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Bank Internationalization and Firm Exports: Evidence from Matched Firm-Bank Data*

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Abstract

We investigate whether new-exporter firms have a higher probability to start exporting in the countries where their financing banks have already settled their subsidiaries. The underlying mechanism we hypothesize is based on the transmission of knowledge on foreign market from the banks to the firms, able to cut down informational barriers to international trade. We found a significant positive relationship between the firm probability to begin exporting in one market, and the presence in the same market of a subsidiary of the firm financing bank. Our empirical exercises suggest that the correlation found is not due to other possible mechanisms. Namely, to the firms choosing the internationalized bank in the market where they are planning to export, nor to the banks following abroad their clients.

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1 Introduction

The literature examining whether credit constraints affect firms internationalization has rapidly expanded over the last years (see e.g. Greenaway, Guariglia and Kneller (2007); Berman and Hericourt (2010); Bellone, Musso, Nesta and Schiavo (2010) and Minetti and Zhu (2011)). The economic argument of these studies is grounded on the new international trade theories with heterogeneous enterprises. Since to engage in off-shore activities implies large sunk costs, only better, more productive firms are able to penetrate into foreign markets through exports (Melitz (2003); Bernard, Eaton, Jensen and Kortum (2003)). In this framework, credit constraints hamper internationalization because they prevent enterprises to raise funds for financing fixed exporting costs (for the theoretical contributions see: Chaney (2005) and Manova (2010)).

Unlike financial constraints and internationalization, whether and how the characteristics of bank-firm relationships affect firm propensity to export is an issue scantily studied.¹ Our paper contributes to this stream of research. We investigate whether new-exporter firms have a higher probability to start exporting in the countries where their financing banks have already settled their subsidiaries. The underlying mechanism we hypothesize is based on the transmission of knowledge from the banks to the firms, able to cut down informational barriers to international trade. Banks with subsidiaries abroad collect overtime a wide stock of information on the foreign countries that can be easily transmitted to their clients through the usual, informal, bank-firm contacts. Such valuable flow of knowledge allows firms to reduce fixed start-up costs associated to the entry into a new foreign market. This intangible asset turns out to be particularly helpful for small and medium enterprises that are less equipped to start international business. In addition, it is more precious if the relevant entry costs are specific to each destination countries, as theoretically postulated by Chaney (2008) and Eaton, Kortum and Kramarz (2011), and empirically shown by Moxnes (2010). This mechanism is empirically supported by both anecdotal and survey-based evidence. The largest banks offer a wide set of non-financial services, especially de-

¹Taking advantage of a unique firm survey, Bartoli, Ferri, Maccarone and Rotondi (2011) examine if banks help firm to export through non-standard banking services. Ricci and Trionfetti (2012) examine if the firm probability to export is affected by the intensity of the relationships with foreign banks.

voted to small and medium enterprises, to support firm internationalization. These services range from helping enterprises to find potentially profitable off-shore markets and suitable foreign clients or suppliers, to consulting facilities on foreign legal system or on country political and institutional framework. The relevance of such support is also acknowledged by firms (see Bartoli et al. (2011)).

We take advantage of detailed matched firm-bank data that provide information on firm exports as well as on firm-bank relationships. In particular, we know the destination country of exports in 2008 and if firms have ever exported before. Moreover, we are able to link firm information with the characteristics of their financing banks. Namely, we know if and where banks financing firms have subsidiaries abroad. As a result, we can regress firm probability of exporting for the first time in one country on the presence of her financing banks in the same country, together with a large set of controls at the firm and country level.

The link between the destination country of exports and the country where the financing banks have subsidiaries might also be due to reasons different from the transmission of information from banks to firms. For example, firms that are planning to export in certain markets could choose a bank internationalized in the same countries for accessing abroad to the usual banking services. Moreover, the causality nexus might be the other way round. That is, it could be the banks that follow the firms by establishing foreign subsidiaries where their clients export (Seth, Nolle and Mohanty, 1998). Our empirical model, together with some auxiliary robustness exercises, suggests that the link is not due to the firms that choose the bank established in the export country, nor to the banks that follow abroad their clients.

We found a significant positive relationship between the firm probability to start exporting in one market and the presence, in the same market, of a subsidiary of the financing bank, which is robust to several sensitivity tests. Our paper provides empirical evidence on a causal link, until now unexplored, which has an intuitive economic implication. To be client of internationalized banks can be helpful to start new international business. This result turns out to be relevant not only for the firm strategic purposes, but also to understand the forces able to strengthen firm international competitiveness, and the indirect effects of the bank-firm relationships.

The remaining of the paper is organized as follows. In the next section we discuss

the theoretical background and the research papers more related to our analysis. In section 3 we describe the data set used. In section 4 we present the empirical model and the baseline results, while in subsequent section we carry out some robustness tests. In section 6 are collected the main conclusive considerations.

2 Background and related literature

On the theoretical ground our paper is based on the recent international trade theories with heterogeneous enterprises, stemming from Melitz (2003), Bernard et al. (2003) and Melitz and Ottaviano (2008) (for two excellent reviews, see Helpman (2006) and Greenaway and Kneller (2007)). Such theories argue that firms willing to engage in international activities face considerable fixed entry costs. For example, to become exporter, firms must gather information on the foreign market, adapt their products to the foreign tastes, create a distributional system and start new business relationships. Since all these activities imply sunk costs, only more productive, usually larger firms are capable to overcome such outlays to export. In the most recent contributions these entry fixed costs are considered specific of each export market, as postulated by Chaney (2008) and Eaton et al. (2011). Empirically, Moxnes (2010) shows that country specific entry costs are much larger than global sunk export costs.

Our hypothesis is that banks that have established subsidiaries abroad collect over-time a large stock of knowledge on the foreign countries where they are settled. Such intangible assets can be easily transmitted to their customers, allowing enterprises to reduce the sunk cost associated to the entry into the new foreign market. This soft information turns out to be extremely valuable for smaller enterprises, which are less equipped to begin international business, and if the fixed costs are specific to each destination countries. It is also plausible to assume that the information flows from the bank to the firms are wider, the longer and stronger is the bank-firm relationship. That is, inside long-lasting bank-firm relationships or if the internationalized bank is the main credit supplier of the firms.

The capability of financial intermediaries to pull down the fixed costs of internationalization has been recently explored by a flourishing literature on exports and financial constraints. This literature is based on similar theoretical arguments. Given

the presence of sunk costs, export activity can start only whether firms can raise finance resources to cover the associated fixed outlays. On the opposite, firms that are financially constrained are unable to reach the foreign markets. Theoretical contributions include Chaney (2005), Muuls (2008) and Manova (2010). Empirical papers encompass, among others, Greenaway et al. (2007), Bridges and Guariglia (2008), Berman and Hericourt (2010), Egger and Kesina (2010), Bellone et al. (2010), Manole and Spatareanu (2010) and Minetti and Zhu (2011). In these studies, the econometric strategy has been to regress the probability to export - to study the extensive margin of trade - or the export volume - to examine the intensive margin of trade -, on opportune measures of firms' financial constraints. Credit rationing at the firm level is approximated using either financial balance sheet variables or specific information directly gathered through surveys. In order to deal with the endogeneity issues, these papers usually utilize instrumental variable method. The econometric investigations provided mixed evidence on the role of financial constraints on firm trade performance. As regards Italy, Minetti and Zhu (2011) found that credit rationing reduces the probability to export as well as the level of foreign sales.

The link between banking services and firm internationalization has been further explored from a different perspective by Bartoli et al. (2011). Taking advantage of information collected with a survey on a sample of Italian firms, the authors analyze to what extent the banking system supported firms exports by providing services that are different from the usual banking ones. They show that for the majority of interviewed firms banks have played an important role in helping firms' foreign activities, especially supplying services like: counter-parties signaling, legal and financial advisory, in loco support during fairs, advises on off-shore investment opportunities and training services for commercial and administrative personnel. The paper also shows that exporters signaling banks as the main institution that provided support for their exports displayed better performance on the foreign markets (e.g. in terms of the number of reached export markets). This evidence supports our hypothesis that banks can transmit useful information to their customers, helping them to actively contribute to international trade. In a similar spirit, Frazzoni, Mancusi, Rotondi, Sombrero and Pezzulli (2011) find that the strength of the relationship lending, measured by the ratio of the firm's debt with its main bank and firm's assets, enhances firm decision to

export and the intensity of exporting. De Bonis, Ferri and Rotondi (2009), addressing a parallel question, find that firms that have stronger relationship with internationalized banks (in this case measured by the duration of the bank-firm relationship) have higher probability to undertake foreign direct investments. Ricci and Trionfetti (2012) go further and find that the firm probability to export is positively affected by the share of working capital financed by foreign-owned banks. The authors assume that the linkages with foreign networks help firm to overcome the informational barriers reducing entry export costs.

Our paper is also related to a less recent stream of literature that investigated if the country financial development affects its trade performance. See e.g.: Beck (2002), Becker and Greeberg (2005), Hur (2006) and Samba and Yan (2009). Unlike our study, however, these contributions follow a macro-economic approach. Beck (2002), for example, develops a theoretical model with asymmetric information where the financial development affects the growth of the sector with increasing returns to scale. As a result, countries with a better-developed financial system will show a higher export share and a positive trade balance in manufacturing. The model is tested across 65 countries over 30 years, providing empirical support to his theory.

Although in the last years the literature on the role played by firm financing on firm export performance has rapidly expanded, to the best of our knowledge no paper has examined the link between firms that start exporting into a foreign country and the presence in the same country of their financing banks. This paper fills such gap.

3 Data

Our empirical exercise benefits from a unique dataset, built taking from three different sources.

Firstly, we draw information about firm export activities from the European firms in a global economy (EFIGE) survey, carried out in 2009. In particular, we focus on about 2800 Italian firms surveyed by the EFIGE project. In the survey, firms are asked whether they exported any product before 2008. According to this question we can distinguish three groups of firms: a) those who exported always or regularly before 2008; b) those who exported sometimes before 2008; and c) those who never exported

before 2008. In the survey firms are also asked whether they had engaged in export activities in 2008, and those firms that exported in 2008 were asked to list their top three destination countries. Our econometric exercises are mainly based on sample (c). We also draw from the survey some relevant balance sheet data such as number of employees, sales, sector and headquarters' location.

Secondly, we draw information about banks' cross-border presence from the Bank of Italy Census (Siotec), which provides information about bank branches and representative offices in foreign countries over the period 1994-2010.

Finally, we join the information about firm export activities and those on bank internationalization by using information on bank-firm relationships, drawn from the Central credit register (CCR), maintained at the Bank of Italy. The CCR provides bank-firm level information on a large set of financial variables. We are interested, in particular, in the amount of credit granted. We collect annual end-of-the-year data, from 1998 to 2010. In this way we are able to map, for every firm in our sample, the set of financing banks. The CCR provides information about the universe of Italian firm-banks relationships where the amount of borrowed funds is above a threshold of 75,000 euro.²

Our entire sample consists of 2773 manufacturing firms. 1538 exported regularly before 2008 (sample a), the year of the survey. 466 exported sometimes (sample b), while 769 never exported before 2008 (sample c). Firms belonging to the last group and that start exporting in 2008 are 52.

The last set of firms, which we will refer to as the "non-exporters", is smaller in size than the group of firms that exported "sometimes" before 2008 and that of "regular" exporters (see Table 1). In addition, as expected, firms that regularly exported before 2008 are larger: they have about 85 employees on average, almost three times those of firms that exported sometimes or never before 2008; 33 and 30 employees, respectively.

Table 2 shows the distribution of "non-exporter" firms (before 2008) according to their headquarters: about 80 per cent of them are located in the Centre and Northern Italy. The predominant sub-sector of economic activity among "non-exporters" is

²According to the Italian banking regulation, for each borrower financial intermediaries supervised by the Bank of Italy have to report to the CCR, on a monthly basis, the amount of each loan, either granted or disbursed by banks, for all loans exceeding 75,000 euro; the threshold was lowered to 30,000 in 2008.

fabrication of metal products (more than one quarter of the sample), followed by food products and non metallic minerals products (about 10 per cent both; see Table 3).

Table 4 shows the distribution of the foreign branches of the Italian banks financing the firms of our overall sample. On the whole 22 countries are represented. Foreign branches are mostly located in the United Kingdom, United States, Luxembourg and France. While more than 700 banks operate in Italy, only a few of them have branches abroad. In particular, over the period 2006-07 only 16 banks had a branch abroad. The distribution of branches over foreign countries is very concentrated. The first 5 banks count together for more than three quarters of the foreign branches. The most internationalized bank is Unicredit, with branches in 18 countries (see Table 5).

4 Empirical model and results

In order to investigate the links between foreign banking activity and firm export decisions we rely on a firm-country level dataset. The structure of data is as follows. On the one hand, we have a sample of 769 firms (that labeled by c), non exporting before 2008. For any firm that starts exporting in 2008, we know the top 3 destination countries. On the other hand the dataset EFIGE lists 116 potential destination countries (list of export countries for the sample of 2773 Italian manufacturing firms surveyed in EFIGE; see Table 6). This leads us to a dataset of about 90,000 firm-country pairs observations.

It turns out that 52 out of 769 firms start exporting in 2008. On average they export to 1.5 countries; only two firms export to more than 3 countries.³ Hence, the fact that EFIGE dataset only lists the top 3 export countries for each firm is not binding in our dataset. The new exports are directed to 33 countries (see Table 7). France and Germany have the largest share (15.2 and 12.7 percent, respectively). The probability to export is relatively uniformly distributed across the remaining countries.

We estimate the following probit model, where the unit of analysis is the pair firm i -country c :

³Respectively, 4 and 7.

$$export_{ic} = \alpha + \beta subs_{ic} + X_i \gamma + \delta dist_{ic} + K_c \theta + \epsilon_{ic} \quad (1)$$

$export_{ic}$ is our dependent variable, which takes the value one if firm i exports to the country c and zero otherwise. Our variable of interest is the dummy $subs_{ic}$, taking value one if any of the banks financing firm i before 2008 had a subsidiary branch in country c . Since the extent of banks internalization varies over time, we measure the dummy $subs_{ic}$ considering several two-year windows, starting from 2006-07 and going backwards up to 2003-04. For instance, the dummy $subs_{ic,2006-07}$ takes value one if at least one of the banks financing firm i over the period 2006-07 had a subsidiary branch in country c in the same period. On the other hand, the dummy $subs_{ic,2006-07}$ takes value zero if the bank i has a branch in country c in the period 2006-07 but firm i did not borrow money from her over that period. Analogously, the dummy $subs_{ic,2006-07}$ takes value zero if the bank does not have branches in country c over that period regardless whether firm i has been borrowing money from her or not during that period.

The empirical model includes a large set of variables at the firm and country-level, to control for the probability of exporting in each potential market.

X_i is a vector of firm-level variables, such as headquarter's location and productivity;⁴ moreover, all regressions include sector dummies (2-digit NACE), firm size class dummies (3 classes), and a dummy for firms belonging to a business group.

K_c is a vector of country-level variables. In this setting, the introduction of country dummies would result in a drop of about 70 per cent of our observations, because new exporter firms only target a subset of 33 countries out of 116 potential destinations. For this reason we decide to omit country dummies and to use instead as regressors the following country-level information: log of country imports in the years 2006-07 ($logimp0607$), country import growth rate between 2005 and 2007 ($deltaimp$); two separate dummies for Germany and France (which together account for about 30 per cent of the new exports in our sample); a dummy switching on for Italian neighboring countries ($boundary$) and a dummy for the other European countries.⁵ Finally, in the

⁴Productivity is proxied by sales over employees.

⁵Data on country imports are at the constant prices and sourced by the World Bank.

same spirit of the gravity models of trade, we add $dist_{ic}$, the distance (km, in logs) between the region where firm i is headquartered and country c 's capital city.

Given the data structure (each firm appears 116 times in the sample) and the fact that most control variables only vary across firms (productivity, business group, location, NACE-2 dummies and size dummies), we cluster the standard errors at firm level in all our regressions.

Table 8 reports the baseline results. The estimated coefficients show that firms have a higher probability to start exporting in those countries where their banks have already established a branch. The regression coefficient we are interested in is slightly larger if we consider bank-firm relationships in the years 2006-07, while it decreases as we consider earlier two-year periods. They are all statistically significant at the 10 per cent level. When we look at the marginal effects, we find that the magnitude of such impact is rather large. In particular, if a firm has been borrowing from a bank with a foreign branch in a certain country, her probability to start exporting in that country is 44 percent higher than the mean probability that any firm in the sample begins exporting there.

As expected, the total volume of country imports positively affects the probability to start exporting in that country, whereas there is no significant effect of the country imports growth rate. Distance between firms and countries also plays a role, confirming previous evidence that export decision is strongly affected by the geographical proximity.

To have found a significant relationship between bank internationalization and firm export decision is not yet enough to support the hypothesis that the soft information about foreign markets, provided by the banks to the firms, enhances their probability to export. In particular, there are two main identification issues we need to tackle. Firstly, we need to disentangle the hypothesis at hand, i.e. the firm follows the bank (Seth et al., 1998), from the opposite case, i.e. the bank follows the firm, or the bank and the firm jointly plan to access foreign markets. Secondly, we need to control for another possible mechanism, where willing-to-export firms choose banks accordingly to their presence abroad. For example, to have access offshore to the standard banking services.

Concerning the first issue, since our sample consists of firms that never exported

before 2008 and being the banks already settled off-shore in 2008, we can rule out those cases where the bank follows the firm. Moreover, our sample of non-exporters before 2008 largely consists of small firms, characterized by on average 30 employees, against 85 for the firms that export regularly. Firms that start exporting in 2008 are also small (30 employees on average). Hence, there seems to be no ground in our sample for the hypothesis of joint firm-bank planning of the internationalization decision.

The second identification issue is trickier. Firms willing to start exporting in one market could indeed choose earlier a bank that can provide off-shore financial or payment services in the same market. In order to test whether firms might have selected banks according to their presence abroad we estimate again our model taking into account when the relationship between firms and banks begun. We assume that bank-firm relationships set because firms are willing to export are those born closer to the year of export. Our dependent variable is still the presence of the lending banks abroad in the two years preceding the export decision. However, we do consider not just all the banks financing the firm at that time, but only those whose lending relationship begun in the period 2005-07. We then shift our time window and consider banks whose lending relationship with the firm begun earlier. If willing-to-export firms choose bank according to their presence abroad, lending relationships which started close to 2008 should result in a larger effect on the export probability. On the contrary, if the effect truly goes from the bank to the firm, it is reasonable to expect a larger effect for the bank-firms relationships which started earlier, since there have been a longer period over which the information can be transmitted from the former to the latter. Table 9 provides some comforting evidence against the hypothesis that our baseline result is driven by firms cherry picking banks. In particular, the coefficient of interest is not statistically significant when it reflects the bank-firm relationships that began in the years 2005-07, the period just before the export year, whereas it turns significant when we consider bank firm relationships that began earlier.

5 Robustness

Up to now our sample consisted of 769 firms that never exported before 2008. In this way we were able to precisely model the decision to enter into the foreign market for

the first time as a function of bank internalization. On the other hand, working with such a sharp sample leaves us with very few firms that start exporting in 2008 (52 firms against 717 firms that remain non-exporters). Since we observe firm-country pairs, and firm export on average to 1.5 countries, our dependent variable takes value one in about 0.1 per cent of the cases. In this rare events setting, probit models might underestimate the true parameters (King and Zen, 2001). In order to address this potential bias we follow two different approaches.

Firstly, we resample our dataset by selecting only a subsample of the firms among those who never exported before 2008 and that remain domestic in 2008. In this way we obtain a more balanced sample, with our bank-firm dependent variable switching now in about 1 per cent of the cases. Now the number of non-exporting firms is 100. In order to deal with the selection bias arising from outcome-based sampling we randomly select the subsample of never-exporters and estimate our baseline model. We perform this exercise from 100 to 1000 times in order to generate distributions of our estimates. The results, reported in Table 10, show indeed larger average coefficients, supporting the claim of underestimation associated to the model fitted on the full sample. However, the bias does not seem to be too severe.

Secondly, we increase the sample size by adding to the baseline sample (of the 769 firms that never exported before 2008) the sample of about 500 firms that claimed to have exported “sometimes” before 2008 (the sample we labeled b in section 3). Hence, we end up with a sample of 1235 firms. Among them, about one third export in 2008. Results, reported in Table 11, support our previous findings. Expectedly, our estimates are also more precise. However, since we introduced firms that already exported in the past, the interpretation of the coefficient of interest is tricky, as we cannot rule out those cases where the bank follows the firm. As further check, in order to limit such bias we replicate our estimates on the extended sample after excluding the largest firms (average sales above 10 millions euro). Those firms are indeed more likely to be followed abroad by the banks. Estimated coefficients, in Table 12, are still strongly statistically significant.

Finally, in order to validate our results we check that they are not obtained from considering just any random export destination country for the (few) firms that start exporting and run a couple of falsification tests. In the first one we randomly assign to

the new exporter firms a target country and fit our model on the simulated network. The random allocation is constructed as follows. For each firm we keep track of the number of her exporting countries. Next, we allocate to the firm the same number of countries, randomly drawn from a uniform distribution over the entire set of countries found in our dataset. Firm's bank relationships remain unchanged. We perform the random allocation up to 1000 times in order to generate a distribution of the coefficient of interest. The mean estimate of the coefficient is always about zero, with a standard error of about 0.19 (see Table 13). Moreover, the majority of point estimates are not statistically significant. We obtain a similar result if we randomly sample the target countries from the subset of the top 50 markets in terms of Italian firms' exports.

In the second falsification test we perform an alternative network scrambling. As we have seen, the variable of interest, the dummy $subs_{ic}$, takes value one if any of the firm i 's lending banks has a branch in country c . In this setting, if Italian banks mainly choose their foreign target countries following the same criteria as the exporting firms (for instance: geographical proximity, amount of foreign investments, immigrants, trade agreements, etc.), the results that we have found would reflect a spurious relationship. In order to check for that, we artificially replace the set of financing banks for each new exporter firm and then estimate again our model. Since we are drawing banks from the same (Italian) banking system, if our main result stems from a spurious country-level relationship we should still find a significant relationship between bank internationalization and firm export decisions. On the other hand, if the impact truly depends on some specific bank-firm linkages, we should find none. For the sake of simplicity we replace the set of banks for each new exporter firm with the set of banks of a very similar (non-exporter) firm and estimate our model once. The matched firm is found by nearest-neighbor matching, according to sector and size. For each pair of firms we make sure that enterprises belong to different regions, in order to minimize the probability that both firms are client of exactly the same set of banks. Results, reported in Table 14, show that the coefficient of interest is never statistically significant and much smaller in size with respect to the baseline estimates.

6 Conclusions

In this paper we have analyzed if firms customer of internationalized banks have a higher probability to start exporting in the countries where their banks have a subsidiary. We find a significant positive relationship between the foreign market of new-exporter firm, and the presence in the same market of its financing banks. We argue that firms benefit from the information on the foreign country collected by their banks which are easily transmittable to their clients. This flow of knowledge helps firms to overcome informational barrier to international trade, reducing the sunk cost to start exporting.

Our empirical exercises suggest that the relationship found is not due to other possible mechanisms. Namely, to the firms choosing the internationalized bank in the market where they are planning to export, nor to the banks following abroad their clients.

Our contribution sheds some light on a causal link, up to now unexplored by the theoretical and empirical literature, that offers a straightforward economic implication. Firms can take remarkable advantage from being customer of internationalized banks. The result turns out to be relevant for the firm strategic purposes, but also to better understand the forces able to strengthen firm international competitiveness.

This paper contributes to a fruitful, but so far scantily explored line of research. Theoretical and empirical investigations able to enlighten further the role played by the bank-firm relationships on firm internationalization, together with the underlying driving mechanisms, are thus welcome.

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Tables

Table 1: Firm size distribution by export status before 2008

export before 2008?	always/regularly			sometimes		
class size	freq	percent	mean empl	freq	percent	mean empl
1 (smaller)	227	14.76	18.3	153	32.83	18.6
2 (medium)	839	54.55	30.5	255	54.72	29.7
3 (larger)	472	30.69	214.4	58	12.45	81.6
Total	1,538	100	85.2	466	100	32.5

export before 2008?				never		
class size	freq	percent	mean empl	new-exporters in 2008		
	freq	percent	mean empl	freq	percent	mean empl
1 (smaller)	340	44.21	20.1	18	34.62	19.3
2 (medium)	360	46.81	30.4	28	53.85	25.3
3 (larger)	69	8.97	72.4	6	11.54	83.5
Total	769	100	29.6	52	100	29.9

Table 2: Firms that never exported before 2008, by headquarter's region

Piemonte	67	8.7
Lombardia	149	19.4
Liguria	12	1.6
North West	228	29.6
Veneto	81	10.5
Trentino	7	0.9
Friuli	16	2.1
Emilia	110	14.3
North East	214	27.8
Toscana	65	8.5
Umbria	14	1.8
Marche	47	6.1
Lazio	30	3.9
Centre	156	20.3
Centre & North	598	77.8
Abruzzo	31	4.0
Basilicata	7	0.9
Calabria	13	1.7
Campania	42	5.5
Molise	6	0.8
Puglia	38	4.9
Sardegna	9	1.2
Sicilia	25	3.3
South & Islands	171	22.2
Italy	769	100.0

Table 3: Firms that never exported before 2008, by economic activity sector

Nace 2 digits	Freq.	Percent
Manufacture of basic metals	15	1.95
Manufacture of beverages	9	1.17
Manufacture of chemicals and chemical products	9	1.17
Manufacture of coke and refined petroleum	3	0.39
Manufacture of computer, electronic and optical products	30	3.9
Manufacture of electrical equipment	33	4.29
Manufacture of fabricated metal product	210	27.31
Manufacture of food products	76	9.88
Manufacture of furniture	22	2.86
Manufacture of leather and related products	10	1.3
Manufacture of machinery and equipment	42	5.46
Manufacture of motor vehicles, trailers	10	1.3
Manufacture of other non-metallic minerals	76	9.88
Manufacture of other transport equipment	8	1.04
Manufacture of paper and paper products	18	2.34
Manufacture of rubber and plastic products	29	3.77
Manufacture of textiles	32	4.16
Manufacture of wearing apparel	38	4.94
Manufacture of wood and of products of wood and cork, except furniture	34	4.42
Other manufacturing	15	1.95
Printing and reproduction of recorded media	39	5.07
Repair and installation of machinery and equipment	11	1.43
Total	769	100

Table 4: Foreign branches distribution of Italian banks financing our firm sample

Country	Freq.	Percent
austria	3	1.9
belgium	4	2.6
china	6	3.8
egypt	1	0.6
france	15	9.6
united kingdom	28	17.8
greece	3	1.9
netherlands	2	1.3
romania	2	1.3
spain	10	6.4
united states	16	10.2
turkey	2	1.3
japan	6	3.8
luxembourg	15	9.6
germany	12	7.6
lebanon	1	0.6
hong kong	10	6.4
singapore	8	5.1
bahamas	2	1.3
cayman islands	8	5.1
abu dhabi	2	1.3
dubai	1	0.6
Total	157	100.0

Table 5: Banks financing our firm sample with branches abroad in the period 2006-07

bank name	countries	percent
Banca Nazionale del Lavoro	4	7.41
Monte dei Paschi di Siena	5	9.26
Unicredit	18	33.33
Intesa Sanpaolo	13	24.07
UBI banca	1	1.85
Chebanca!	1	1.85
Banca di Trento e Bolzano	1	1.85
Banca IMI	2	3.7
Banca Italo Romena	1	1.85
Banca Sella	1	1.85
Banco di Brescia	1	1.85
Banco Popolare	1	1.85
Banca Antonveneta	1	1.85
Banca Carige	1	1.85
Banca Regionale Europea	1	1.85
Mediobanca	2	3.7

Table 6: Country list

afghanistan	chile	germany	korea dpr	norway	south africa
albania	china	ghana	korea rep. (south)	oman	spain
algeria	colombia	greece	kuwait	pakistan	suriname
angola	congo	grenada	latvia	panama	sweden
argentina	costa rica	guatemala	lebanon	peru	switzerland
australia	cote d'ivoire	guayana	libya	philippines	syria
austria	croatia	honduras	liechtenstein	poland	taiwan
azerbaijan	cuba	hungary	lithuania	portugal	thailand
bahamas	cyprus	iceland	luxembourg	qatar	tunisia
bahrain	czech republic	india	macedonia	romania	turkey
bangladesh	denmark	indonesia	malaysia	russia	ukraine
belarus	dominican rep.	iran	malta	rwanda	united arab emirates
belgium	egypt	iraq	mexico	san marino	united kingdom
belize	el salvador	ireland	moldova	saudi arabia	usa
bosnia herzegovina	estonia	israel	monaco	senegal	venezuela
brazil	ethiopia	italy	montenegro	serbia	vietnam
bulgaria	finland	japan	morocco	seychelles	yemen rep
burkina faso	france	jordan	netherlands	singapore	
cameroon	gabon	kazakhstan	new zealand	slovakia	
canada	georgia	kenya	nigeria	slovenia	

Table 7: Export-target countries for the new exporter firms

Country	Freq.	Percent
Algeria	1	1.3
Austria	1	1.3
Bulgaria	2	2.5
China	1	1.3
Croatia	1	1.3
Czech Republic	2	2.5
Egypt	1	1.3
France	12	15.2
Germany	10	12.7
Greece	5	6.3
Guayana	1	1.3
Hungary	2	2.5
Jordan	1	1.3
Libya	1	1.3
Liechtenstein	1	1.3
Lithuania	1	1.3
Luxembourg	1	1.3
Morocco	1	1.3
Netherlands	4	5.1
Poland	1	1.3
Portugal	2	2.5
Qatar	1	1.3
Romania	3	3.8
Russia	2	2.5
San Marino	1	1.3
Serbia	1	1.3
Seychelles	1	1.3
Slovenia	3	3.8
Spain	4	5.1
Tunisia	1	1.3
Turkey	1	1.3
USA	3	3.8
United Kingdom	5	6.3
Total	78	100

Table 8: Probability to export and bank internationalization

VARIABLES	(baseline)	(1)	(2)	(3)
subs0607	0.240*			
	(0.134)			
subs0506		0.232**		
		(0.106)		
subs0405			0.202*	
			(0.107)	
subs0304				0.191*
				(0.106)
logimp0607	0.0157**	0.0166***	0.0169***	0.0172***
	(0.00613)	(0.00604)	(0.00604)	(0.00602)
deltaimp	-0.0066	-0.00784	-0.00779	-0.00775
	(0.016)	(0.0161)	(0.0161)	(0.016)
prod	1.29E-08	1.35E-08	1.56E-08	1.57E-08
	(5.32E-08)	(5.28E-08)	(5.21E-08)	(5.2E-08)
group	0.103	0.102	0.0999	0.0998
	(0.147)	(0.147)	(0.147)	(0.147)
North West	-0.014	-0.0137	-0.011	-0.0125
	(0.144)	(0.144)	(0.144)	(0.143)
Nort East	0.0418	0.05	0.0483	0.0467
	(0.129)	(0.129)	(0.129)	(0.129)
Centre	-0.256	-0.261	-0.259	-0.258
	(0.166)	(0.166)	(0.166)	(0.166)
logdist	-0.290***	-0.290***	-0.291***	-0.291***
	(0.0512)	(0.0509)	(0.0507)	(0.0508)
GER	0.413**	0.475***	0.481***	0.483***
	(0.167)	(0.152)	(0.151)	(0.152)
FRA	0.785***	0.770***	0.790***	0.799***
	(0.217)	(0.211)	(0.211)	(0.206)
boundary	-0.3	-0.292	-0.298	-0.302
	(0.195)	(0.194)	(0.195)	(0.195)
othEU	-0.089	-0.0906	-0.0951	-0.0992
	(0.111)	(0.112)	(0.112)	(0.112)
2dgt NACE dummies	yes	yes	yes	yes
firm size dummies	yes	yes	yes	yes
Constant	-1.547***	-1.567***	-1.566***	-1.574***
	(0.522)	(0.516)	(0.514)	(0.513)
Observations	66608	66608	66608	66608

Standard errors clustered at the firm level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: Probability to export and bank internationalization, by period of bank-firm relationship's beginning

VARIABLES	All years (baseline)	2007-2005	2004-2001	< 2001
subs0607	0.240* (0.134)	0.0813 (0.149)	0.309** (0.122)	0.175 (0.20)
logimp0607	0.0157** (0.00613)	0.0192*** (0.00611)	0.0160*** (0.00617)	0.0189*** (0.00603)
deltaimp	-0.0066 (0.016)	-0.00859 (0.0156)	-0.00616 (0.0159)	-0.00888 (0.0157)
prod	1.29E-08 (5.32E-08)	1.09E-08 (5.30E-08)	1.82E-08 (5.23E-08)	1.28E-08 (5.21E-08)
group	0.103 (0.147)	0.0923 (0.148)	0.102 (0.147)	0.0973 (0.146)
North West	-0.014 (0.144)	-0.00455 (0.145)	-0.0118 (0.143)	-0.00055 (0.145)
Nort East	0.0418 (0.129)	0.0466 (0.129)	0.0331 (0.129)	0.0503 (0.129)
Centre	-0.256 (0.166)	-0.26 (0.166)	-0.252 (0.165)	-0.26 (0.166)
logdist	-0.290*** (0.0512)	-0.296*** (0.0497)	-0.291*** (0.0516)	-0.294*** (0.0496)
GER	0.413** (0.167)	0.478*** (0.157)	0.425*** (0.158)	0.467*** (0.156)
FRA	0.785*** (0.217)	0.865*** (0.202)	0.823*** (0.207)	0.842*** (0.204)
boundary	-0.3 (0.195)	-0.340* (0.196)	-0.308 (0.197)	-0.328* (0.195)
othEU	-0.089 (0.111)	-0.124 (0.11)	-0.0942 (0.114)	-0.117 (0.11)
2-digit NACE dummies	yes	yes	yes	yes
firm size dummies	yes	yes	yes	yes
Constant	-1.547*** (0.522)	-1.579*** (0.507)	-1.531*** (0.515)	-1.595*** (0.506)
Observations	66608	66608	66608	66608

Standard errors clustered at the firm level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: Probability to export and bank internationalization after randomly subsampling non-exporters - distribution of the estimated coefficient (b) and standard error (s.e.)

ITERATIONS	100	200	500	1000
	b[sub0607]			
mean	0.277	0.277	0.279	0.279
s.e	(0.038)	(0.040)	(0.037)	(0.038)
	s.e.[sub0607]			
mean	0.152	0.152	0.152	0.152
s.e	(0.004)	(0.004)	(0.004)	(0.004)
New exporters	52	52	52	52
Non-exporters	100	100	100	100

Table 11: Probability to export and bank internationalization, extended sample

VARIABLES	(1)	(2)	(3)	(4)
subs0607	0.251*** (0.0476)			
subs0506		0.236*** (0.0486)		
subs0405			0.167*** (0.0492)	
subs0304				0.129*** (0.0495)
logimp0607	0.0331*** (0.00253)	0.0340*** (0.00244)	0.0349*** (0.00245)	0.0355*** (0.00243)
deltaimp	-0.00741 (0.00716)	-0.00876 (0.00715)	-0.00903 (0.00708)	-0.00923 (0.00704)
prod	1.98E-08 (3.81E-08)	1.78E-08 (3.75E-08)	1.84E-08 (3.69E-08)	1.91E-08 (3.71E-08)
group	-0.156** (0.0722)	-0.159** (0.0725)	-0.160** (0.0724)	-0.162** (0.0724)
North West	0.119* (0.0656)	0.117* (0.0657)	0.120* (0.0655)	0.120* (0.0655)
Nort East	0.0846 (0.0655)	0.0891 (0.0656)	0.0842 (0.0654)	0.0807 (0.0654)
Centre	-0.0199 (0.0731)	-0.0239 (0.0733)	-0.0218 (0.0732)	-0.0225 (0.0731)
logdist	-0.279*** (0.0213)	-0.281*** (0.0212)	-0.284*** (0.021)	-0.285*** (0.021)
GER	0.488*** (0.0613)	0.555*** (0.0595)	0.561*** (0.0594)	0.562*** (0.0595)
FRA	0.690*** (0.0674)	0.680*** (0.0678)	0.715*** (0.0676)	0.735*** (0.0673)
boundary	-0.0329 (0.0672)	-0.0303 (0.0676)	-0.0479 (0.0679)	-0.0594 (0.068)
othEU	-0.0912* (0.0488)	-0.0950* (0.0488)	-0.107** (0.0487)	-0.116** (0.0487)
2dgt NACE dummies	yes	yes	yes	yes
firm size dummies	yes	yes	yes	yes
Constant	-1.845*** (0.214)	-1.858*** (0.213)	-1.851*** (0.211)	-1.852*** (0.21)
Observations	115644	115644	115644	115644

Standard errors clustered at the firm level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 12: Probability to export and bank internationalization, extended sample - small and medium firms

VARIABLES	(1)	(2)	(3)	(4)
subs0607	0.193*** (0.0538)			
subs0506		0.190*** (0.0547)		
subs0405			0.140** (0.0553)	
subs0304				0.109* (0.0559)
logimp0607	0.0331*** (0.00269)	0.0336*** (0.00262)	0.0342*** (0.00263)	0.0347*** (0.00261)
deltaimp	-0.00797 (0.00795)	-0.00884 (0.00793)	-0.00905 (0.00788)	-0.00924 (0.00785)
prod	3.72e-07* (2.19E-07)	3.71e-07* (2.19E-07)	3.69e-07* (2.19E-07)	3.66e-07* (2.19E-07)
group	-0.175* (0.0941)	-0.176* (0.0944)	-0.178* (0.0944)	-0.178* (0.0943)
North West	0.0969 (0.0682)	0.0956 (0.0683)	0.098 (0.0682)	0.098 (0.0682)
Nort East	0.0294 (0.0691)	0.0322 (0.0693)	0.029 (0.0692)	0.0263 (0.0691)
Centre	-0.0879 (0.0785)	-0.0912 (0.0788)	-0.0901 (0.0787)	-0.0907 (0.0786)
logdist	-0.274*** (0.023)	-0.274*** (0.023)	-0.277*** (0.0228)	-0.278*** (0.0228)
GER	0.488*** (0.0684)	0.542*** (0.066)	0.547*** (0.0659)	0.548*** (0.066)
FRA	0.687*** (0.074)	0.679*** (0.0743)	0.704*** (0.0736)	0.721*** (0.0732)
boundary	-0.0168 (0.0731)	-0.014 (0.0734)	-0.0258 (0.0736)	-0.0344 (0.0739)
othEU	-0.0926* (0.0533)	-0.0944* (0.0532)	-0.103* (0.0531)	-0.110** (0.0532)
2-digit NACE dummies	yes	yes	yes	yes
firm size dummies	yes	yes	yes	yes
Constant	-1.905*** (0.234)	-1.914*** (0.233)	-1.906*** (0.232)	-1.905*** (0.231)
Observations	102856	102856	102856	102856

Standard errors clustered at the firm level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 13: Probability to export and bank internationalization after randomly assigning target countries to the new exporters - distribution of the estimated coefficient

ITERATIONS	100	200	1000	100
		b[subs0607]		
mean	0.002	-0.001	-0.004	-0.018
s.e	(0.183)	(0.183)	(0.188)	(0.141)
Countries	117 (all)	117 (all)	117 (all)	50 (top)

Table 14: Probability to export and bank internationalization, falsification test (1-to-1 matching)

VARIABLES	(1)	(2)	(3)	(4)
subs0607	0.163 (0.14)			
subs0506		0.0754 (0.139)		
subs0405			0.0827 (0.135)	
subs0304				0.0391 (0.132)
logimp0607	0.0189*** (0.00551)	0.0206*** (0.00548)	0.0204*** (0.0055)	0.0211*** (0.00548)
deltaimp	-0.00682 (0.0173)	-0.00776 (0.0171)	-0.00766 (0.0171)	-0.00787 (0.017)
prod	-7.27e-07* (4.17E-07)	-7.18e-07* (4.14E-07)	-7.19e-07* (4.14E-07)	-7.14e-07* (4.11E-07)
group	0.0224 (0.162)	0.021 (0.162)	0.0206 (0.161)	0.0206 (0.161)
North West	0.0273 (0.171)	0.0235 (0.171)	0.0231 (0.171)	0.0247 (0.171)
Nort East	-0.0385 (0.188)	-0.0385 (0.188)	-0.0393 (0.188)	-0.0391 (0.187)
Centre	-0.0423 (0.173)	-0.0479 (0.173)	-0.0477 (0.173)	-0.0469 (0.173)
logdist	-0.261*** (0.0519)	-0.262*** (0.051)	-0.262*** (0.0511)	-0.263*** (0.0505)
GER	0.450*** (0.168)	0.498*** (0.162)	0.500*** (0.161)	0.500*** (0.162)
FRA	0.997*** (0.234)	1.023*** (0.244)	1.021*** (0.242)	1.039*** (0.237)
boundary	-0.430* (0.248)	-0.444* (0.25)	-0.441* (0.251)	-0.452* (0.251)
othEU	-0.0893 (0.126)	-0.101 (0.122)	-0.0993 (0.122)	-0.107 (0.123)
2-digit NACE dummies	yes	yes	yes	yes
firm size dummies	yes	yes	yes	yes
Constant	-1.855*** (0.455)	-1.882*** (0.449)	-1.881*** (0.449)	-1.886*** (0.446)
Observations	62928	62928	62928	62928

Standard errors clustered at the firm level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.