, while only around 7 percent of small firms have the exposure. Again, these fractions seem to be very stable. This notwithstanding, the lower panel of Table 3 shows that the fraction of firms with a positive equity share in their foreign liabilities is very consistent regardless of firm size. The same holds for the mean equity share, which hovers around 50 percent independent of firm size.

Figure 2: Slovenia's aggregate foreign equity share

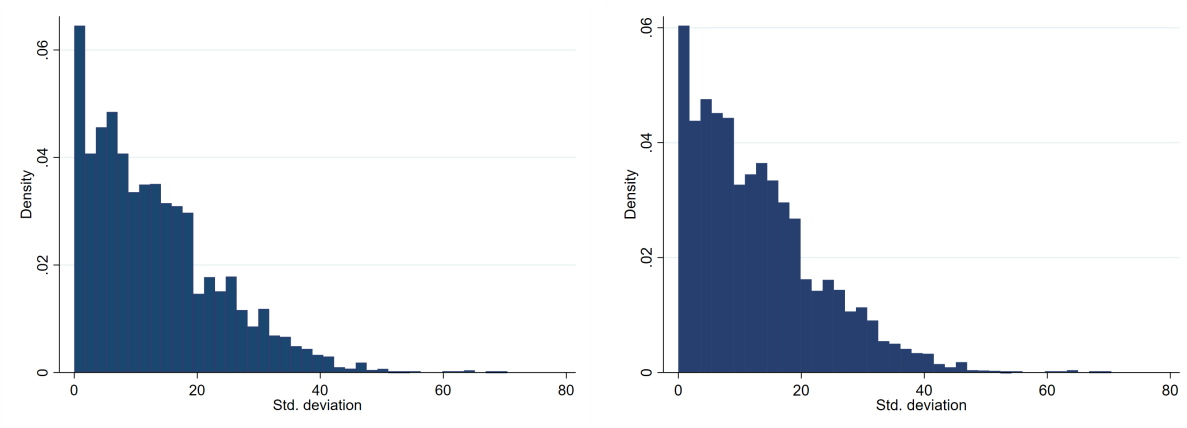


Notes: The total equity share of Slovenia's external liabilities is constructed as the sum of FDI and portfolio equity expressed as a ratio to total liabilities using the data set developed by Lane and Milesi-Ferretti (2018).

All these statistics presented so far would suggest that the aggregate equity share in foreign liabilities is not fluctuating rapidly. This is confirmed by Figure 2, which displays the equity share in foreign liabilities for the whole Slovenian economy using the *External Wealth of Nations* database developed by Lane and Milesi-Ferretti (2018). In fact, the relevant macro literature usually refers to the composition of liability stocks as a fundamental, slow-moving variable (see, for instance, Faria and Mauro (2009)). We find that these aggregate figures tend to mask significant variation at the micro-level.

Figure 3 shows the distribution of the firm-specific standard deviation of the foreign equity share over the sample period. As can be seen, the share of equity in their foreign liabilities varies considerably over time. Importantly, larger firms do not drive this result (see panel (b) in Figure 3).

Figure 3: Firm level standard deviation of foreign equity share over sample period



(a) All firms (b) Firms above median

Notes: Histogram of firm-level standard deviation of their foreign equity share over the 2005 – 2014 period. In Panel (a) are all firms, while in Panel (b) are only firms whose assets are above median assets each year.

3.2 Firms' crisis vulnerability and foreign capital structure

3.2.1 Empirical specification

In this section, we investigate whether the composition of foreign liabilities matters for a country's susceptibility to external shocks. We exploit the global financial crisis shock in 2009 to measure the differential response of firms with a positive foreign equity share in their foreign liabilities relative to firms with foreign liabilities but without foreign equity. Regarding our measure of firm performance, we follow the relevant literature and use firms' sales growth as our dependent variable. To formally analyze the relationship between firms' crisis vulnerability and their foreign capital structure, we estimate several variations of the following difference-in-differences model

$$Y_{igt} = \lambda_t + D_g + \gamma_g t + \delta(Post_t \cdot D_g) + \beta X_{igt} + \epsilon_{igt}, \tag{3}$$

where Y_{igt} is sales growth of firm-i in group-g at time t, λ_t are time-fixed effects, $\gamma_g t$ is a group-specific linear time trend, D_g is the group indicator function if the foreign equity share in foreign liabilities of a firm is larger than 0, $Post_t$ is the post-crisis indicator function which takes the value 1 after 2008, and X_{igt} is a vector of firm-specific controls. Among firm-specific controls, we include size, openness, the liquidity ratio, productivity, the amount of tangible assets, age, age squared, leverage, and a dummy variable that is equal to 1 if a firm is publicly-listed.[13]

Next, given the panel structure of our data, we also control for unobserved

[13]For a detailed description of the variables used in the analysis, see Appendix A.

heterogeneity across firms α_i and estimate a two-way fixed effects model

$$Y_{igt} = \alpha_i + \lambda_t + D_g + \gamma_g t + \delta(Post_t \cdot D_g) + \beta X_{igt} + \epsilon_{igt}, \tag{4}$$

where all other explanatory variables are the same as in (3). In both models, our main coefficient of interest is δ, i.e., the interaction term between the indicator function of firms having some foreign equity share and the post-crisis period. The coefficient measures the difference in the performance of firms with a positive foreign equity share relative to firms without a positive foreign equity share after the global financial crisis.

In the last step, we examine how the effect of a positive foreign equity share on a firm's performance evolved in the post-crisis period. This will help us understand when firms with a more stable source of financing benefited the most from it. To do this, we estimate the following version of the model in (3) and (4)

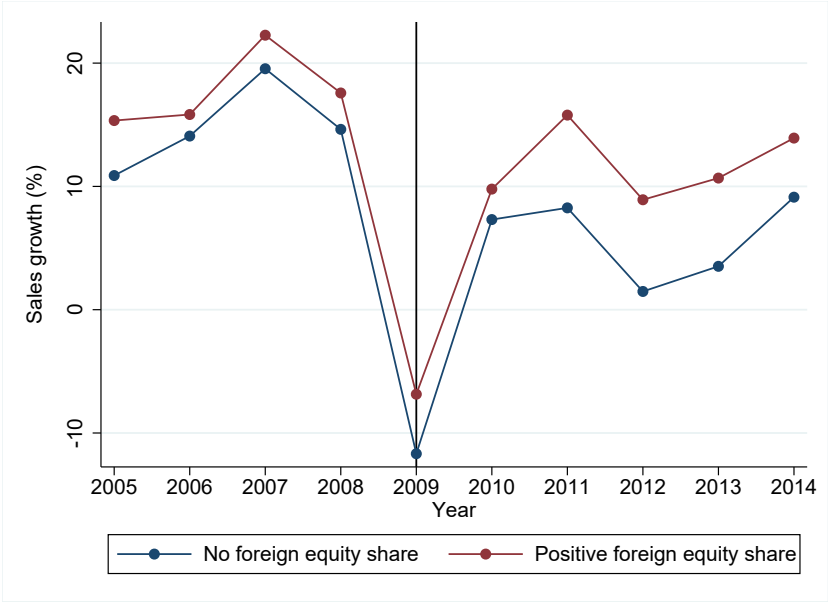
$$Y_{igt} = (\alpha_i) + \lambda_t + D_g + \left[\sum_{t=2005,\ t\neq 2009}^{2015} \delta_t \cdot D_{gt} \right] + \beta X_{igt} + \epsilon_{igt}. \tag{5}$$

In contrast to previous models, D_{gt} is now the indicator function interacted with year dummies. We omit the year 2009, which is when the shock hit Slovenia, so that coefficients δ_t measure the effect of having a positive foreign equity share relative to that year.

Threats to identification. We must rely on the parallel trend assumption for the difference-in-difference estimation to be valid. This means that firms' sales growth in the treatment and control group would follow the same time trend in the absence of a crisis. To support our identifying assumption, we plot the evolution of sales growth rates for both groups of firms. As can be seen from Figure 4, these trends were very similar before the crisis. However, once the crisis hit, the sales growth paths diverged.

Our assumption of parallel trends would be violated if there was some anticipation effect. For example, it could be argued that firms with a positive foreign equity share in foreign liabilities might have predicted the crisis much earlier than firms without foreign equity because they are more informed about global economic conditions. However, since we use annual data and thus focus on a relatively long time span for each observation, we deem this not to be very likely. The effect of the global financial crisis should be fully incorporated into all firms' balance sheets by the end of the year 2009. Moreover, it might well be argued that the global financial crisis and its consequences were generally unforeseen.

Figure 4: Sales growth trends



Notes: This figure plots firms' average sales growth rate with and without foreign equity shares. The vertical line denotes the year when the global financial crisis shock hit Slovenia.

With multiple time periods, we can examine "pre-trends" to assess the plausibility of the parallel trends assumption.[14] Another approach to empirically evaluate the parallel trend assumption is to include group-specific linear time trends in the model. If estimates change significantly, this could indicate that the common trend assumption might be violated.

Besides the parallel trends assumption, one could argue that our identification might suffer from selection bias. It is conceivable that foreign investors discriminate between more and less resilient firms. As a result, they might have ex-ante chosen to invest (i.e. provide equity investment) into those firms that are more likely to be resilient and weather shocks more easily. To the extent that foreign investors could accurately predict Slovenian firms' resilience, the effect we estimate might be driven by factors other than access to stable (external) funding. However, such factors should be captured by firm fixed effects, which we control in some of our specifications.

Another potential concern regarding our identification strategy is that the composition of each group could have changed over time, leading to biased results. To improve the comparability of the treatment and the control group, we employ the entropy balancing method, a generalization of conventional matching methods proposed by Hainmueller (2012) and Hainmueller and Xu (2013). We create balanced

[14]However, as Roth (2020) shows, pre-testing has its limitations (i.e. low power in detecting pre-trends), and the results should be interpreted with caution.

samples by re-weighting covariates in the control group to match the first moments of covariates in the treatment group. This allows us to identify the impact of the crisis on firm performance by comparing firms with and without a positive foreign equity share in foreign liabilities that are as similar as possible in terms of observables while controlling for time-specific factors.[15]

3.2.2 Results

Table 4 reports results from estimating (3) and (4). For brevity, we only report the interaction term δ. In the first two columns, we run difference-in-differences regressions, controlling for time-fixed effects, firm-specific controls, and group-specific linear time trends. We find that in both columns, the interaction term is positive and statistically significant at the 10 percent level, indicating that firms with a positive foreign equity share were weathering the global financial crisis better. In columns (3) and (4), we estimate two versions of a two-way fixed effects model: one without a group-specific linear time trend and the other with a group-specific linear time trend. The sign and the magnitude of our results remain robust. This should also alleviate the concern mentioned above regarding a possible selection bias. However, It is worth noting that when we include a group-specific linear time trend, the effect of a positive foreign equity share is rendered insignificant.[16]

Column (5) shows the results when we first apply the entropy balancing method and then re-weight the control group observations such that the mean of our conditioning variables is the same in the treatment and the control group. Again, our estimates support the previous findings, i.e., firms with a positive foreign equity share seemed to have weathered the global financial crisis relatively better. Our results align with the findings of Alfaro and Chen (2010) and Alfaro and Chen (2012), who study the role of FDI on a firm's performance. They find that firms with FDI performed better than local firms with similar characteristics but without FDI.[17]

[15]The synthetic control method (Abadie and Gardeazabal (2003), Abadie et al. (2010)) – while developed in a context where a single sizeable unit is treated – could, in principle, also be applied to the case where there are multiple treated units. However, as shown by Abadie (2021)), this creates several practical complications for estimation and inference. The entropy balancing method, in turn, already considers a setting with multiple treated units, and instead of producing a separate synthetic control for each treated unit, "[...] calculate[s] a single synthetic control to match aggregate values of the predictors between the treated and non-treated samples." (Abadie (2021), p. 418)

[16]The reduced precision of the point estimate might be explained by the fact that we were already estimating a large number of parameters, and adding a linear time trend might lead to a problem of overfitting. Moreover, note that including group-specific linear time trends is not definite proof that the parallel trend assumption is valid. As argued by Wolfers (2006), Lee and Solon (2011) and more recently by Rambachan and Roth (2020), this simple linear extrapolation of the pre-trends may be too simplistic and potentially even a misleading approach. We also experiment by including group-specific piece-wise-linear time trends. Under this specification, the time trend absorbs all the effect in column (2) but not in column (4). Results are available upon request.

[17]Following the literature (e.g. Alfaro and Chen (2012)), we measure firm performance by the

Table 4: Foreign equity share and performance

	(1) Sales growth	(2) Sales growth	(3) Sales growth	(4) Sales growth	(5) Sales growth (w/matching)
δ	1.992*	2.576*	3.576**	2.231	2.688**
	(0.974)	(1.405)	(1.376)	(1.628)	(0.962)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	70,337	70,337	70,337	70,337	70,337
R^2	0.097	0.097	0.111	0.111	0.114

Notes: Robust and clustered (at sector level) standard errors in parentheses.

*** Significant at the 1% level.

** Significant at the 5% level.

* Significant at the 10% level.

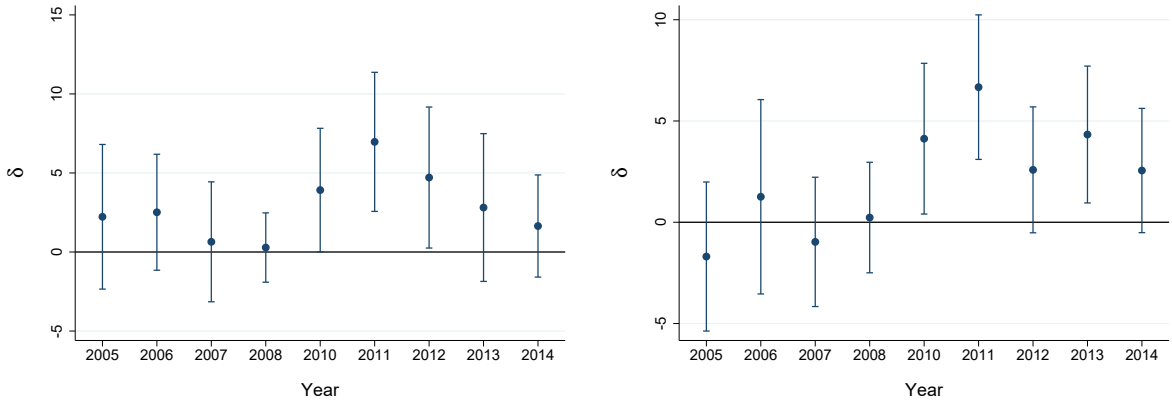
Note that we control for a measure of firm openness in all our specifications, defined as sales outside of the domestic market. This suggests that our main result seems to be driven mainly by domestic sales. Indeed, estimating our baseline specifications with domestic and foreign sales growth as dependent variables confirms this conjecture (see Appendix C). This also addresses the potential concern that our main finding is driven by a potential correlation between regional sales exposure and the likelihood of receiving foreign equity financing.

We also conduct some robustness checks to investigate whether our results continue to hold when using various approaches (see Appendix D). First, we restrict our sample to the period between 2005 – 2011 and re-estimate our models for this shorter period. This helps avoid any confounding effect stemming from the banking crisis that Slovenia experienced in 2012. Results in Table D.5 in the appendix remain virtually unchanged relative to the baseline. Second, we re-run the model with a narrow definition of foreign equity, excluding intra-trade credit and loans. The results are broadly in line with the findings reported for our benchmark specifications (see Table D.6 in the appendix). Finally, we also re-estimate our baseline specification using different outcome variables. We use alternative performance measures like the profitability ratio (EBIT divided by total assets) and the

annual percentage change in the sales level. We opt for this measure because it is less likely to be convoluted by accounting practices or balance sheet optimization.

net investment rate. Again, results are consistent with our baseline findings, yet in some specifications, the estimated effect is rendered insignificant (see Tables D.7 and D.8 in the appendix).

Figure 5: The time-varying effect of a positive foreign equity share on performance



(a) Difference-in-Differences (b) Two-way Fixed Effects

Notes: The figure shows point estimates together with 90 percent confidence intervals. All coefficients measure the effect relative to 2009, when the global financial crisis shock hit Slovenia. Standard errors are robust and clustered at the sector level.

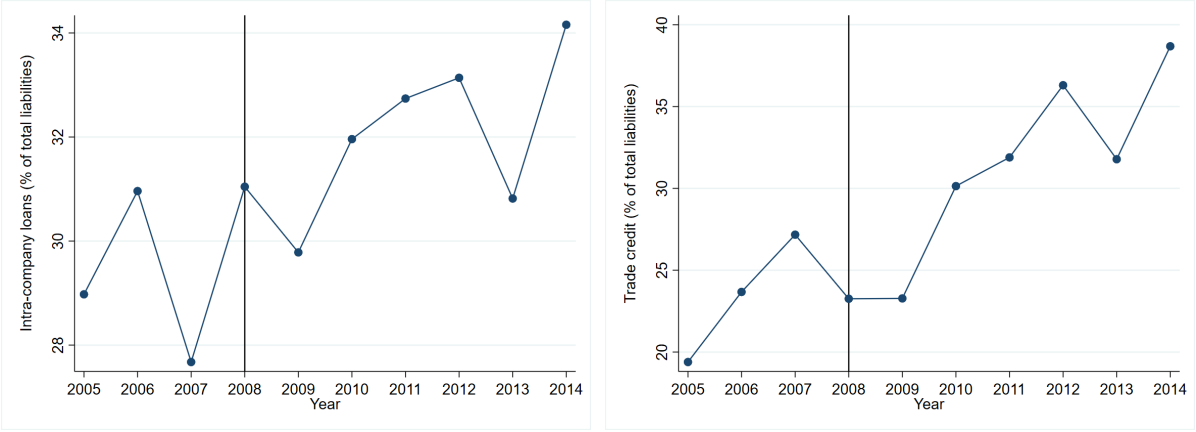
So far, we have presented the average effect – pooled over time – of having a positive foreign equity share on performance. In Figure 5, we plot point estimates of the effect relative to the year 2009 when the global financial crisis hit Slovenia (see the model in (5)). Now, we can shed some light on when the effect of having a positive foreign equity share was the largest. While the positive effect of having a positive foreign equity share materialized already in the first year after the crisis, the effect was most pronounced in 2011, and then it slowly diminished. As discussed above, under this specification, we can also test pre-trends and provide some evidence that the crisis trends do not differ across the two groups. We find that coefficients in the pre-crisis period are insignificant, which indicates that the difference in the performance of firms without and with foreign equity was not significantly different from zero before the crisis. The latter further corroborates that the parallel trend assumption is valid.

Discussion. We find that firms with a positive foreign equity share performed better after the global financial crisis. As argued by the literature, this could be because FDI is indeed a more stable source of financing for firms and is less prone to sudden outflows. Moreover, it could give firms access to an internal capital market when external capital markets are tight or distressed. Santioni et al. (2019) show on a sample of Italian firms that internal—within business groups—capital

markets are crucial during crises because they are an alternative source of financing for firms.

To provide some evidence for this hypothesis, Figure 6 plots the evolution of intra-firm trade credit and intra-firm loans over time. We can see that prior to 2010, both shares remained relatively stable, but there was a substantial increase in 2010, and after that, both shares continued to grow. This suggests that intra-firm trade credit and intra-firm loans became more important in the post-crisis era when other financing options became scarce or more uncertain.

Figure 6: Selected components of foreign equity



(a) Intra-firm loans

(b) Intra-firm trade credit

Notes: This figure plots the average intra-firm loans and intra-firm trade credit as a share of total liabilities for the period 2005 – 2014. By "intra-firm", we refer to a relationship between the parent company and its subsidiary. See Appendix A for exact definitions of variables.

In addition, we try to corroborate our hypothesis by estimating whether the differential effect of having a positive equity share is larger for industries with a higher degree of external financial dependence. We follow the methodology by Rajan and Zingales (1998) and introduce a triple-interaction term using an industry-level measure of external financial dependence. Their approach relies on the assumption that the amount of external finance that firms demand to operate reflects a technologically determined exogenous factor that is industry-specific and assumed to be country- and time-invariant.

Table 5: Foreign equity share, external financial dependence, and firm performance

	(1) Sales growth	(2) Sales growth	(3) Sales growth (w/matching)
δ	2.092***	3.295**	2.928***
	(0.449)	(1.168)	(0.619)
$\delta \cdot$ External Financial Dependence	4.130**	4.153**	5.364**
	(1.595)	(1.579)	(1.874)
Firm FE	No	No	No
Time FE	Yes	Yes	Yes
Group-specific time trend	No	Yes	No
N	57,629	57,629	57,629
R^2	0.104	0.104	0.124

Notes: Robust and clustered (at sector level) standard errors in parentheses.

*** Significant at the 1% level.

** Significant at the 5% level.

* Significant at the 10% level.

We use measures calculated by Duygan-Bump et al. (2015) in our analysis. They follow the procedures described in Cetorelli and Strahan (2006) and define external financial dependence as the proportion of capital expenditures financed with external funds.[18] We would expect that the estimated effect of having a positive equity share (and possibly access to more stable external funding) is larger for firms that operate in industries that are relatively more dependent on external financing. Once we exclude the construction sector, which has particularly suffered during the recession and at the same time exhibits one of the highest measures of external financial dependence (see also Duygan-Bump et al. (2010)), our estimates confirm this conjecture.[19] As seen from Table 5, the estimated coefficient of our newly added interaction term with external financial dependence is positive and highly significant in all specifications.[20]

[18]Their respective measures for different industries are matched by mapping the provided 3-digit NAICS code with the NACE Rev. 2 (on which we have information in our dataset).

[19]We also had to exclude one shipping company from our estimation. After the crisis, the respective firm experienced a substantial negative drop in sales (i.e. negative sales growth of more than 100 percent). Given that the water transportation industry has one of the highest measures of external financial dependence, the induced noise stemming from including these few observations in the estimation increases the standard errors to such a large degree that the estimated coefficient of the interaction term is rendered insignificant.

[20]Note that we only apply this approach to the specifications where we do *not* control for firm-

3.2.3 Were firms with a positive foreign equity share less likely to default in the aftermath of the crisis?

The previous section shows that firms with a positive foreign equity share performed better than firms with a zero foreign equity share during the crisis period. In what follows, we further corroborate this finding by analyzing the underlying factors that predict firms' survival rates. More specifically, we ask whether firms with a positive foreign equity share are less likely to default after the global financial crisis.

We follow the approach by Kim et al. (2015) and estimate a linear and non-linear version of a binary choice model

$$\mathrm{P}\Big(\mathbb{1}[\text{Default}]_{i,t>2008}\Big) = \mathbb{1}[\text{Foreign Equity Share Dummy}]_{i,-1} + X_{i,-1}, \qquad \text{and} \quad (6)$$

$$\mathrm{P}\Big(\mathbb{1}[\text{Default}]_{i,t>2008}\Big) = \mathrm{G}\Big(\mathbb{1}[\text{Foreign Equity Share Dummy}]_{i,-1} + X_{i,-1}\Big), \qquad (7)$$

where (6) is a Linear Probability model (LPM) and (7) is a Logit model, with $\mathrm{G}(\cdot)$ corresponding to a CDF of a standard logistic distribution.

In both models, $\mathbb{1}[\text{Default}]_{i,t>2008}$ is an indicator for whether the firm defaulted after 2008, $\mathbb{1}[\text{Foreign Equity Share Dummy}]_{i,-1}$ is an indicator for having a positive foreign equity share in 2008, and $X_{i,-1}$ are firm-specific controls in the year 2008. As in Section 3.2.1, we include size, leverage, openness, liquidity ratio, productivity, the amount of tangible assets, age, age squared, and a dummy variable that is equal to 1 if a firm is publicly listed. We are interested in the coefficient of $\mathbb{1}(\text{Foreign Equity Share Dummy})_{i,-1}$, which captures differential probabilities of default for firms with a positive and zero foreign equity share during the crisis.

Table 6 reports results from estimating (6) and (7). We find that firms with a positive foreign equity share in the pre-crisis period were less likely to default after the crisis. The result is very robust and holds for both models. We also find that leverage is an important determinant of the default probability. More leveraged firms in the pre-crisis period were more likely to default after the crisis. Interestingly, the firm's size also has some predictive power for the probability of default. Larger firms, in terms of assets, were more likely to default.[21] Furthermore, more productive, more liquid, younger, and firms with more tangible assets were less likely to default after the global financial crisis. As a robustness check, we

fixed effects as the constant measure of external financial dependence should be already captured by this time-invariant factor.

[21] Since we explicitly control for leverage, this interesting finding could not be explained by the possibility that larger firms are likely to be more highly leveraged. While outside our paper's scope, further exploring this finding could be an avenue for further research.

also restrict our sample to firms that defaulted in 2009 and 2009-2010. The results remain basically unchanged. In all specifications, we find that having a positive foreign equity share in 2008 reduces the probability of default in the aftermath of the crisis.[22]

Table 6: Default probabilities in the aftermath of the crisis

	LPM	Logit
	(1)	(2)
Foreign Equity Share Dummy	-0.0372***	-0.637***
	(0.00864)	(0.181)
Leverage	0.00148***	0.0124***
	(0.000136)	(0.00165)
Log size (assets)	0.0175***	0.239***
	(0.00338)	(0.0293)
Openness	-8.53e-05	-0.00111
	(0.000188)	(0.00285)
Liquidity Ratio	-1.78e-05	-0.00502***
	(1.12e-05)	(0.00135)
Productivity	-8.30e-05**	-0.000745
	(3.01e-05)	(0.000671)
Tangible assets	-0.000224	-0.00448*
	(0.000203)	(0.00237)
Age	-0.00209	-0.0302**
	(0.00138)	(0.0128)
Age squared	4.29e-05	0.000534
	(4.16e-05)	(0.000410))
PLC	0.00645	-0.0305
	(0.0159)	(0.267)
N	7,599	7,599
(Pseudo) R^2	0.043	0.0735

Notes: Robust and clustered (at sector level) standard errors in parentheses. The dependent variable equals 1 if the firm defaulted after 2008, and 0 otherwise. Appendix A provides further details on variable definitions. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

[22] Results are available upon request.

3.3 Determinants of firm's foreign capital structure

3.3.1 Empirical specification

We now turn to the question of what factors determine firms' existing foreign capital structure. In terms of empirical specification, we start by following the tradition in the macro literature and regress the (time-series) mean of the dependent variable for the available years on the (time-series) mean of the explanatory variables. Our baseline regression is thus equivalent to a between-estimator regression. It has been argued that such an approach is consistent with our focus on the composition of liability stocks – an apparently fundamental and more slow-moving variable (see also Faria and Mauro (2009)). However, given the findings mentioned above regarding the time variation in the foreign equity share at the firm level, we also exploit this variation and run a panel fixed effects regression as a robustness check. In our baseline specifications, we focus on both the intensive and extensive margin of the existing equity share in the firm's foreign liabilities as typically done in the related literature (see, for instance, Varela and Salomao (2018)).

The choice of our explanatory variables largely follows the corporate finance literature that examines determinants of firms' overall capital structure (see, among others, Harris and Raviv (1991), Rajan and Zingales (1995), Lemmon et al. (2008), Frank and Goyal (2009)). These include firm size, productivity, the tangibility of assets, growth, capital intensity, firm age, and profitability. Moreover, we include variables such as openness, which might be relevant for explaining the composition of foreign liabilities. As mentioned before, we also control for the overall equity share in firms' total liabilities (see equation (2)). We also include a dummy for publicly listed companies and control for fixed effects at the sector level.[23]

3.3.2 Results

Column (1) in Table 7 presents the results of a probit regression where our dependent variable equals one if a firm has any foreign equity in its foreign liabilities. We find that larger firms (both in terms of assets and employment), more open, and more productive firms tend to have a higher probability of having a positive equity share in their foreign liabilities. The same holds for younger firms. Moreover, more profitable firms also seem to have a higher probability of exhibiting a positive equity share.[24] On the other hand, firms with more tangible assets have a lower probability of having any equity in foreign liabilities. This finding is consis-

[23] For instance, Frank and Goyal (2009) show that firms in industries where the median firm has high leverage tend to have high leverage as well. As a result, the equity share might be lower. We account for this finding by controlling for sector-fixed effects.

[24] As in section 3.2, we proxy profitability with the firm's sales growth.

tent with the corporate finance literature that examines potential determinants of firms' overall capital structure. For example, assets such as property, plants, and equipment are more accessible for outsiders to value than intangibles and can be more easily pledged as collateral. Firms with more tangible assets thus tend to have higher leverage and a lower equity share in their liabilities (Frank and Goyal (2009)). Similarly, we also estimate a negative coefficient of firms' growth. In the existing literature, it is typically argued that firms with more investments (i.e., higher growth potential) should accumulate more debt over time (see, for instance, Frank and Goyal (2009)). One of the reasons mentioned in the literature is that a manager of a fast-growing company has an incentive to finance its investment with debt, as this type of liability is not state-contingent, and expected future profits will not have to be shared with creditors. Finally, we find no significant effect of capital intensity or being a publicly-listed company on the probability of having a positive equity share. In column (2), one can see that all these results also hold for the intensive margin. Again, larger, more open, and more productive firms have a higher equity share in their foreign liabilities. Similarly, younger and more profitable firms seem to exhibit a higher equity share.

Some of the results above might raise concerns regarding our analysis presented in the previous section. For example, it has been shown that firm size and productivity tend to be relevant for a firm's decision to borrow in (short-term) foreign currency debt (see, for instance, Maggiori et al. (2020) and Salomao and Varela (2018)). Given that firms with a positive equity share in foreign liabilities also seem to be larger and more productive, it could be argued that the analysis in the previous section captures the effect of firms' debt currency composition, which would be a different balance sheet effect (i.e. currency denomination as opposed to debt vs equity financing). While we do not have firm-specific data on the currency composition of foreign debt, aggregate data on the country's overall external debt liability structure shows, however, that the share of Slovenia's external debt denominated in foreign currency (after the introduction of the Euro) is less than one percent (see Figure B.4 in the appendix). This suggests that the volume of the corporate sector's (short-term) debt denominated in foreign currency is relatively small. We would thus argue that the issue of foreign currency debt is unlikely to be a major concern in our analysis.

Table 7: Cross-sectional estimates for existing foreign capital structure

	Foreign Equity Share Dummy	Log Share of Foreign Equity
	(1)	(2)
Log size (assets)	0.140***	0.070***
	(0.017)	(0.013)
Log size (employment)	0.107***	0.094***
	(0.019)	(0.014)
Openness	0.011***	0.008***
	(0.000)	(0.000)
Productivity	0.862***	1.168***
	(0.238)	(0.203)
Tangible assets	-0.004***	-0.002***
	(0.001)	(0.000)
Growth	-0.148***	-0.180***
	(0.051)	(0.037)
Capital intensity	0.000	0.000*
	(0.000)	(0.000)
Age	-0.028***	-0.017***
	(0.002)	(0.002)
Profitability	0.139***	0.122***
	(0.035)	(0.029)
PLC	0.025	-0.073
	(0.082)	(0.069)
Sector FE	Yes	Yes
N	15,392	15,392
(Pseudo) R^2	0.138	0.100

Notes: Robust and clustered (at sector level) standard errors in parentheses. All regressions control for the overall equity share in firms' total liabilities (see section 3.1). The equity share is constructed as the sum of foreign capital and all intra-company loans from the rest of the world (where the foreign creditor owns more than 10 percent of the respective firm) divided by total liabilities to the rest of the world. Appendix A provides further details on variable definitions. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

4 Conclusion

There is ample evidence in the macroeconomic literature that the composition of a country's stock of external liabilities is a significant predictor for the incidence of a balance of payments crisis. Equity is typically deemed a more stable source of financing than debt, and a higher equity share in total external liabilities is thus thought to reduce crisis vulnerability. This study confirms at the micro-level that firms with a positive foreign equity share were more resilient to an external shock, such as the global financial crisis. More precisely, we find that firms with a positive equity share in their foreign liabilities not only performed better in terms of performance but were also more likely to survive.

Moreover, we also contribute to understanding which factors determine the underlying existing capital structure of countries. A better understanding of this question could be particularly relevant for policymakers. In contrast to previous studies that attempt to explain the determinants of countries' foreign capital structures by focusing on cross-country analyses, we investigate the determinants at the micro-level. We find that larger, more open, and more productive firms seem to exhibit a higher equity share in their foreign liabilities.

Our findings suggest that in assessing countries' risks to sudden changes in their financial accounts, it is important to have information about the foreign funding structure of the corporate sector. Furthermore, the results of this study might be informative in assessing these risks even if detailed (firm-level) data on actual foreign liabilities is not available. Looking at more readily available characteristics of the economy's existing firms, such as size, productivity, age, or openness and combining it with insights from aggregate statistics on the net foreign asset position might already provide some valuable information on the vulnerability of the domestic corporate sector to external shocks.

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A Definition of the variables

Table A.1: Variables description

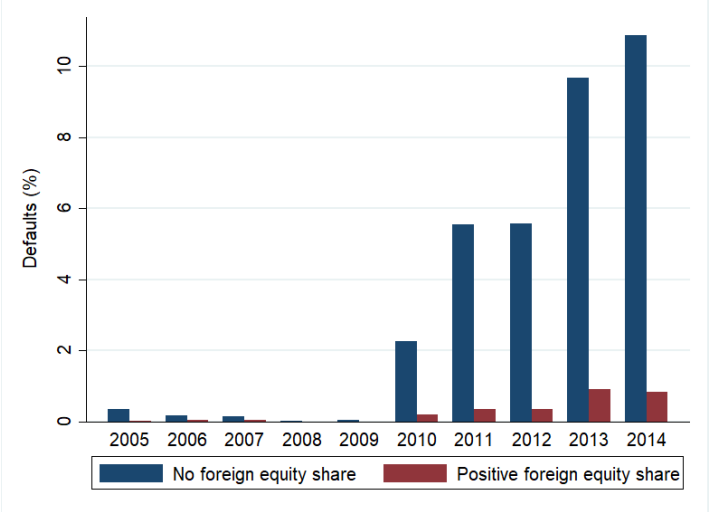
Variable	**Definition**
Sales growth	The difference in the log of net sales.
EBIT (Earnings before interest and taxe)	s. EBIT is constructed as operating profit adjusted for operating loss, which is the definition of the Agency of the Republic of Slovenia for Public Legal Records and Related Services.
Foreign equity share	The foreign equity share is constructed as the sum of foreign capital, long and short-term loans, trade and consumption loans, as well as financial leasing from the rest of the world (where the foreign creditor owns more than 10 percent of the respective firm) divided by total liabilities to the rest of the world.
Size	Logarithm of total assets. In some specifications, size is measured as the logarithm of employment (average number of employees based on the number of work hours in the period). In Table 1 in the main text, assets and employment are expressed in levels.
Openness	Net sales outside the domestic market divided by total net sales.
Productivity	Real value added per full-time equivalent (FTE) employee.
Tangible assets	The sum of tangible assets (i.e., plant, property and equipment) divided by total assets.
Growth	As a proxy for growth, the variable is calculated as the change in log assets.
Capital intensity	This variable is constructed as total assets divided by total sales.
Age	The variable age corresponds to the number of years since the firm's foundation.
Leverage	Defined as all short- plus long-term financial liabilities divided by total assets.
Liquidity ratio	Current assets minus inventories divided by short-term liabilities.

Table A.2: Variables description — continued

Variable	**Definition**
Sales growth	The difference in the log of net sales.
Interest expenses	Calculated as interest expenses over total assets.
PLC	A dummy equal to one if a firm is publicly listed (PLC).
Intra-firm trade credit	Trade and consumption loans from foreign-related firms, where foreign ownership is larger than 10%.
Intra-firm loans	Short- and long-term loans from foreign-related firms, where foreign ownership is larger than 10%.

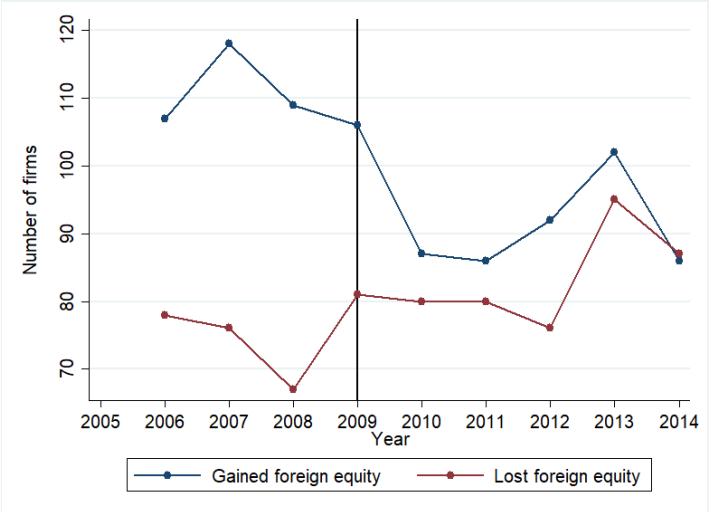
B Additional graphs

Figure B.1: Number of defaults across firm types



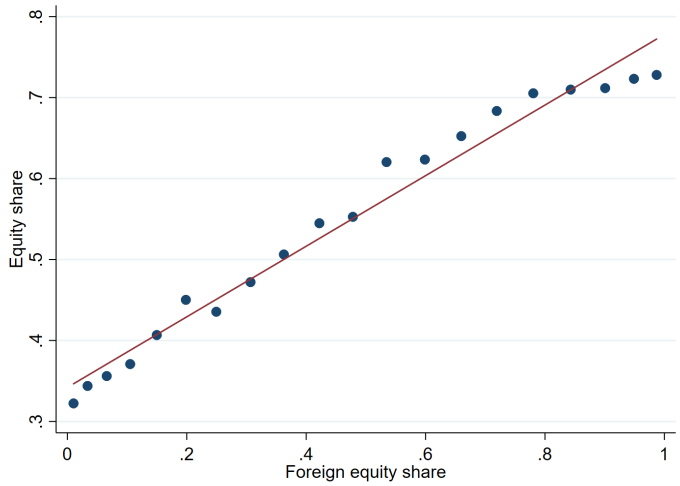
Notes: This figure displays the bankruptcy rate over time for firms with no foreign equity and firms with a positive foreign equity share.

Figure B.2: Number of firms that changed their foreign equity status



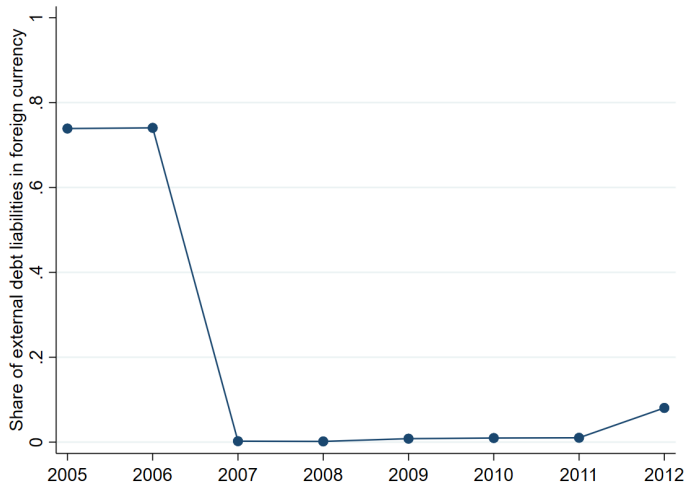
Notes: This figure plots the number of firms that changed their foreign equity status. Firms which gained some foreign equity share are depicted in blue, whereas firms which lost their positive foreign equity share are depicted in red. The vertical line denotes the year when the global financial crisis hit Slovenia.

Figure B.3: Relationship between firm's overall and foreign equity share



Notes: Binned scatter plot of firm's foreign equity share in total foreign liabilities and their overall equity share in total liabilities using the whole sample spanning 2005 – 2014.

Figure B.4: Currency composition of the international investment position



Notes: The graph shows the share of external debt liabilities in foreign currency taken from Bénétrix et al. (2015).

C Additional results

Table C.3: Foreign equity share and firm performance (Domestic Sales)

	(1) Dom. Sales growth	(2) Dom. Sales growth	(3) Dom. Sales growth	(4) Dom. Sales growth	(5) Dom. Sales growth (w/matching)
δ	1.694	3.219***	3.344**	3.092	2.372*
	(1.178)	(0.945)	(1.465)	(1.971)	(1.229)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	69,624	69,624	69,624	69,624	69,624
R^2	0.075	0.075	0.051	0.051	0.071

Notes: Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table C.4: Foreign equity share and firm performance (Foreign Sales)

	(1) For. Sales growth	(2) For. Sales growth	(3) For. Sales growth	(4) For. Sales growth	(5) For. Sales growth (w/matching)
δ	-0.451	2.378	5.193***	2.063	1.403
	(0.860)	(3.171)	(1.665)	(2.678)	(0.874)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	46,176	46,176	46,176	46,176	46,1764
R^2	0.031	0.031	0.022	0.022	0.034

Notes: Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

D Robustness checks

Table D.5: Foreign equity share and firm performance (2005 – 2011)

	(1) Sales growth	(2) Sales growth	(3) Sales growth	(4) Sales growth	(5) Sales growth (w/matching)
δ	2.347**	0.550	3.501**	0.286	3.020**
	(1.053)	(2.182)	(1.583)	(1.919)	(1.193)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	48,315	48,315	48,315	48,315	48,315
R^2	0.103	0.103	0.127	0.127	0.125

Notes: Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table D.6: Foreign equity share and performance (narrow definition of foreign equity)

	(1) Sales growth	(2) Sales growth	(3) Sales growth	(4) Sales growth	(5) Sales growth (w/matching)
δ	1.669*	1.628	3.713**	1.657	1.980*
	(0.938)	(1.834)	(1.570)	(2.073)	(1.022)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	70,337	70,337	70,337	70,337	70,337
R^2	0.097	0.097	0.111	0.111	0.115

Notes: Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table D.7: Foreign equity share and firm performance (EBIT / Total assets)

	(1) EBIT / Total assets	(2) EBIT / Total assets	(3) EBIT / Total assets	(4) EBIT / Total assets	(5) EBIT / Total assets (w/matching)
δ	1.304*	0.570	1.618***	0.073	0.893
	(0.651)	(0.562)	(0.437)	(0.650)	(0.630)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	63,032	63,032	63,032	63,032	63,032
R^2	0.456	0.456	0.437	0.437	0.444

Notes: Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table D.8: Foreign equity share and net investment

	(1) Net investment	(2) Net investment	(3) Net investment	(4) Net investment	(5) Net investment (w/matching)
δ	1.758**	-0.320	5.569***	-0.769	0.398
	(0.725)	(1.725)	(0.636)	(1.571)	(0.957)
Firm FE	No	No	Yes	Yes	No
Time FE	Yes	Yes	Yes	Yes	Yes
Group-specific time trend	No	Yes	No	Yes	No
N	69,261	69,261	69,261	69,261	69,261
R^2	0.057	0.057	0.105	0.106	0.052

Notes: Following Kalemli-Ozcan et al. (2019), the net investment rate is computed as the annual change in fixed tangible assets. Robust and clustered (at a sector-level) standard errors in parentheses.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.