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Exporters in the Financial Crisis

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Abstract:
Using a large panel of UK manufacturing firms over the period 2000—2009, we consider how firms responded during the most recent financial crisis, estimating models for export market participation decisions and firm growth and survival. The results indicate that financial variables are highly important in predicting export market entry, especially in the midst of the global financial crisis. With respect to firm growth and survival, we find that starters and continuous exporters are more likely to perform well in and out of the crisis than non-exporters.

Keywords: Exports, financial crisis, financial health.

JEL classification: F1, L2, G3

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1 Introduction

Trade was hit hard during the global financial crisis. Data in the World Trade Report 2012 show that average export growth was around 2 percent and -12 percent, respectively, in 2008 and 2009, and rebounded to + 14 and + 5 percent in 2010 and 2011, respectively (WTO (2012)). Indeed, the drop in trade during the crisis far outpaced the decline in global GDP (Alfaro and Chen (2012)). There have been various explanations for this trade collapse during the crisis, attributing it to a strong fall in demand, a rise in protectionism, a domino effect because of global value chains, or restrictions in the access to finance for exporters (e.g., Baldwin and Evenett (2009), Chor and Manova (2012) and Bricongne *et al.* (2012)). Especially the latter explanation has received much attention in the recent literature.

Corporate funding (or the lack thereof) has also been a major concern for policy makers during the recent financial crisis. In the UK, business lending, which has been falling steadily for the last four years, plunged below 400 billion pounds by the beginning of May 2013. That is 20% below its level four years ago. Participants in the Funding for Lending Scheme group, which includes all of the big high-street banks except HSBC, cut credit by £300 mill. in the first quarter of 2013 (The Economist (2013)). Bell and Young (2010) find evidence of a substantial tightening in credit supply in the UK economy from mid-2007. They argue that loan spreads on SMEs rose during the crisis period, with syndicated loans spreads presenting a sharp increase from mid-2008.[1] Access to finance remains a major barrier to growth for more than 1 in 5 UK small firms with 41% of loan applications refused in the 1st quarter of 2012 (Federation of Small Businesses).

According to the financial accelerator theory, deteriorations in economic conditions increase the cost of finance, which in turn weakens firms' balance sheet positions, thus influencing their activities (Bernanke *et al.* (1996)). Therefore, the financial system can generate an endogenous cycle (the accelerator) that propagates the initial shock over time. It is ev-

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[1]Evidence for Europe provided by Iyer *et al.* (2014), show that banks decreased their credit supply to firms during the 2007-09 crisis. The drop in credit supply was stronger for small firms which could not compensate the reduction in loan supply via other sources of debt.

ident from recent studies that the collapse of the supply of loans to non-financial firms has negatively affected firms' activities (employment, investment, survival prospects) which in turn led to a sharp drop in economic activity.[2] While the deterioration in access to bank finance affects all firms, it is likely to be particularly severe for exporters since, as Amiti and Weinstein (2011) discuss, exports are highly dependent on access to finance, much more so than the domestic operations of firms.

In this paper we look at what happened to exporters during the financial crisis, using firm level data for the UK. We investigate whether the entry of new firms into exporting was affected by the financial crisis. Furthermore, we compare the performance of exporters in terms of employment and sales growth, and survival, with that of non-exporters before and during the crisis.

By doing so, this paper is complementary to some of our earlier work, where we also use UK firm level data to investigate the link between access to finance and export activity. In Görg and Spaliara (2013) we examine the link between firms' financial health, borrowing ratio and export market exit, paying special attention to the recent financial crisis. We find, inter alia, that the deterioration in the financial position of firms has increased the hazard of export market exit during the crisis. While we look at exiting the export market in that paper, the present paper considers export market entry, as well as firm growth and firm survival during the crisis. More recently, Görg and Spaliara (2014b) assess the role of different exporting statuses in the link between financial health and firm survival. Results suggest that good financial health boosts the survival prospects for continuous exporters and continuous non-exporters while it has a modest impact on export starters and exiters. In the present paper we additionally look at differential survival prospects during the crisis.

Our paper is also related to a wider literature that looks at the link between finance and exporting at the firm level. For example, Amiti and Weinstein (2011) present a comprehen-

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[2]For example, Chodorow-Reich (2012) finds that the withdrawal of credit explains between 1/3 to 1/2 of the employment decline of small and medium firms in the US in the year following the collapse of Lehman. By contrast, the availability of credit supply had no effect on the employment level of large firms.

sive study of the link between firm's exports at the intensive margin and finance, focusing on the health of the bank providing access to credit. They look at the Japanese financial crisis from 1990 to 2010. Chor and Manova (2012) use product level data on US imports, investigating the role of credit conditions as the main culprit for reducing trade during the crisis. Bricongne *et al.* (2012), using firm level data for France, also investigate the effects of the crisis, and focus on financial variables at the firm level. Studies by Askenazy *et al.* (2011) and Engel *et al.* (2013) (also based on French firm level data) further consider the role of financial indicators in exporting. The former study assesses theoretically and empirically the role of credit constrains in export market entry and exit, while the latter investigates the characteristics of companies deciding to participate in foreign markets and engage in exporting or foreign direct investment. There are also other studies which suggest that financial health matters in firms' decisions to enter and remain in export markets, see for example Minetti and Zhu (2011), Bellone *et al.* (2010), and Greenaway *et al.* (2007).

The rest of the paper is structured as follows. Section 2 presents the data and preliminary statistics. The next section models empirically the decision of firms to enter into export markets, focusing particular on the role of the financial position. Section 4 examines performance differences between different types of exporters and non-exporters before and during the crisis, while Section 5 looks at firm survival and firm's export status. Section 6 concludes.

2   Data and summary statistics

The data set we use in this paper is constructed from the profit and loss and balance sheet data gathered by Bureau Van Dijk Electronic Publishing in the FAME database. We use data for the period 2000 - 2009 and define the crisis years as the period 2008 - 2009. FAME assigns companies a four-digit UK SIC code which we use to classify firms into industries. Our sample is limited to firms that operate in the manufacturing industry. Our database

includes a majority of firms (99.9%) which are not traded on the stock market or which are not quoted on alternative exchanges such as the Alternative Investment Market (AIM) and the Off-Exchange (OFEX) market. This feature of the data allows for a wide degree of variation across observations in our sample. A distinctive characteristic is that not only small and medium sized firms are included in our sample but also some large firms that are more likely to export.[3] Private companies in our data are generally the smallest, youngest, and most-bank dependent firms. They are therefore more likely than public companies to face financial constraints and difficulties in accessing bank finance.[4]

The share of exporting firms in our sample is 52 percent which is comparable to Greenaway *et al.* (2007) who also use FAME data for UK manufacturing firms. The median UK firm in our sample has an average of 85 employees, £4.7 mill. assets and £9.5 mill. turnover which falls in the small and medium-sized enterprise category.[5]

In order to see what happened to the financial position of firms in our data set during the financial crisis, Figure 1 illustrates the average firm-specific interest rate (defined as the ratio of interest payments to profit and loss after taxes plus depreciation) paid by firms between 2000 and 2009. We distinguish firms based on the ratio of short term debt to the sum of short-term debt and trade credit. Firms with ratios above the median are considered, for this simple exercise, to be more bank dependent. The figure shows that after steadily declining since 2001, the interest rate hiked up again in 2008 and 2009 as a result of the crisis. We also see that, consistently throughout the years, more bank-dependent firms are faced with a higher borrowing ratio compared to their less bank-dependent counterparts.[6]

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[3]Exporting is reported as "overseas turnover" and some firms may be exporters, but may fail to report this.

[4]To ensure that our sample is representative we contrast it to aggregate data for the UK manufacturing sector. We compare the growth of profitability in our sample with those of the UK manufacturing, as reported in the ONS database. Our sample is reasonably representative of the broader aggregate. The series are highly correlated and exhibit similar business cycle dynamics.

[5]In the UK, sections 382 and 465 of the Companies Act 2006 define a SME for the purpose of accounting requirements. According to this, a small company is one that has a turnover of not more than £6.5 mill., a balance sheet total of not more than £3.26 mill. and not more than 50 employees. A medium-sized company has a turnover of not more than £25.9 mill., a balance sheet total of not more than £12.9 mill. and not more than 250 employees.

[6]As an alternative measure of bank dependency, we have used the ratio of short term debt to total debt

Hence, during crisis periods the worsening of the balance sheet position of firms and the rise in debt servicing costs might be expected to affect firm performance. This is what we investigate in what follows, with a particular focus on looking at exporters vs non-exporters.

We start with some preliminary statistics before moving on to some econometric estimations. Table 1 gives an indication of the financial condition of exporters and non-exporters during tranquil (pre-crisis) and crisis periods. Our financial crisis dummy (CRISIS) takes the value one over the period 2008-09, and zero otherwise The data show that, on average, exporters are less indebted and more liquid compared to non-exporters. This is in line with Greenaway *et al.* (2007) and also with the view of much of the recent work on heterogeneous firms, which shows that exporters are generally the better performing firms in an economy (e.g., Bernard *et al.* (2007)). When we distinguish different stages of exporting (i.e starters, exiters, continuers, switchers and non-exporters), we observe that export starters and exiters display the highest level of debt and the lowest liquidity ratio compared to continuous and switcher exporters.[7] The finding on starters is again in line with Greenaway *et al.* (2007) and may indicate the importance of costs that new exporters have to bear, which worsens their financial position. The poor financial health of firms that exit from the export market may indicate that these are poorly performing firms, which cannot survive in international competition (see also Girma *et al.* (2004)).

Comparing the crisis period (2008 - 2009) with the pre-crisis (2000 - 2006), we find that all types of firms, exporters and non-exporters alike, display lower values of leverage and higher levels of liquidity. This would, under normal circumstances, seem to indicate an improvement in the financial position of a firm. However, in the wake of the crisis the lower levels of leverage are consistent with the notion that firms took a substantial amount of short-term debt in the pre-crisis period and were unable to extend it further in the later

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to distinguish between more and less bank dependent firms. This results in a similar picture to that shown in Figure 1.

[7]We distinguish exporting firms that continuously export (continuous exporters) from those that start exporting their products (export starters), that never export their products (continuous non-exporters), those that fail to continue exporting and exit the exporting market (export exiters), and those that enter and exit more than once (export switchers).

years when the financial crisis hit and bank lending collapsed. In addition, the observations that liquidity is higher during the crisis than in other times is likely to indicate that firms boosted their holdings of cash and other liquid assets as a buffer due to the uncertainty in credit markets.[8] Mean differences are statistically significant in most of the cases, as indicated by a t-test.

Finally, we perform a univariate analysis in order to look at the survival prospects of different types of exporters taking into account the effects of the 2008-09 crisis. Table 2 shows the proportion of failed and surviving firms by exporting status. The data show, for example, that 18.6 percent of failed firms and 29.4 percent of all surviving firms are export starters. Non-exporters account for the largest share of both failing and surviving firms. When we compare column 1 with column 2 it becomes apparent that starters, continuous exporters and switchers have a higher probability to survive compared to exiters and non-exporters.

3 Exporting decision and the financial position of the firm

In the first part of our analysis we consider whether the financial crisis has had any implications for firms' decisions to enter into export markets. Greenaway *et al.* (2007) also use British firm level data from FAME to establish that financial factors matter for export decisions of firms. In particular, they show that firms that start exporting generally have lower liquidity and higher leverage than non-exporters. This may be due to the additional costs these firms have to bear in order to enter export markets, such as costs for building up new distribution networks, market research or legal costs. We follow up on their analysis and consider in particular a firm's decision to start exporting, the role of financial factors

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[8]According to SEC Filings (Securities and Exchange Commission), the main reason that firms drew down on the credit line was to enhance their liquidity and financial flexibility during the credit crisis (Ivashina and Scharfstein (2010)).

in this decision, and whether the role of financial factors changed during the crisis. In order to do so, we follow Greenaway *et al.* (2007) and employ two financial variables to measure changes in the financial health of firms. The first one is liquidity, which is defined as the firm's current assets less current liabilities over total assets and is an indicator of the liquid assets of the firm. The higher the liquidity ratio the better the financial position of the firm. The second financial characteristic is leverage, which is measured as the firm's short-term debt to assets ratio. A high leverage ratio is associated with a worse balance sheet situation. This may increase moral hazard and adverse selection problems, and lead to the inability of firms to obtain external finance at a reasonable cost.

In a next step, we investigate whether financial factors determine a firm's decision to start to export, and whether this relationship has changed during the financial crisis starting in 2008. In Table 3, we estimate the probability that a firm that is not an exporter in time t become an exporter in $t+1$ conditional on its size and age and, most importantly, its financial condition. In particular, we examine the impact of liquidity and leverage on the likelihood of starting to export before and during the crisis using a probit model.

We observe that liquidity positively affects the likelihood of exporting during tranquil periods. This is in line with Greenaway *et al.* (2007) and suggests that more liquid firms are more likely to be able to pay their sunk cost of entry and start operating abroad. The statistically insignificant coefficient on the term interacting liquidity and a dummy for the crisis period reveals that the beneficial impact of liquidity on exporting is not statistically different during the crisis. This picture is somewhat different when we look at the level of indebtedness of a firm. Leverage has a marginally significant negative impact on the probability of exporting outside of the crisis. However, this negative effect increases in magnitude during the crisis. In other words, indebted companies seem somewhat less likely to start exporting during tranquil periods. However, this negative effect becomes much stronger during the crisis. We also find that the crisis dummy on its own produces a negative and statistically significant sign. This implies that, all other things equal, firms are less likely

to start exporting in the crisis period than before the crisis. As a robustness check we define the crisis for the period 2007 - 2009. This does not change our conclusions on the impact of the crisis or the role of liquidity and indebtedness in and out of the crisis.[9]

Overall, the results in this section show that fewer firms enter the export market during the crisis, and that financial factors do play a significant role for a firm's decision to start exporting. The level of a firm's debt is a much stronger deterrent of exporting during the crisis than in the period before the crisis. This suggests that indebted firms find it more difficult to access during the crisis the financial resources that would allow them to pay the additional sunk costs of export market entry.

4 Firm growth and exporting

We now turn to investigating what happened to firms after entering the export market. How do they perform and, perhaps more importantly, how does the performance of exporters compare to other firms? And, what is the effect of the crisis for exporters and non-exporters? In order to do so, we attempt to assess the effect of exporting on firm dynamics in terms of output and employment with a particular emphasis on the recent financial crisis.

We start by charting the evolution of average sales and employment for different types of firms. In Figures 2 and 3, we distinguish exporters from non-exporters. In Figures 4 and 5 we further distinguish exporters into the four above mentioned categories: continuous exporters, export starters, export exiters, and switchers.

When we distinguish exporters from non-exporters, we show that the level of sales and employment are higher for exporters compared to non-exporters throughout the sample. This is consistent with a large literature that documents performance premia for exporters vis-a-vis non-exporters in terms of size, productivity, wages, etc. (e.g., Wagner (2007)). A drop in the series is observed during the crisis years 2008-09. Employment and sales are lower for both exporters and non-exporters, though the reduction appears to be larger for

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[9]Results are available upon request.

exporters, reducing the gap between exporters and their non-exporting counterparts. In line with the aggregate picture, where, as we discussed in the introduction, trade decreased by more than total GDP world-wide, this suggests that exporting firms suffered relatively more from the crisis in terms of output and employment losses than firms operating purely on the domestic market.

When we differentiate between different stages of exporting (i.e starters, exiters, continuers, switchers and non-exporters), we observe that continuous exporters display the highest level of employment and sales followed by starters and switchers. Export exiters and non-exporters are found at the bottom of the graphs. All types of exporters face a decrease in employment and sales during the recent financial crisis.

Next, we consider the role of credit constraints. There is an established literature on financing constraints and firms' real activities that was initiated by the influential work of Fazzari *et al.* (1988). Following this literature (e.g, Gertler and Gilchrist (1994); Spaliara (2009); Spaliara (2011); Mizen and Tsoukas (2012) and Tsoukas and Spaliara (2014)) we split firms by age into old and young, and by size into large and small.[10] The assumption is that small and young firms are more likely to face credit constraints as it is, all other things equal, more difficult for them to obtain external finance from banks.[11]

Based on these categories, we observe the change in the growth of firms when we take into account credit constraints. In particular, we compare the change in the mean of employment and sales for small and young firms with the corresponding change for their old and large counterparts. As one would expect, employment and sales are higher for large and old firms throughout our sample. Between 2008-09 we witness a drop in both series. This drop appears to be larger for old and large firms compared to young and small establishments, reducing

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[10]We generate a dummy variable, $SMALL_{it}$, which is equal to 1 if firm i's real assets are in the bottom 50 percent of the distribution of the real assets of all firms operating to the same industry as firm i in year t, and equal to 0 otherwise. The dummy $YOUNG_{it}$ is equal to 1 if age for firm i is in the bottom 50 percent of the distribution of the age of all firms operating to the same industry as firm i in year t, and equal to 0 otherwise. As a robustness, we also use a 75% cut-off point.

[11]According to Hadlock and Pierce (2010), firm age and size are the two variables reported by firms themselves regarding the importance of financing constraints.

the gap between financially constrained and unconstrained firms.

In the last two graphs (figures10 and 11) we consider the average firm's export intensity and its relationship with firm dynamics. Based on a firm's share of exports in total sales, we classify firms into high and low export-intensive firms.[12] We chart average sales and employment for these two groups of firms. We observe that higher export intensity is related to larger sales and employment. However, the gap in sales between high and low intensity exporters diminished consistently over the 2000s, while the picture is not as clear cut for employment. Both sales and employment dropped considerably in 2009. In fact, the gap in employment between high and low intensity exporters all but vanished in 2009 during the crisis.

Next we provide some additional formal econometric evidence to account for the role of exporting and the effect of the crisis on firm dynamics. We employ simple OLS regressions to assess the effect of different exporting status on firm dynamics in and out of the crisis. Time and industry dummies are included to account for business cycle effects and industry dynamics. Table 5 presents results of explorative regressions where we regress employment (in column 1) and sales (in column 2), respectively, on dummies for groups of exporting and a dummy for the crisis period. To capture the indirect effect of the crisis, we interact the different facets of exporting with the crisis dummy. The interaction gauges the change in exporting groups relative to the reference category, continuous non-exporters, for the crisis period. The financial condition of the firm is taking into account by including variables such as leverage and liquidity. We also control for size and age of the firm.

Results show statistically significant positive coefficients for all different types of exporters during tranquil periods. This implies that compared to non-exporters, all exporter categories have higher levels of employment and sales. In other words, there are performance differences in line with the literature (e.g., Wagner 2007). Comparing the coefficients for the different groups, we find that the positive relationship with employment and sales appears strongest

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[12]Firms having a high share of exports in total sales and whose ratio is at the top 50% (75%) of the distribution, are classified as high export-intensive.

for continuous exporters and switchers rather than for starters and exiters. This is in line with the ideas of sunk costs of export entry and performance disadvantages for export exiters.

However, the interaction terms are largely statistically insignificant. When the crisis is defined differently (2007-09) some interesting results emerge.[13] We find that the performance advantage for export starters and continuous exporters is stronger during the crisis, at least in terms of employment. Hence, in contrast to the descriptive evidence in the figures above, this suggests that the gap between export starters and continuous, respectively, and non-exporters is larger during the crisis period than out of it. Hence, these types of exporters appear to have fared better during the crisis than the average non-exporter. By contrast, the performance difference between export switchers and non-exporters has diminished during the crisis, while there is no statistically significant difference in the link between export and performance in and out of the crisis for firms that exit the export market. Hence, in order to discern a differential impact of the crisis for different types of exporters, it is crucial how one defines the timing of the recent financial crisis.

5 The hazard of failure and exporting

In the final part of the analysis we look at the survival prospects of different types of exporters taking into consideration the effects of the recent crisis. We therefore turn to estimating the hazard of firm failure conditional on the export status of firms during and outside the crisis. As in Görg and Spaliara (2013, 2014), we use a complementary log-log model (cloglog), a discrete time version of the Cox proportional hazard model in order to model firm survival. We include dummies for different export statuses (starter, continuous, exiter, switcher) as in Table 5 and also control for the financial position of the firm by including measures of leverage and liquidity. Furthermore, we control for size and age of the firm.

Looking at the estimation results in Table 6, we find that export starters, continuous exporters and export switchers are more likely to survive than non-exporters (the reference

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[13]Results are available upon request.

category). By contrast, firms that exit the export market are also more likely to die than non-exporters. These coefficients are not statistically significantly different during the crisis and non-crisis periods for all groups but one. In particular, continuous exporters are even more likely to survive than non-exporters during the financial crisis.[14] This might be due to their good financial health and established reputation in the exporting market. The crisis dummy on its own is statistically significant indicating that deteriorations in economic activity will affect firms' prospects of survival negatively. Furthermore, we find that financial factors play a role for firm survival; more liquid firms and firms with lower leverage, respectively, are more likely to survive. This result does not change when redefining the crisis dummy for 2007 - 2009.

6   Conclusion

Firms'ability to raise external finance has always been an important issue in the corporate finance literature. The recent global financial crisis has re-ignited interest in this link, since there is evidence that banks interrupted their lines of credit and firms were unable or had to incur substantial costs in order to finance their operations. The present paper relies on a large panel of UK firms, the vast majority of which are unlisted, to explore the importance of financial health for a number of firms' decisions. We begin our enquiry by examining whether the entry of new firms into exporting was affected by the financial crisis. We then compare the performance of exporters in terms of employment and sales growth, and survival, with that of non-exporters before and during the crisis.

The analysis finds evidence that financial variables are important in predicting export entry, especially in the midst of the global financial crisis. More importantly, the level of a firm's debt is a much stronger deterrent of exporting during the crisis than in the period before the crisis. With respect to firm dynamics, we find that starters and continuous

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[14]This is somewhat in contrast to a similar study for the Republic of Ireland (Godart *et al.* (2012)) which finds that exporting firms are indeed more likely to die than non-exporting firms during the crisis.

exporters are more likely to perform well in and out of the crisis than non-exporters.

There are a number of interesting policy implications arising from our findings, which are of relevance to policy makers and firms' managers seeking to understand the mechanism through which financial health affects firms' performance. First, the results presented in this paper suggest that maintaining healthy balance sheets would substantially increase the probability of exporting and ultimately help firms weather the negative effects of a financial crisis. Thus, in good times firms should build up liquidity buffers which can be used during recessions, in order to perform well throughout the cycle. Second, given the apparent importance of a healthy balance sheet position, managers should actively pursue the communication of managerial statements of liquidity to both investors and lenders as a signal of their company's financial health.

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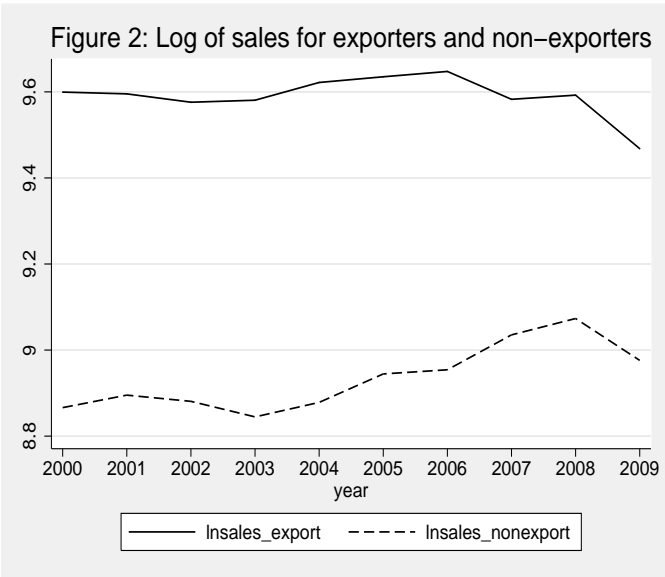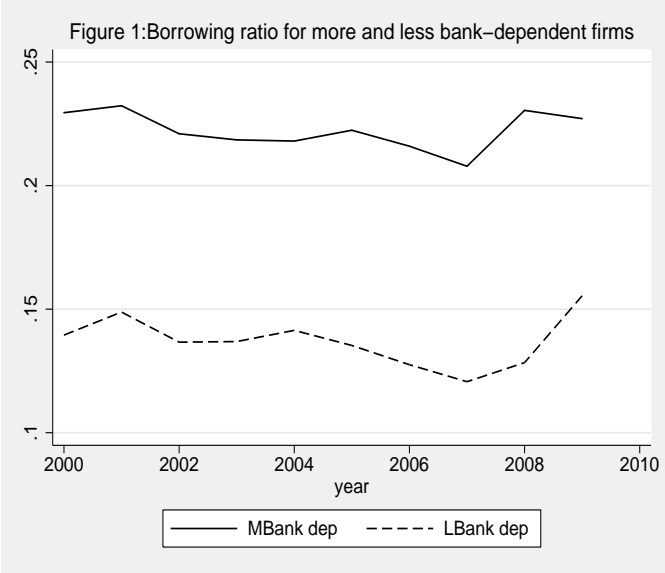WTO (2012). *World Trade Technical Report.* Tech. rep., World Trade Organization.

Figure 1:Borrowing ratio for more and less bank−dependent firms

Figure 2: Log of sales for exporters and non−exporters

18

Figure 3: Log of employement for exporters and non−exporters
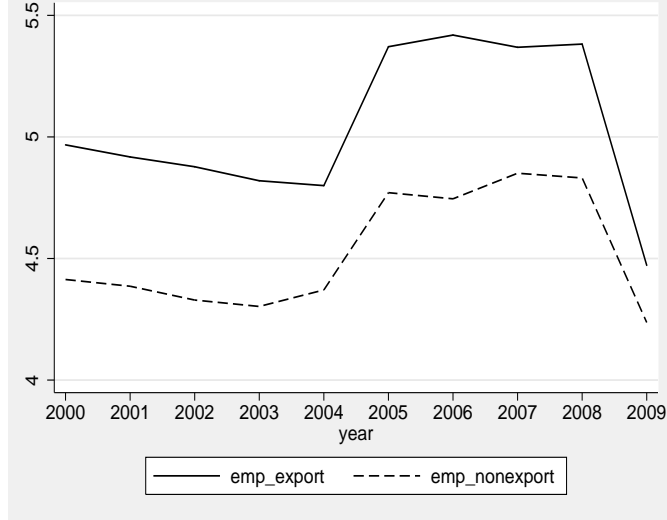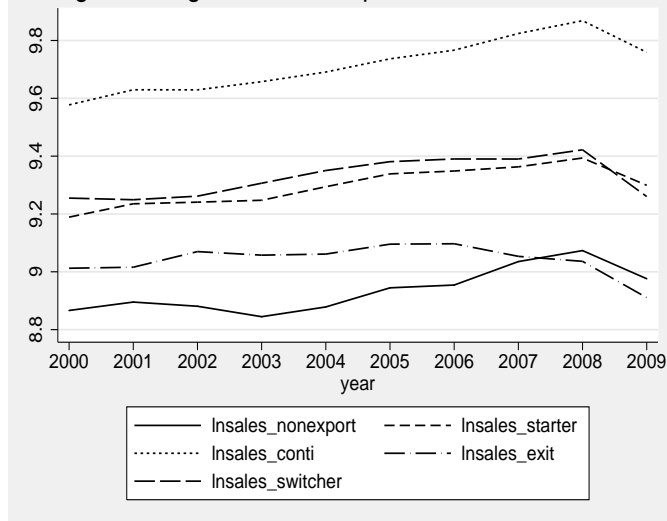

Figure 4: Log of sales for exporters with different status

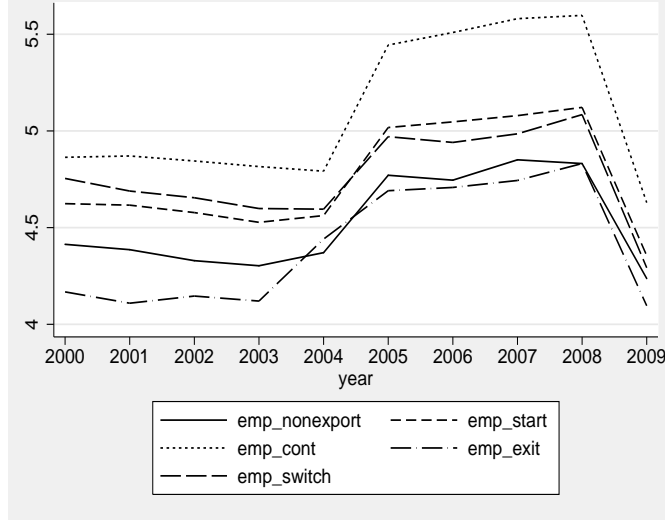Figure 5: Log of employement for exporters with different status

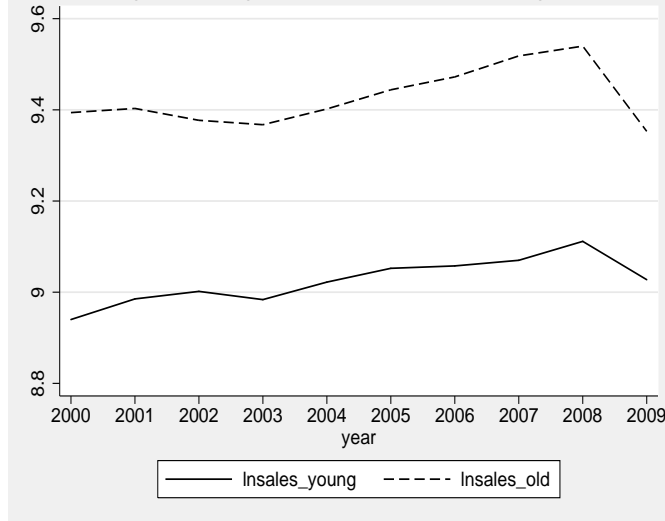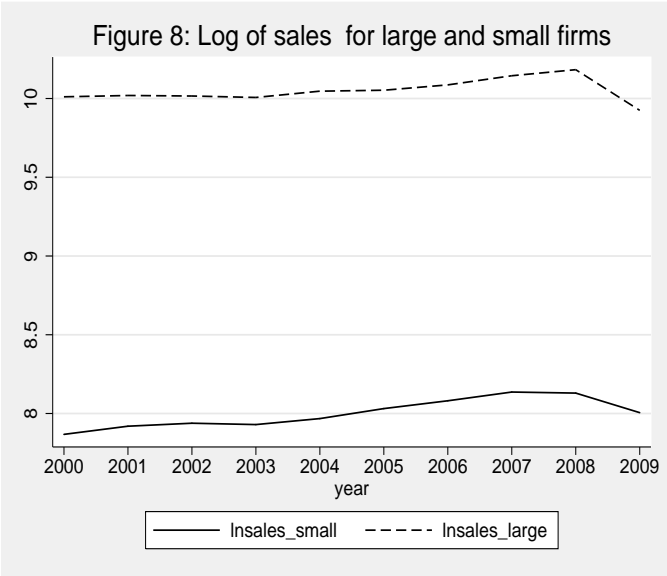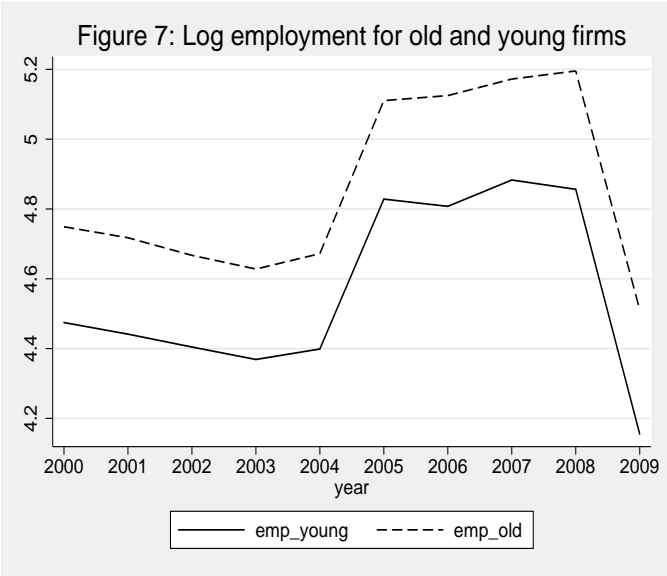Figure 6: Log of sales for old and young firms

Figure 7: Log employment for old and young firms

Figure 8: Log of sales for large and small firms

Figure 9: Log employment for large and small firms

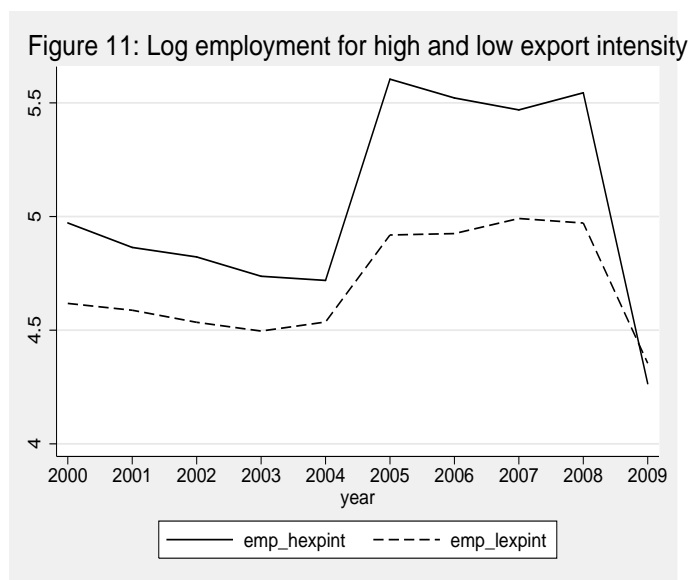Figure 10: Log sales for high and low export intensity

Figure 11: Log employment for high and low export intensity
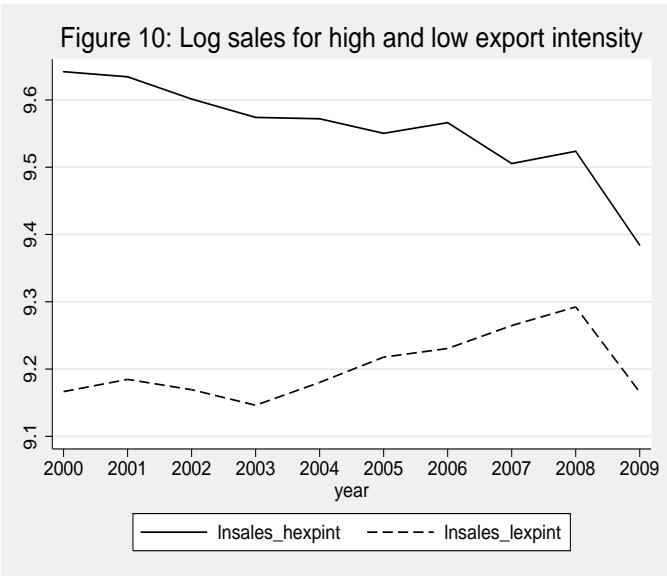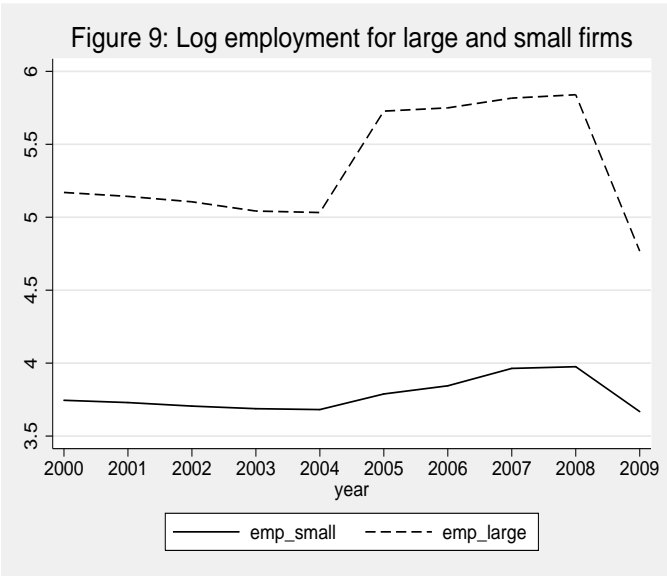
Table 1: Summary Statistics by exporting status before and during the 2008-09 crisis

	Leverage	Liquidity	Leverage Crisis	Leverage non-crisis	Diff.	Liquidity Crisis	Liquidity non-crisis	Diff.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exporters	0.436	0.180	0.414	0.440	0.032	0.231	0.169	0.000
	(0.74)	(0.32)	(0.52)	(0.77)		(0.34)	(0.32)	
Continuous non − Exporters	0.515	0.150	0.512	0.516	0.983	0.179	0.165	0.000
	(16.89)	(0.32)	(5.15)	(18.21)		(0.33)	(0.32)	
Starters Exporters	0.423	0.164	0.411	0.425	0.266	0.215	0.158	0.000
	(0.778)	(0.323)	(0.53)	(0.81)		(0.34)	(0.32)	
Continuous Exporters	0.410	0.209	0.359	0.421	0.000	0.266	0.153	0.000
	(0.56)	(0.30)	(0.31)	(0.60)		(0.33)	(0.32)	
Exiters Exporters	0.493	0.164	0.423	0.499	0.259	0.238	0.153	0.000
	(5.12)	(0.33)	(0.44)	(5.35)		(0.36)	(0.32)	
Switchers Exporters	0.417	0.176	0.413	0.418	0.843	0.232	0.157	0.000
	(0.42)	(0.33)	(0.54)	(0.40)		(0.33)	(0.32)	

Notes: The table presents sample means. Standard deviations are reported in parentheses. The p-values of a test of the equality of means before and after the crisis are reported in columns 5 and 8. *Leverage* is measured as the firm's short-term debt to assets ratio. *Liquidity* is defined as the ratio of the firm's current assets less current liabilities over total assets. *Exporters* are defined as those firms that report a positive amount of exports throughout the sample period. The time period is 2000-2009.

Table 2: Surviving and failing by exporting status

	Failed Firms	Surviving Firms	Diff.
	(1)	(2)	(3)
Starters Exporters	0.186	0.294	0.000
	(0.389)	(0.45)	
Continuous Exporters	0.001	0.063	0.000
	(0.02)	(0.24)	
Exiters Exporters	0.211	0.125	0.000
	(0.41)	(0.33)	
Switchers Exporters	0.048	0.066	0.000
	(0.21)	(0.25)	
Continuous non − Exporters	0.602	0.517	0.000
	(0.48)	(0.49)	

Notes: *Fail* is a dummy that equals 1 if a firm fails in year t, and 0 otherwise. The p-values of a test of equality are reported in column (3). The percentages do not add to exactly 1.0 due to very little overlap in the construction of the export dummies.

Table 3: Probability to start exporting during the crisis

Liquidity	0.221***
	(4.28)
Leverage	-0.068*
	(-1.68)
Liquidity Crisis2	0.025
	(0.35)
Leverage Crisis2	-0.058*
	(-1.87)
Size	0.192***
	(18.78)
Age	0.000
	(0.12)
Crisis	-0.109***
	(-3.18)
Observations	46,429

Estimates are obtained from a pooled Probit model. Standard errors are corrected for clustering. The figures reported in parentheses are t-statistics. * significant at 10%; ** significant at 5%; *** significant at 1%. Time dummies and industry dummies were included in the specification.

Table 4: Summary of graphical evidence

Covariates	Analysis of series	Graphical evidence
Log of sales	Exporters/non-exporters	Higher for exporters
	Exporters with different status	Lower for exiters and higher for continuous exporters
	Old/young	Higher for old firms
	Large/Small	Higher for large firms
	Export Intensity	Higher for high intensity exporters
Log of Employement	Exporters/non-exporters	Higher for exporters
	Exporters with different status	Lower for exiters and higher for continuous exporters
	Old/young and	Higher for old firms
	Large/Small	Higher for large firms
	Export Intensity	Higher for high intensity exporters

Table 5: Firm growth and exporting during the crisis

	Log of employment (1)	Log of sales (2)
Starters Exporters	0.017**	0.031***
	(2.15)	(3.41)
Continuous Exporters	0.085***	0.105***
	(2.95)	(8.21)
Exiters Exporters	0.054*	0.072***
	(1.85)	(7.23)
Switchers Exporters	0.073***	0.089***
	(2.62)	(3.77)
*Starters Exporters*Crisis*	0.008	0.015
	(0.23)	(0.71)
*Continuous Exporters*Crisis*	0.014	0.019
	(0.27)	(0.61)
*Exiters Exporters*Crisis*	-0.031	-0.062*
	(-0.57)	(-1.90)
*Switchers Exporters*Crisis*	-0.007	-0.023
	(-0.11)	(-0.67)
Crisis	-0.170***	0.190***
	(-5.85)	(10.26)
Leverage	-0.044***	-0.027***
	(-7.33)	(-8.77)
Liquidity	0.011	0.001
	(0.55)	(0.08)
Size	0.756***	0.844***
	(213.85)	(397.25)
Age	0.001	0.001***
	(0.24)	(8.71)
Observations	38,276	37,294

Notes: All specifications were estimated using the OLS regressions. The figures reported in parentheses are t-statistics. * significant at 10%; ** significant at 5%; *** significant at 1%. Time dummies and industry dummies were included in all specifications.

Table 6: Hazard of failure by exporting status during the crisis

Starters Exporters	-0.431***
	(-10.90)
Continuous Exporters	-5.983***
	(-15.15)
Exiters Exporters	0.449***
	(12.88)
Switchers Exporters	-0.182**
	(-2.95)
*Starters Exporters*Crisis*	0.229
	(1.20)
*Continuous Exporters*Crisis*	-0.895***
	(-4.85)
*Exiters Exporters*Crisis*	0.338
	(0.97)
*Switchers Exporters*Crisis*	-0.101
	(-1.15)
Crisis	0.765***
	(2.58)
Leverage	0.048*
	(1.269)
Liquidity	-1.018***
	(2.25)
Size	-0.239***
	(6.35)
Age	-0.00
	(0.42)
Observations	46,429

Notes: Proportional hazard model results are reported. The dependent variable is a dummy equal to 1 if the firm fails, and 0 otherwise. Robust z-statistics are presented in parentheses. *: significant at 10%; **: significant at 5%; ***: significant at 1%. Time and industry dummies are included in all models.