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CREDIT CONTRACTION AND INTERNATIONAL TRADE: EVIDENCE FROM CHILEAN EXPORTERS

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Abstract

An important consequence of the recent financial crisis was the collapse of global trade. Using data of Chilean exporting firms, this paper studies the effect of financial constraints on export growth in the aftermath of the crisis. Our results show that both overall financing and export credit were significant determinants of export contraction in the Chilean case. However, the effect is highly heterogeneous. The evidence shows that larger exporters, belonging to industries more dependent on overall credit, have suffered disproportionately more. This has important policy implications, as public policy aiming at stimulating trade credit may not be as effective if overarching credit conditions remain subdued.

Resumen

Una consecuencia importante de la reciente crisis financiera mundial fue una fuerte reducción del comercio internacional. Utilizando datos de empresas exportadoras chilenas, este trabajo estudia el efecto de las restricciones financieras sobre el crecimiento de las exportaciones durante la crisis. Los resultados muestran que las necesidades generales de financiamiento y el crédito específico a la exportación fueron determinantes significativos de la contracción de las exportaciones chilenas. Sin embargo, el efecto de ambas variables es heterogéneo. La evidencia indica que los exportadores más grandes, en sectores con mayores necesidades generales de financiamiento, fueron más duramente afectados durante la crisis. Estos resultados sugieren algunas implicancias de política importantes, ya que las medidas tendientes a estimular el crédito al comercio internacional pueden no ser tan efectivas en la presencia de restricciones financieras más generalizadas.

1.   Introduction

As a consequence of the recent financial crisis there has been a notable reduction in global trade. According to the World Bank (2010), the value of world trade plummeted 31 percent between August 2008 and its low point in March 2009. Baldwin (2009) labels this episode "*The great trade collapse*" given its reach, abruptness, severity, synchronicity, and the fact that it was the steepest fall of world trade in recorded history and the deepest fall since the Great Depression.

There has been a debate over the reasons for such a spectacular fall in global trade. Among the probable culprits, three stand out: (i) economic recession, (ii) credit contraction, and (iii) increased protectionism. Since protectionism seems to be more a consequence rather than a cause of the falling trade, as argued in Baldwin and Evenett (2009), the first two are the most plausible causes for the trade collapse.

In this context, this paper uses a detailed dataset with monthly observations covering all Chilean exporting firms during the period 2006-2009 to investigate how firms' diverse characteristics (size, industry, financing dependence and export credit) affected the magnitude of export contraction during the recent financial crisis[1]. In particular, we introduce a novel measure of export credit dependence using direct information on the share of exports that are credit paid. This measure can then be contrasted with more indirect ones such as Rajan and Zingales' (1998) external financing dependence measure[2]. Comparing how firms in industries differing in

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[1] In our empirical analysis we focus in the intensive margin of exports, but a similar approach would be useful to shed light on how crisis affected the extensive margin (number of exporters and exported products).

[2] To be clear, the use of external financing in the terminology of Rajan and Zingales (1998) makes reference to the financing that is external to firm. This is, investment which is not financed with own resources.

financing and export credit dependence were affected during the crisis allows us to determine the type of credit constraint that most negatively affects international trade. Moreover, we exploit the dataset to study how financing dependence varies across sectors and size. We also examine whether smaller exporters – who are potentially more exposed to credit constraints – are more affected during the crisis in those sectors where export credit is more important. This is, in spirit, similar to the identification strategy developed by Rajan and Zingales (1998), who show that financial development affects industry growth more positively in those industries that are – for some technological reasons - more dependent on external finance[3].

We contribute to the recent literature on the factors explaining the trade collapse. More evidence on this regard is relevant because there is no consensus on the role of financial constraints in explaining trade performance. Amiti and Weinstein (2009) find that trade finance constraints account for one-third of the decline in Japanese exports in the financial crises of the 1990s. In the same vein, and using data on French exports, Bricongne et al. (2009) find that firms (large and small) in industries structurally more dependent on external finance fared worse during the recent crisis. Conversely, Levchenko et al. (2010), using data on U.S. imports and exports, find no support for the hypothesis that trade credit played a significant role in the recent trade collapse. Another contribution of this study derives directly from the wealth of our dataset which allows us to construct a direct measure of industry dependence on export credit, a relevant piece of analysis not contemplated in the articles mentioned above.

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[3] This identification strategy has been used previously in the empirical literature of finance and international trade. See, for example, Beck and Levine (2002) and Manova (2008).

Finally, there are some studies exploring the issue of export decisions and financing (Grenaway et al. 2007), but questions relate more to issues such as what type of firms have access to credit and whether credit access facilitates exports. To the best of our knowledge, there is no previous evidence on how exporters finance exports and how they respond to changes in domestic and trade-related credit conditions.

Our analysis of Chilean data shows several interesting stylized facts on export growth during the last financial crisis. First, export contraction was significant and generalized across firms, market destinations and sectors. Second, a large proportion of the Chilean export variation during 2008 and 2009 can be attributed to the intensive (as opposed to extensive) margin, which means that most of the fall in trade was due to a reduction in the average value of trade per firm-product, and not to a reduction in the number of exporters or products exported. In fact, we show that almost 60 percent of contraction in non-copper exports was driven by the intensive margin. Third, we find that larger exporting firms were more negatively affected than smaller ones during the crisis, independently if they belong to an industry with high or low financial/trade credit dependence. Finally, a noteworthy and unique result is related to the trade financing. We find that export credit is not the key to explain differences in firm export performance. Our results suggest that overall credit (not specific to international trade) was economically more important, and that larger firms in industries more dependent on overall credit, were more negatively affected during the recent crisis.

The paper continues as follows: section 2 describes the dataset with emphasis on some stylized facts; section 3 presents the empirical methodology; section 4 shows the econometric results; and section 5 concludes the paper.

2. Data and Stylized Facts

This study uses a detailed firm-level dataset with monthly information on exports by product (at the eight-digit level of the Harmonized System) and destination country for all Chilean exporting firms between 2006M1 and 2009M12. The data is collected by customs and covers all exporting firms during the period. This paper uses only information for all non-copper products based on the Harmonized System (HS) classification. For each year the dataset contains exports by firm, destination and product.

We first show some stylized facts on the export performance of the Chilean economy during the crisis. Similar to the experience of other economies, Chile experienced a large trade contraction during the 2008-2009 financial crisis (Table 1). The annual average fall in Chilean trade was 22.6%, a comparable figure to what happened to world, advanced, and developing countries international trade. For all these groups, the magnitude of the reduction was around 20%. Then, with the exception of some countries such as Colombia, Paraguay and Uruguay, the case of Chile is not an isolated phenomenon.

As we concentrate in non-copper exports in the empirical part of the paper, we discuss the evolution of those exports below[4]. Figure 1 shows the evolution of Chilean exports since 2006 through December of 2009. After almost three years of consistent positive growth, the Chilean exports collapsed starting in September 2008. The average annual nominal exports growth in the period previous to the crisis (2006M1-2008M9) was 18.4% and, between 2008M10 and 2009M12, this average growth was -21.4%.

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[4] Copper is the most important exported product by Chile, but the variation in export value has been heavily driven by large variations in its international price. For this reason, we concentrate in the non-copper Chilean exports.

The export contraction was generalized across destination markets and increased significantly over time. Figure 2 shows the evolution of the distribution of annual export growth over time. As it can be appreciated, during the first months of the crisis, the distribution of export growth is even between expansions and contractions. As the crisis evolved, the evidence shows that exports contracted in most of destination countries.

This strong fall in exports was also generalized across industries[5]. Before the crisis, the percentage of industries with negative export growth was between 20 and 40 percent. As the crisis evolved, this percentage increased rapidly, reaching almost each export sector (Figure 3). Note that during 2009, the percentage of industries with negative export growth was close to 100%. At the end of that year, there was a reduction in this indicator which is consistent with a slow recovery in international trade. Note, however, that at the end of 2009 annual export growth of Chilean exports is still negative (Figure 1).

Similar evidence is found when looking at firms. The number of firms with negative export growth increased from about 40 percent of total exporters before the crisis up to more that 60 percent in the third quarter of 2009. The negative effect of the crisis is generalized to both large and small exporters. However, it seems that large exporters – those in the third and fourth quartile of the industry export size distribution – were most affected by the crisis. The increase in the percentage of firms with negative growth is more pronounced in those exporters (Figure 4).

Given that we have information on exports by product and markets, we can explore how the negative impact of the crisis affected these different margins. We

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[5] In this paper we refer to industries or sectors using the 3-digit ISIC classification.

follow Bernard et al. (2009) and decompose the aggregate Chilean non-copper trade with partner country c in period t (x_t^c) in the number of firms that trade with the country (f_t^c), the number of products traded with the country (p_t^c), and the average value of trade per firm-product, $\overline{x}_t^c = x_t^c / \left(f_t^c p_t^c \right)$. Thus, total trade to country c in each period is simply the product between the number of unique trading firms, the number of unique products traded and the average value of non-copper exports:

$$x_t^c = f_t^c p_t^c \overline{x}_t^c$$

or in logarithms

$$\tilde{x}_t^c = \tilde{f}_t^c + \tilde{p}_t^c + \tilde{\overline{x}}_t^c$$

where $\tilde{y}_t = \log \left(y_t \right)$. The above equation is the basis for the annual variation decomposition of Chilean non-copper trade, $\Delta \tilde{x}_t^c = \Delta \tilde{f}_t^c + \Delta \tilde{p}_t^c + \Delta \tilde{\overline{x}}_t^c$, where $\Delta \tilde{f}_t^c \equiv \tilde{f}_t^c - \tilde{f}_{t-1}^c$ and $\Delta \tilde{p}_t^c \equiv \tilde{p}_t^c - \tilde{p}_{t-1}^c$ reflects annual changes due to the extensive margin and $\Delta \tilde{\overline{x}}_t^c = \tilde{\overline{x}}_t^c - \tilde{\overline{x}}_{t-1}^c$ due to the intensive margin. As shown in Figure 5 and Table 2, the intensive margin explains most of Chilean export variation during 2008 and 2009.

Our data shows that, previous to the crisis, the intensive margin accounted for almost 80% of total annual change in overall Chilean exports across destinations. In the crisis period (2008m10 – 2009m12), this figure drops dramatically to around 57%, but remains important. The number of firms and products (the extensive margin), in turn, explains roughly 20% and 23% of total variation, respectively. As the intensive margin

is the most important component of export expansion (and contraction) we concentrate on this margin in the following empirical section[6].

3. Empirical Approach

Given that several prior studies have emphasized the potential importance of credit driver on trade contraction, our empirical methodology is aimed to identify how the impact of crisis on Chilean exporters depend on assumed exogenous sector-specific differences in exposure to overall financing needs and export financing. To do that, we estimate the following equation:

$$g_{fcit} = \alpha_{ct} + \alpha_{it} + \delta_1 Size_{fcit} + \delta_2 Size_{fcit}Crisis_t + \delta_3 Size_{fcit}ECredit_i + \delta_4 Size_{fcit}ECredit_iCrisis_t$$
$$+ \delta_5 Size_{fcit}FinDep_i + \delta_6 Size_{fcit}FinDep_iCrisis_t + \varepsilon_{fcit}$$

where the dependent variable g_{fcit} is the mid-point growth rate of firm's f export value to country destination c in a 3-digit ISIC industry i in month t. This variable is

defined as: $g_{fcit} = \dfrac{(x_{fcit} - x_{fci(t-12)})}{0.5(x_{fcit} + x_{fci(t-12)})}$, where x is the export value[7].

The variable $ECredit_i$ is our measure of export credit dependence, $FinDep_i$ is the measure of financing dependence developed by Rajan and Zingales (1998), $Crisis_t$ is a dummy variable for the period[8] between 2008M9 and 2009M12, and $Size_{fcit}$ is a variable for initial size defined as the export share of exports of firm f in each 3-digit industry. This is an industry specific measure of relative size of the exporter.

[6] It would be also interesting to look at how the extensive margin varied across different market destinations and whether credit constraints may explain these changes. We leave this question for future research.

[7] The main advantage of this method over more traditional ones is that it makes it possible to compute growth rates for newly created or destroyed flows, in this case for firms that exit or enter international markets.

[8] The starting date of the crisis dummy coincides with the bankruptcy files of Lehman Brothers, given that this fact has been widely considered as the beginning of the financial crisis. The final date of the dummy corresponds with the last available information at the moment of initiating this paper.

As previously mentioned, one intended contribution of this paper is the introduction of a sector-specific measure of export credit dependence. As the Chilean trade statistics register the type of payment for each export transaction, we compute for each 3-digit industry the proportion of its exports financed through trade credit. This is computed as:

$$ECredit_i = \frac{\sum_{t=2000}^{2006} \sum_{e=1}^{n} X_e * D_e^C}{\sum_{t=2000}^{2006} \sum_{e=1}^{n} X_e}$$

Where X_e is the export value of transaction e in industry i, and D_e^C is a dummy variable if the transaction is paid at credit. This variable is the average – across time before the crisis and across transaction within an industry – share of exports sold at credit. We use only the information before the crisis to get rid off of potential changes in export credit that can be induced by financial conditions during this crisis.

We argue that, for some reasons related to product characteristics, there are some industries in which credit in foreign sales is more important than others. For example, uncertainty in the quality of products can make purchases at credit the preferred option for importers. Additional reasons may be supply driven. For example, large domestic exporters in some industries can have better access to local credit markets than small exporters in other industries. Then, industries where larger exporters are prevalent may be more able to sell at credit. In any of these cases, we should expect to find significant differences in the prevalence of credit across industries. This is effectively the case for Chilean industries. In some sectors, such as tobacco (314 according to ISIC) and beverages (313), almost 100% of exports have been sold at credit during the period 2000 through 2006. In contrast, the importance of credit

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in exports of transport equipment (384) and miscellaneous manufactures (390) is about 80% and 65%, respectively (Figure 6).

In measuring the industry-specific dependence on external (to the firm) resources, the indicator developed by Rajan and Zingales (1998) captures differences in financing needs that are unrelated to international trade credit. Figure 7 shows that both measures are negatively correlated, but the correlation is not high[9]. For testing which credit constraints were more relevant during the crisis, we therefore include in our regressions the same interaction variables using both measures of financing dependence.

The introduction of size as explanatory variable allows us to control for differences in export growth attributable to differences in the exporter size. It can be argued that smaller exporters have more space to expand exports, if so, initial size would be negatively correlated with export growth. Similarly to Bricogne et al. (2009), our definition of size is relative to the industry. This is preferred to absolute size, because the same amount of exports may be smaller or larger depending on the size of other exporters in the same industry. In contrast to those authors, we use a continuous variable instead of dummy variables by export size for two main reasons. First, we do not want to impose a priori differences in the effect of size on export growth. Second, it would result in an over-parameterized specification, with too many interaction terms.

Regarding the interaction between crisis and size, its inclusion allows us to analyze whether the financial crisis had lower or larger effects on smaller or larger exporters. We are particularly interested in investigating if smaller firms in those industries more dependent on credit are specially affected during the crisis. This is

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[9] The correlation coefficient between both variables is -0.44 and statistically significant at 5%.

captured by the interaction between exporter size, crisis and our measures of credit dependence. If larger exporters were negatively affected during the crisis in industries more dependent on international trade credit and overall financing, the parameters of these interactions (δ_4 and δ_6) would be negative.

4.   Econometric Results

In all of our regressions, as we noted in equation (1), we include industry-time specific effects that control for common time varying shocks across industries, and country-time specific effects that control for time varying shocks that are destination country specific. This would allow controlling, in part, for demand-driven causesof international trade contraction. In fact, if credit dependent industries are more affected during the financial crisis, this would be captured by the industry-time specific effects. In the case that the severity of the crisis differs across countries and then impacted differently the demand for Chilean exports, this is captured by country-time specific effects.

Our main results are presented in Table 3. In general, the evidence shows a negative relationship between exporter size and export growth, suggesting that smaller exporters tend to grow more than larger exporters. The negative parameter for the interaction between size and crisis (columns 1 and 2) reveals that larger exporters were more negatively affected than smaller exporters. This is consistent with the stylized facts presented in section 2, showing that the percentage of exporters with negative growth increased more rapidly for exporters in the first two quartiles of the exports size distribution. Our results for Chile, even when using a continuous variable for size,

are similar to those found by Bricogne et al. (2009) for France[10]. In both economies, it is found that large exporters were disproportionately more affected by the crisis.

In column (3) of Table 3 we add the interactions between size, crisis and the measures of credit dependence[11]. The triple interaction for export credit is negative but not significant, suggesting that there are not differences in the effect of the crisis by size, for firms located in industries differing in export credit needs. In contrast, the parameter for the triple interaction of size, crisis and financing dependence is negative, suggesting that the negative effect of the crisis is higher for larger firms, in more financing dependent industries.

To better appreciate these differences across industries and by firm size, we show in Table 4 the effect of crisis for different values of firm size and the two measures of credit dependence. For each case, the rest of the variables are evaluated at the corresponding mean. First, we find that financial crisis reduced the export growth rate in 10% for the average exporter. This effect, however, is almost zero for smaller firms (size evaluated at the bottom 10% of the distribution). By contrast, the reduction is about 29% for larger exporters (size evaluated at the top 10% of the distribution).

Second, we calculate the crisis effect in different exporter size for different values of overall and export financing. This exercise allows us to evaluate which of our two variables is relatively more important in explaining the negative effect of the international crisis on export growth. In both cases, we change the financing indicators by one standard deviation and compute the crisis effect. For the three sizes analyzed (mean, 10% larger and 10% smaller), we do not find significant differences in the crisis

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[10] They use dummy variables for relative exporter size using four quartiles of this distribution.
[11] Note that we do not add the interaction term between credit dependence and crisis, because this effect is already captured in the industry-year fixed effects.

effect evaluated at the mean of the explanatory variables, and the crisis effect increasing financial dependence by one standard deviation. The negative effect for the average exporter only increases from 9.0% to 11.%. However, the magnitude of the negative effect of the crisis changes significantly when export credit increases in one standard deviation. For the average exporter in an average export credit dependant industry, the reduction in export growth increases from 10.0% to 16.0%. For larger exporters (top 10% of size), the negative effect increases from 29% to 48.7%.

In sum, our results so far show that the financial crisis had more negative effects on large firms exporting in those industries where overall financing needs tend to be more important. The role of export credit tends to be less important.

We introduce several additional estimations for verifying the robustness of our results. It can be argued that the importance of export credit may be different across market destinations. This could be the case when exports in the same industry may be subject to a different likelihood of no payment, depending on regulatory or institutional characteristics of the importer country. Moreover, exporters can specialize in selling different products to different countries, even within the same industry. To deal with thit problem, we compute our variable of export credit dependence for two groups of countries: industrial and developing countries[12]. There are two reasons for this choice. First, there are not enough observations for computing industry-specific measures for each importer country. Second, the correlation between institutional quality and income is relatively high. Thus, splitting our measure in two income groups should be sufficient to check whether these differences exist and affect our previous results. As shown in Figure 8, the correlation of export credit for these two

[12] Industrial countries are defined as those high-income countries members of the OECD.

groups is high, as it would be expected whether technology (or other exogenous reasons) is the main explanation of why some industries rely more on export credit than others[13].

It can also be argued that the importance of trade credit may vary not only across industries but also across firms in the same industry. To deal with this problem, we introduce industry-specific measures of export credit for large and small firms[14]. The differences between these two groups of firms can be supply and demand driven. In fact, smaller exporters may have less internal resources for financing exports and may be less able to sell at credit. Moreover, importers can be less confident on products' quality of small exporters and, therefore less willing to pay in cash for these exports. Then, for all of the industries, we calculate the importance of export sold at credit in total exports for small and large exporters and we use this measure in our estimations. The correlation between these two measures is shown in Figure 9.

The results are shown in Table 5 for both measures: industry specific export credit for industrial and less developing countries (column 1) and industry specific export credit for large and small exporters (column 2). Results tend to be very similar to those previously found, revealing that the negative effect of the crisis tend to be higher for larger exporters in financing dependent industries and that dependence on export credit tends to be less relevant for explaining the export contraction during the crisis. This is confirmed in the calculations of the crisis effects shown in Table 6 and Table 7. As it can be appreciated, the findings are very similar to those reported in Table 4 calculated for our basic regression.

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[13] The correlation coefficient is 0.53 and statistically significant at 5%.

[14] To divide the sample between large and small exporters we use the median size within each industry.

Finally, as a last robustness test, we use quantity export growth as our dependent variable for isolating the negative effects of the international crisis on export prices[15]. The results are shown in column 3 of Table 5. In general, our main results hold. Obviously, the negative effect of the international crisis is lower. We find a contraction of 5.5% for average exporter and 18% for larger exporters. As before, the impact on smaller exporters is negligible (Table 8).

5. Conclusions

The purpose of this paper was to analyze the role of financial factors in explaining the great trade collapse in the aftermath of the 2008-2009 global financial crisis. This is a contribution to the empirical literature investigating the causes of great trade collapse using two measures of financial dependence.

Using monthly data covering all Chilean exporting firms during the period 2006-2009, we find that export contraction was generalized across firms, industries and destination markets, but penalized larger firms more. Our results show that both overall financing and export credit were significant determinants of export contraction in the Chilean case. However, the effect is highly heterogeneous. The evidence shows that larger exporters belonging to industries more dependent on overall credit have suffered disproportionately more.

Our main findings hold to several robustness checks for our variable measuring export credit dependence. This evidence has relevant policy implications as public

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[15] This can be done because the information from Chilean Customs identifies the quantity sold by exporters. Note that quantities are not strictly comparable between products, because they are measured in different units. For this reason, we compute export growth and exporter size relative to the same 8-digit category of the Harmonized System. This is the reason why in the next regressions the number of observations increases considerably. However, we have checked that our previous result do not change if we define export growth and relative size by 8-digit products. These results are available upon request.

policy aiming at stimulating trade credit may not be as effective if overarching credit

conditions remain subdued.

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Table 1. Trade Variation – International Comparison
(Annual change, %)

	2008m1 – 2008m9	2008m10 – 2009m12
World	**24.53**	**-20.23**
Advanced economies	**19.27**	**-20.07**
Developing countries	**34.31**	**-20.49**
Argentina	38.17	-13.51
Australia	36.40	-11.34
Bolivia	52.47	-22.00
Brazil	35.52	-19.14
Canada	15.67	-27.11
Chile	10.27	-22.62
Colombia	36.36	-9.71
Mexico	13.09	-20.20
New Zealand	25.68	-18.12
Paraguay	59.17	-9.93
Peru	11.22	-17.38
Uruguay	35.15	-6.25

Source: Direction of Trade (IMF) and author's calculations.

Table 2. Decomposition of Chilean Trade Variation
(Annual change, %)

	2008m1 – 2008m9	2008m10 – 2009m12
Total Trade	**15.26**	**-21.37**
Firms	4.12	-4.24
Products	-1.00	-4.98
Value of exports	12.14	-12.15

Note: Non-copper exports

Table 3. Main Results

VARIABLES	(1)	(2)	(3)
Size	-2.908***	-36.34***	-41.41***
	(0.655)	(8.796)	(10.66)
Size * Crisis	-1.130***	-0.998***	2.971
	(0.396)	(0.360)	(7.229)
Size * ECredit.		37.62***	43.56***
		(9.941)	(11.88)
Size * Crisis * ECredit			-4.579
			(7.741)
Size * FinDep.			2.118
			(2.076)
Size * Crisis * FinDep.			-4.393**
			(1.724)
Constant	-1.586***	-1.614***	-1.619***
	(0.0257)	(0.0262)	(0.0267)
Observations	354925	354925	336748
R-squared	0.011	0.015	0.017

Clustered standard errors at country-industry-year level between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4. Crisis Effects

	Average Explanatory Variables	*Financing Dependence + 1 st. dev.*	*Export Credit Dependence + 1 st. dev.*
Average size	-0.1001***	-0.168***	-0.115***
	(-0.152;-0.047)	(-0.257 ; -0.79)	(-0.181 ; -0.051)
10% Size	-0.0009***	-0.0016***	-0.0011***
	(- 0.001 ; -0.0004)	(-0.002;-0.0007)	(-0.0017;-0.0004)
90% Size	-0.2901***	-0.487***	-0.335***
	(-0.441;-0.1387)	(- 0.745 ; -0.228)	(- 0.523 ; - 0.146)

Confidence interval between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5. Robustness Analysis

VARIABLES	(1)	(2)	(3)
Size	-29.29***	-45.75***	-35.32***
	(9.476)	(11.02)	(12.51)
Size * Crisis	-0.124	2.008	9.803
	(6.388)	(7.455)	(8.268)
Size * ECredit.	29.99***	48.08***	34.81**
	(10.56)	(12.19)	(13.96)
Size * Crisis * ECredit	-1.232	-3.552	-11.64
	(6.815)	(7.958)	(8.975)
Size * FinDep.	0.555	2.897	-1.351
	(2.107)	(2.085)	(2.798)
Size * Crisis * FinDep.	-3.669**	-4.296**	-4.670**
	(1.651)	(1.728)	(2.010)
Constant	-1.612***	-1.617***	-1.750***
	(0.0275)	(0.0263)	(0.0235)
Observations	336748	336748	701246
R-squared	0.016	0.018	0.019

Clustered standard errors at country-industry-year level between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Crisis Effects

Export Credit for Industrial and Developing Countries

	Average Explanatory Variables	*Financing Dependence + 1 st. dev.*	*Export Credit Dependence + 1 st. dev.*
Average size	- 0.098***	- 0.155***	- 0.103***
	(- 0.15 ; - 0.044)	(- 0.244; - 0.065)	(- 0.167 ; - 0.039)
10% Size	-0.0009***	-0.0014***	-0.0009***
	(- 0.0014;-0.0004)	(-0.002;-0.0006)	(-0.0017;-0.0004)
90% Size	-0.285***	-0.449***	-0.298***
	(-0.44;-0.129)	(- 0.708 ; -0.19)	(- 0.484 ; - 0.113)

Confidence interval between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Crisis Effects

Export Credit for Small and Large Exporters

	Average Explanatory Variables	*Financing Dependence + 1 st. dev.*	*Export Credit Dependence + 1 st. dev.*
Average size	- 0.101***	- 0.167***	- 0.114***
	(- 0.154 ; - 0.048)	(- 0.255 ; - 0.081)	(- 0.179 ; - 0.048)
10% Size	-0.0009***	-0.0016***	-0.0011***
	(- 0.0014;-0.0004)	(-0.002;-0.0007)	(-0.0017;-0.0004)
90% Size	-0.293***	-0.486***	-0.331***
	(-0.447;-0.141)	(- 0.739 ; -0.233)	(- 0.521 ; - 0.141)

Confidence interval between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Crisis Effects

Export Quantity Growth

	Average Explanatory Variables	*Financing Dependence + 1 st. dev.*	*Export Credit Dependence + 1 st. dev.*
Average size	- 0.055***	- 0.107***	- 0.082***
	(- 0.097 ; - 0.013)	(- 0.181 ; - 0.034)	(- 0.141 ; - 0.023)
10% Size	-0.0004***	-0.0008***	-0.0006***
	(- 0.0007;-0.0001)	(- 0.0014;-0.0002)	(-0.0011; -0.0001)
90% Size	-0.179***	-0.351***	-0.267***
	(-0.316;-0.043)	(- 0.591 ; -0.111)	(- 0.458 ; - 0.075)

Confidence interval between parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 1. Annual change in Chilean exports, 2006m1 – 2009m12
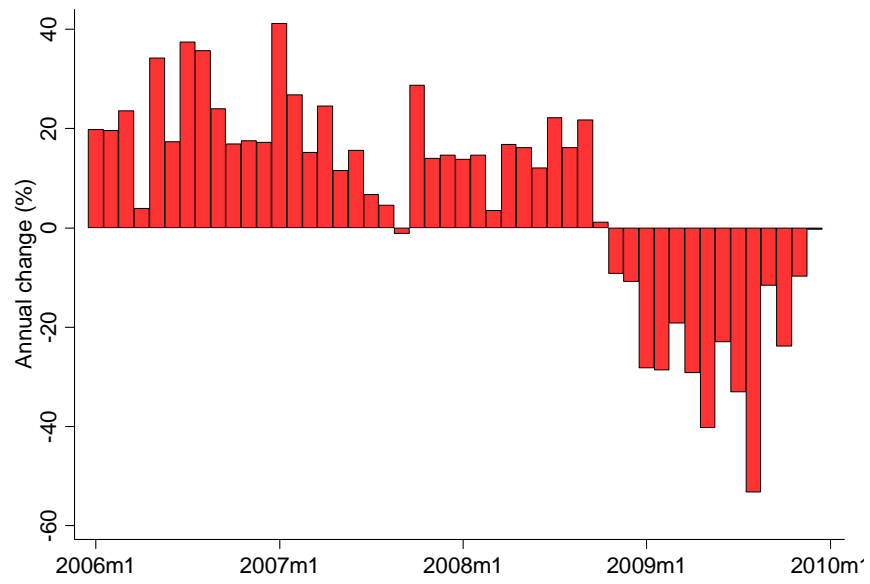
Note: Non-copper exports.
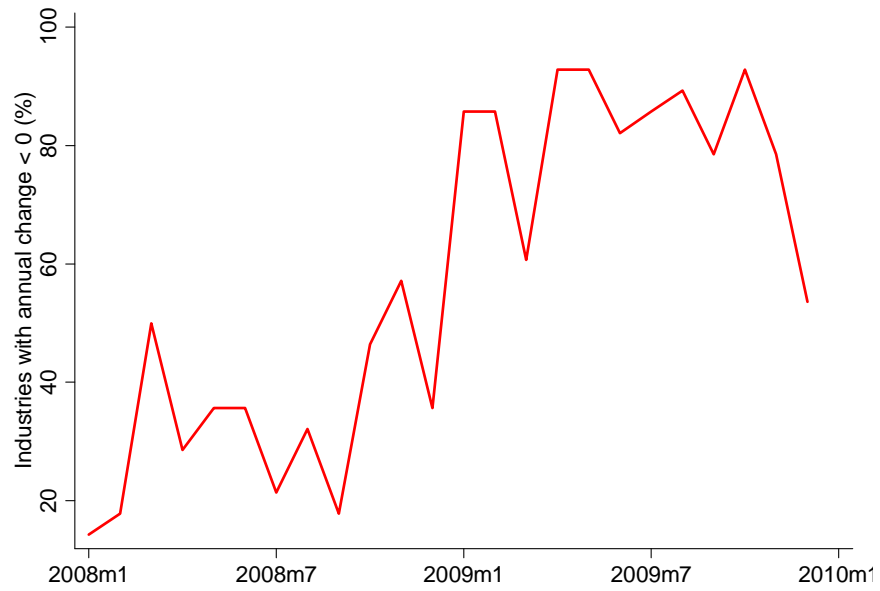Source: Central Bank of Chile.

Figure 2. Distribution of annual trade change by country
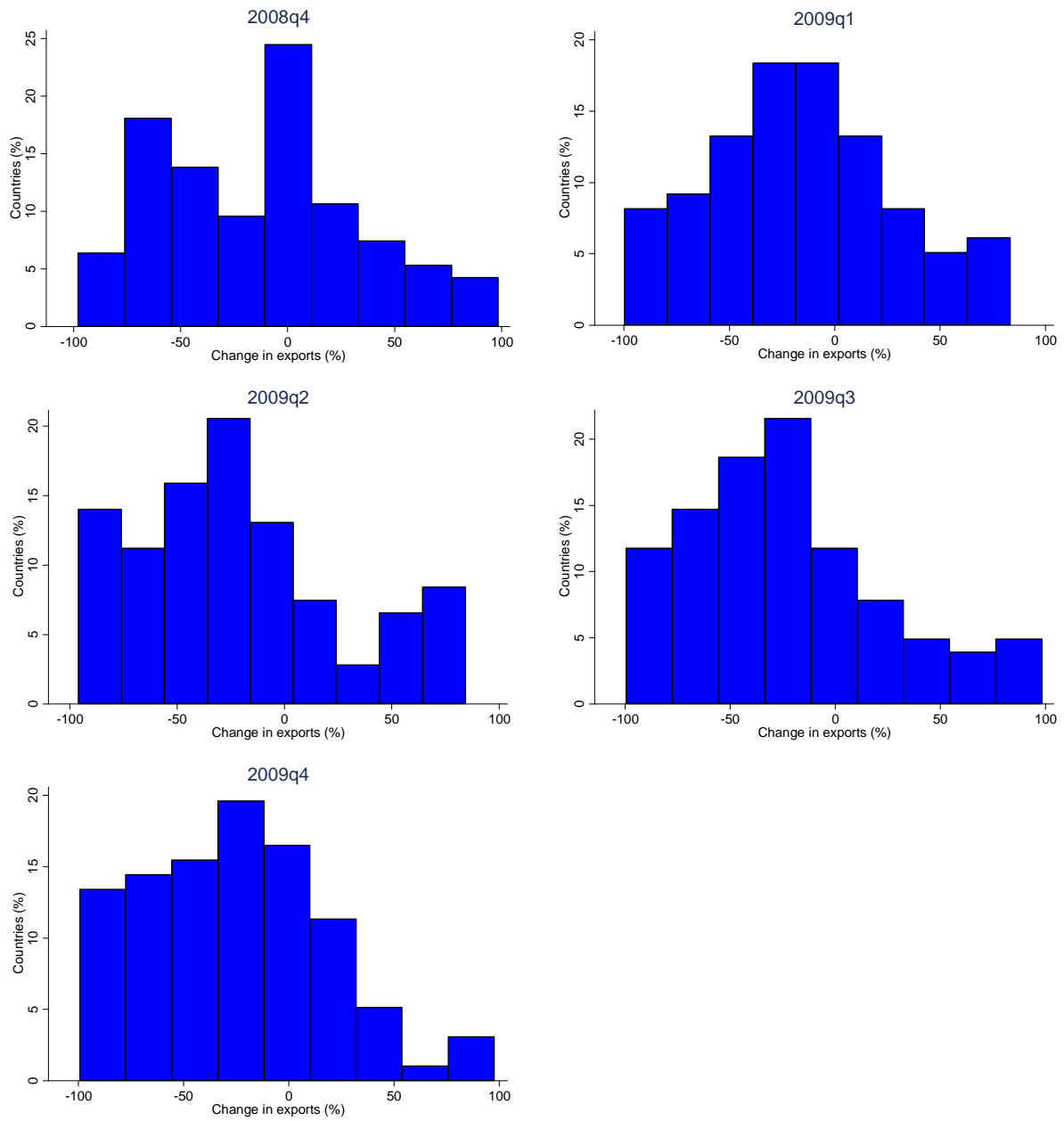
Note: Non-copper exports.
Source: Central Bank of Chile, own calculations.

Figure 3. Evolution of distribution of annual change in Chilean exports by
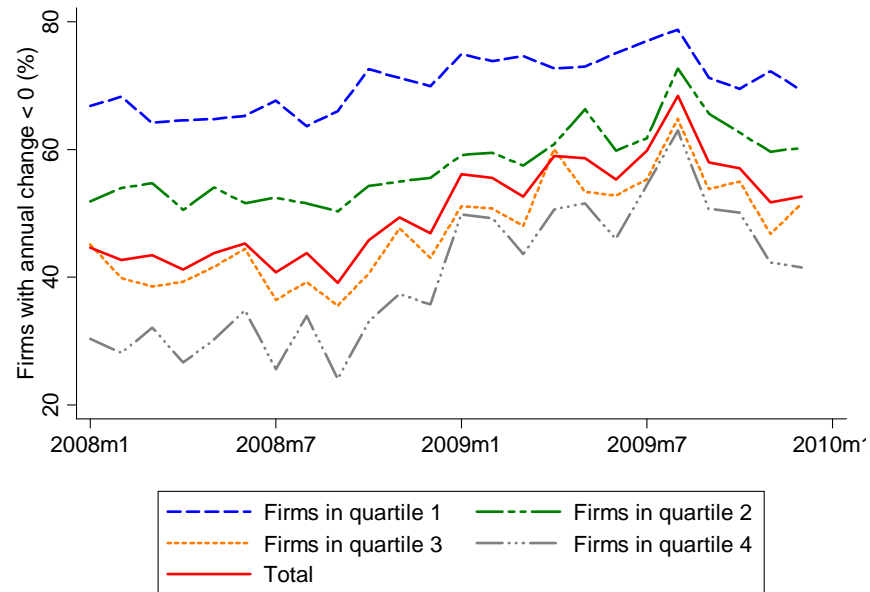
industry, 2008m1 – 2009m12

Note: Non-copper exports.
Source: Central Bank of Chile, own calculations.

Figure 4. Evolution of distribution of annual change in Chilean exports by size,
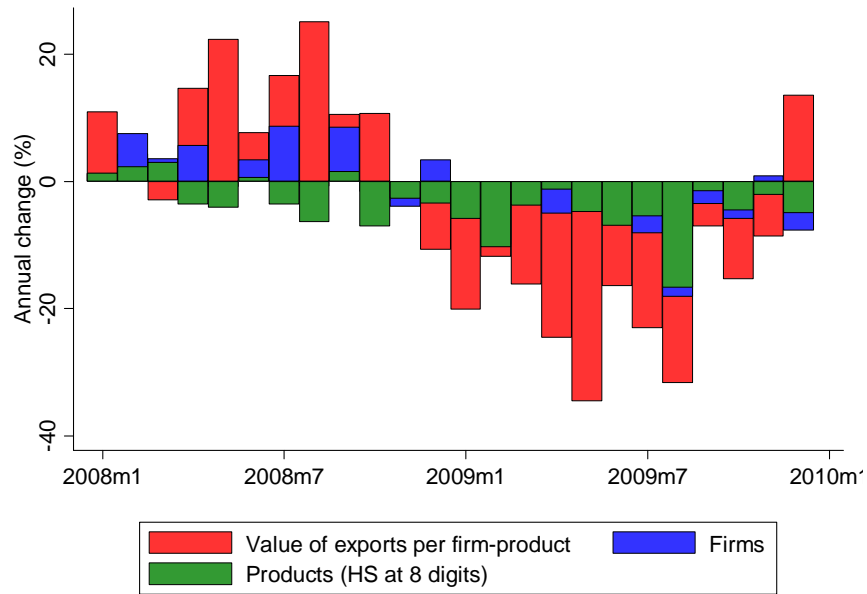
2008m1 – 2009m12

Note: Non-copper exports. Size is measured in terms of sectoral non-copper exports distribution.
Source: Central Bank of Chile, own calculations.

Figure 5. Decomposition of annual change in Chilean exports,
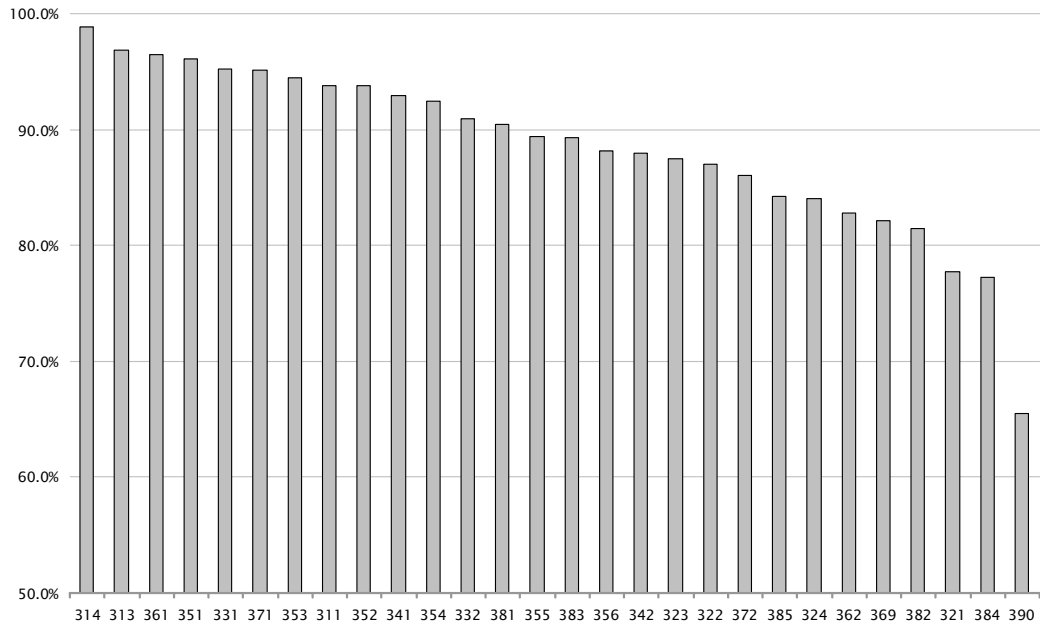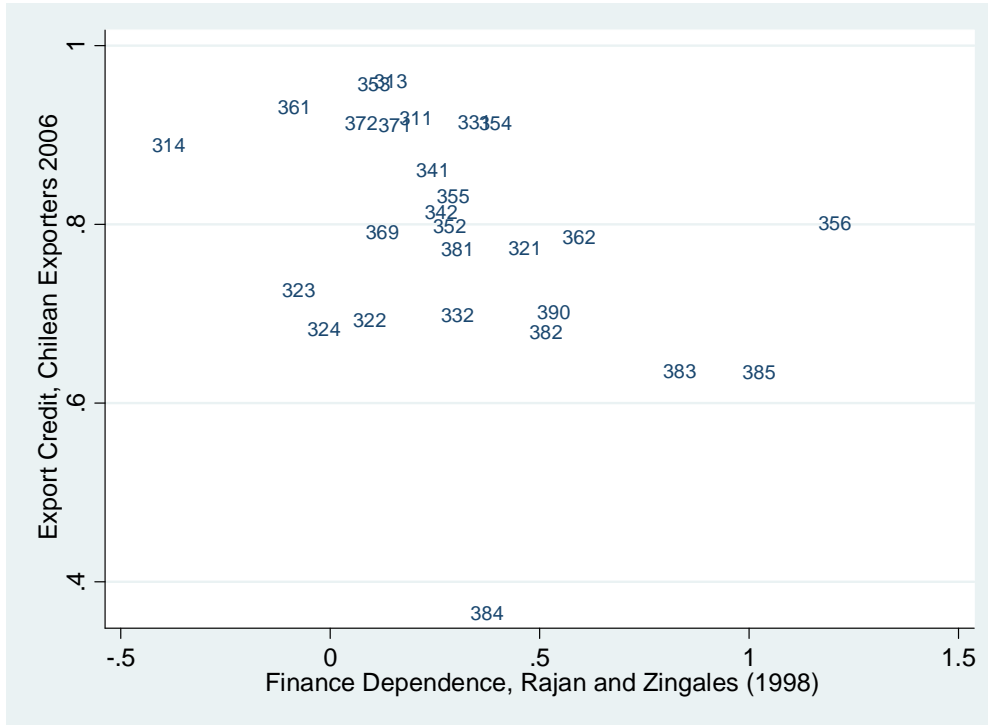
2008m1 – 2009m12

Note: Non-copper exports.
Source: Central Bank of Chile, own calculations.
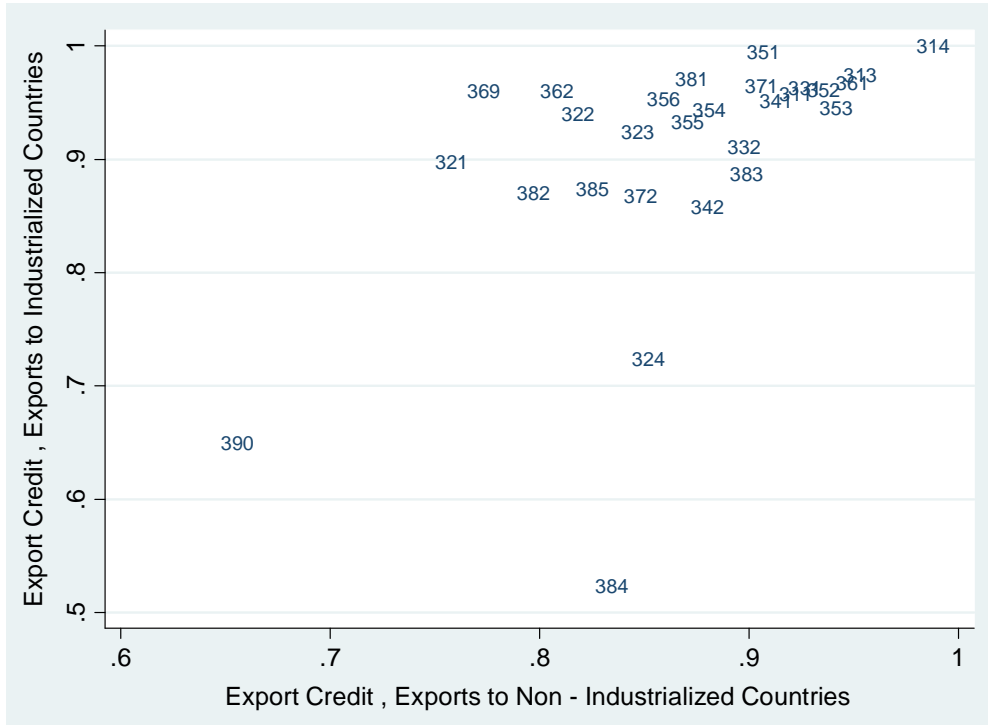
Figure 6. Export Credit by Industries

Source: Central Bank of Chile, own calculations.

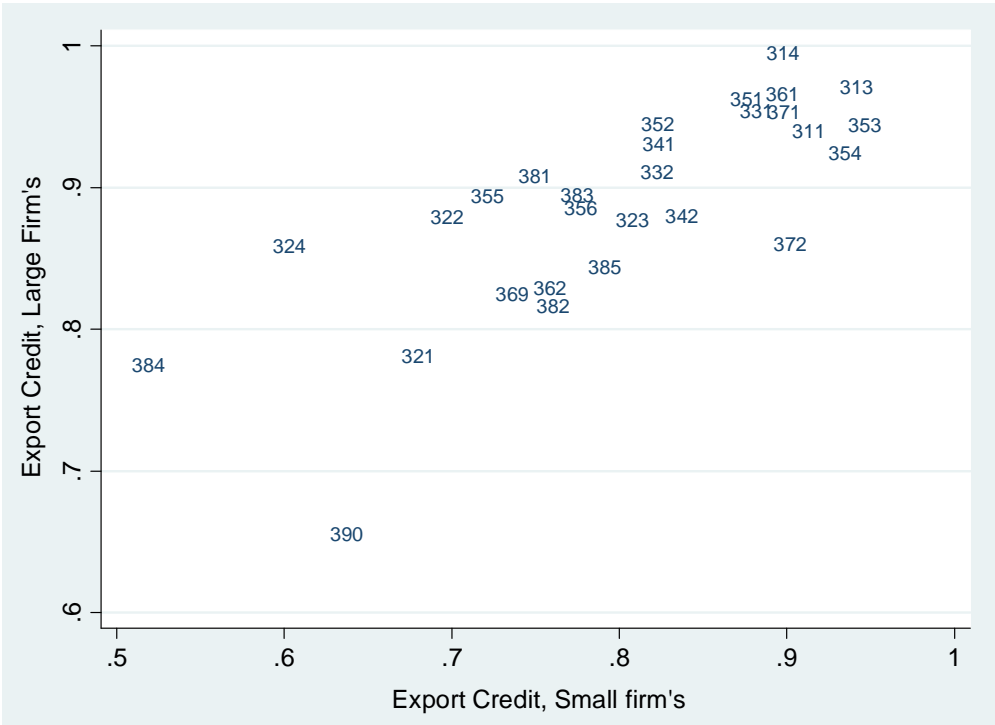**Figure 7.** Export Credit and Financing Dependence

Source: Rajan and Zingales (1998), own calculations.

Figure 8. Export Credit by Groups of Countries

Source: Own calculations.

Figure 9. Export Credit by Exporter Size

Source: Own calculations.

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