Banco Central de Chile
Documentos de Trabajo

Central Bank of Chile
Working Papers

N° 599

Noviembre 2010

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Abstract

Recent models of international trade show that trade costs are important determinants of exporting decisions and productivity dynamics. By assuming that these costs are exogenous and constant across firms, these theories do not take into account that experienced firms may have lower trading costs or that new exporters may reduce these costs by observing the decisions of other exporters. This study argues that firms with previous experience exporting a product to a particular market are more likely to start exporting the same product to another market, or a different product to the same market. The paper also contends that the previous experience of other exporters can significantly influence a firm's decision to introduce a new product to a new market. Using a firm-level dataset from Chile with information on exports by product and destination market, the paper finds that an increase in the cumulative value exported by a firm increases the probability that the firm will export a previously exported product to a different market or a different product to a market to which the firm already exported a product. The results also show that an increase in the cumulative value exported of a product, or to a foreign market, by other exporters raises the probability that firms will export new products and/or to new markets. Our findings are consistent with the idea that previous exporting experience may help reduce the firm's entry costs to international markets. The rich dataset used in this study allows the identification of these effects controlling for various time-varying observed and unobserved characteristics which may create a spurious correlation between firms' export decisions, their previous exporting experience, and the export activity of other exporters.

¿ES IMPORTANTE LA EXPERIENCIA EXPORTADORA PREVIA PARA LAS NUEVAS EXPORTACIONES?

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Resumen

Los modelos recientes de comercio internacional con firmas heterogéneas y costos de comerciar muestran que estos últimos son determinantes importantes de la decisión de exportar de las firmas y de la dinámica de la productividad de las industrias. Al suponer que estos costos son exógenos e iguales a través de las empresas, estas teorías pasan por alto que una empresa con experiencia exportadora puede enfrentar costos más bajos, o que un exportador nuevo puede reducir estos costos observando las decisiones de otros exportadores. Este trabajo analiza empíricamente si la experiencia de exportar un producto a un mercado específico incrementa la probabilidad de exportar el mismo producto a otro mercado o un producto diferente al mismo mercado. El trabajo estudia también si la experiencia de otros exportadores afecta la decisión de una empresa de introducir un nuevo producto o explorar un nuevo mercado. Utilizando información de empresas exportadoras chilenas por producto y mercado de destino, se encuentra que el valor acumulado de las exportaciones de una empresa incrementa la probabilidad de que ésta introduzca un producto previamente exportado a un mercado diferente o un producto diferente a un mercado adonde la empresa ya había exportado el producto. Los resultados muestran también que un aumento del valor acumulado de las exportaciones de un producto, o a un mercado extranjero, por otros exportadores aumenta la probabilidad de que las empresas exporten nuevos productos y/o a nuevos mercados. Estos hallazgos son coherentes con la idea de que la exportadora puede ayudar a reducir los costos de entrada de las empresas en los mercados internacionales.

1 Introduction

It is widely accepted in the business literature that firms can increase their revenues by entering new markets or introducing new products (Ansoff 1965, Wickham 2001). Nevertheless, the decision to enter a new market or launch a new product is not an easy one for firms that export. Exporters face various entry costs associated with, among other things, informing foreign buyers about the firm's products, researching the foreign market for its regulatory environment, and setting up new distribution channels (Das, Roberts, and Tybout 2007). This paper contends that due to the presence of these costs, exporters may rely on their past experience as well as the export experience of other firms when making their entry decisions. We argue that firms with previous experience exporting a product to a particular market are more likely to start exporting the same product to another market, or a different product to the same market. This paper also asserts that the decision to start exporting a product to a given market for the first time is positively affected by the number of other firms exporting the same product and by the number of firms exporting to the same market.

Using a firm-level dataset with information by products exported and destination markets for all Chilean firms between 1991 and 2001, we find that previous export experience in a product and market significantly increases the probability that a firm will export a new product to the same market or the same product to a different market. In particular, we find that a one-percent increase in the cumulative value exported of a product by a firm increases the probability that the firm will export that product to a new market by 0.0232. Similarly, a one-percent increase in the cumulative value exported to a given market by a firm increases the probability that the firm will export a new product to the same market by 0.0267. We also find that the probability of exporting a new product to a specific market is increasing in the cumulative value exported by other firms that previously exported (i) the same product to the same market, (ii) the same product to other markets, and (iii) other products to the same market. This evidence is consistent with the idea that previous experience may be important in reducing the entry cost to international markets.

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There is a growing literature on how a firm's own past experience, as well as the past experience of other firms, can influence its export decisions. Bernard and Jensen (2004) use a sample of U.S. plants to show that a plant's own past export experience plays a positive role in its decision to export. Bernard and Wagner (2001) find that for German manufacturing plants, exporting today increases the probability that the same firm will export tomorrow by as much as fifty percent. Freund and Pierola (2009) observe that among Peruvian exporters, previous experience has a more significant effect in products that require some specific investments to operate (e.g., canned food) than in other products (e.g., fresh produce). Iacovone and Javorcik (2009) use a detailed dataset with plant-product level data from Mexico to show that past overall export experience matters for the introduction of a new export variety. Unlike these studies, our paper distinguishes between experience in a given product and experience in a given market. This is important since entry costs may be product specific, market specific as well as product-market specific.

A few studies also investigate the role of past export experience from a theoretical perspective. Irarrazabal and Opromolla (2009) develop a model in which export decisions become history dependent as a result of the presence of sunk costs and uncertainty. Albornoz et al. (2010) develop a model in which high and irrecoverable entry costs induce exporters to "start small" by selling to neighboring countries. Firms discover their ability as exporters based on their experience in the export market, which influence their decisions to serve new destination markets in the future.

This article is also related to the literature that examines the existence of spillovers associated with other firms' export activities. Hausmann and Rodrik (2001) suggests that little entry should be observed in equilibrium if new entrants erode potential profits significantly and reduce investments in new export-related activities. Aitken et al. (1997) find evidence of spillovers from multinational enterprises in Mexico but not from general export activity. Barrios et al. (2003) and Bernard and Jensen (2004) find little evidence of export spillovers among Spanish and U.S. manufacturing firms. Greenaway et al. (2004) and Greenaway and Kneller (2008) observe the presence of spillover effects from multinational enterprises to exporters in the U.K., but they do not find any evidence that exporters benefit from other exporters in the same industry and region. One of the few studies that shows evidence of positive spillover effects among

exporters is Koening et al. (2010), which finds spillovers among French exporters in the same geographic region. Unlike these studies, our paper considers other firms' export experience in the same product, the same market, and the same product-market.[1]

This paper also relates to the literature that documents a high degree of heterogeneity among exporters. Bernard et al. (2005) and Eaton et al. (2004), for example, show that firms differ significantly in terms of export participation, and many of them export only to a few markets.[2] Other studies suggest that a few large firms generally export more than one product, while the proportion of firms that export only a single product varies by country. For instance, Berthou and Fontagne (2009) and Bernard et al. (2007) find that only 30 percent of French exporters and 40 percent of U.S. exporters export a single product. On the other hand, Iacovone and Javorcik (2010) find that the proportion of single product exporters increases to 62 percent among Mexican exporters. The present paper is the first to present similar evidence for Chilean exporters.

To examine the effect of previous export experience, we need to take into account the effect of unobserved heterogeneity. For example, managers in some firms may be more willing to explore new export markets, while some firms may enter new export markets after they establish relationships with distributors in neighboring markets. Since our dataset does not allow us to directly distinguish these effects from the role of experience, we use different fixed effects combinations to mitigate these concerns. Our basic specification includes firm, product, destination market, and year fixed effects, which allow us to control for unobserved time-invariant heterogeneity at the firm, product and market level. Other specifications include various combinations of fixed effects (such as market-industry-year, and firm-year) to control for different time-varying unobserved heterogeneity that may affect export decisions.

In addition to introducing several combinations of fixed effects in our estimations, we also undertake several exercises to reduce the potential bias associated with unobserved shocks that may be driving the

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[1] Anecdotal evidence suggests that the experience of others may be important. For example, the tremendous success enjoyed by Viña Miguel Torres, a pioneer exporter of Chilean wine, encouraged other Chilean firms to enter the export market (Agosin and Bravo-Ortega, 2009).
[2] Another example is Damijan et al. (2004), which analyzes export destinations for the case of Slovenia.

relationship between export performance and experience. First, smaller firms may gain more from the experience of others, so we test for differential effects among exporters according to their size. The results show that smaller firms benefit more from the export experience of other firms. Second, we also distinguish between traditional and non-traditional export sectors, and we find evidence that experience is more important for exporters in traditional sectors. Finally, we also look at whether diminishing returns to experience exist; we find that, after a certain level of exports, experience does not increase the probability of introducing new export relationships. Even though we cannot rule out completely the potential effect of unobserved shocks, our results suggest that the relationship between entry to export markets and experience cannot be completely explained by those shocks.

The rest of this study is organized as follows. In section 2, we present the data and describe some stylized facts about export activity at the firm level. In section 3, we discuss the econometric strategy, based on a simple framework that examines the decision to enter a new export market and/or introduce a new product in an existing market. In sections 4 and 5, we present the main results and discuss several robustness checks respectively. In section 6, we make some concluding remarks.

2   Data and Basic Patterns

The data used in this paper contains information on exports by product (at the 8-digit Harmonized System level) and destination country for all Chilean firms during 1991-2001. The data are collected by Customs and cover all firms that engaged in export activity during the period. The dataset contains the actual value of each firm's shipments of each product to individual market destinations. Thus, it provides an exclusive opportunity to study how firms introduce new products to different destination markets. The dataset also lists a unique identification number for each firm and its industry affiliation at the 3-digit ISIC (Rev. 2)

level. Based on the ISIC classification, the data contain information for exporting firms in agriculture, mining, manufacturing, and other sectors. [3]

A close examination of the data reveals several facts about export activity. During the period 1991-2001, there was an increase in the number of exporting firms, the number of products exported, and the number of destination markets. Table 1 shows that, on average, 5,615 firms engaged in export activity during the period 1991-2001. The number of exporters increased from 5,207 in 1991 to 5,904 in 2001, which represents a 13.4% increase for the entire period. The number of products increased by 14.7% during the same period: 3,233 in 1991 compared to 3,708 in 2001. However, the largest increase occurred in the number of markets, which went up by 40.7%: 113 in 1991 versus 159 in 2001. [4]

These trends resulted in an increase in the number of products per firm, the number of markets per firm, and the number of product-market pairs per firm. While the average firm exported to 2.4 markets in 1991, the number of markets had increased to 3.2 by 2001. Figure 1 shows that the average number of markets per firm increased steadily during the period. The number of products per firm, on the other hand, increased from an average 4.6 in 1991 to 5.8 in 1994, although it started to decline up to the end of the period, when it reached 5.1 products per firm. The increase in both the number of products and the number of destination markets per firm resulted in an increase in the number of product-market pairs. Figure 2 shows that the average number of product-market pairs increased from 7.0 in 1991 to 9.0 in 2001. It also shows that the number of product-market pairs increased between 1991 and 1996, but then it started to decrease gradually afterwards.

These averages, however, hide significant variation across firms. Many firms export only one product to one market. Table 2 shows that about 41% of the firms exported only one product in 2001 (down from 45% in 1991), while 16% exported only 2 products in 2001 (14% in 1991). Although the majority of

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[3] Unfortunately, our data lack information on other firm characteristics such as productivity, employment, factor intensity and the use of imported inputs. These characteristics are likely to affect entry to foreign markets and firm survival (Álvarez and López, 2005; López, 2006).

[4] Between 1991 and 1992, the number of destinations markets increased by 22. Most of this increase corresponded to new destination countries in Africa and are not related to the new countries created in 1991 (e.g. countries that became independent after the dissolution of the USSR).

firms exported one or two products, the value exported by this group of firms was only 12.8% in 2001. In contrast, only 1.7% of the firms exported more than 10 products in 2001, but they accounted for 50.3% of the total value exported. These figures show that there is enormous heterogeneity among exporters and that export activity is highly concentrated in a few firms.[5]

A similar pattern is also observed in terms of the number of destination markets. Table 3 shows that almost 53% of the firms exported to one country in 2001 (down from 61% in 1991), and about 16% exported to only two countries (compared to 16% in 1991). Most of the value exported, however, is accounted for by firms that exported to several countries. In 2001, firms that exported to more than 10 countries accounted for only 5.8% of the firms, but they exported 71.4% of the total value exported by Chile that year.[6]

3   Methodology

3.1 The Decision to Introduce a New Export Relationship

This section examines a firm's decision to introduce a new export relationship (a new product-market pair). In this setup, a firm can export different products to different markets.[7] The firm must decide how much of each good to produce for each market, and the combination of products and markets that maximize joint profits. For convenience, product-market pairs are sorted in the order in which they would be introduced. Thus, product-market pair 1 would be the first introduced, product-market pair 2 would be the next combination introduced, which is exported in addition to good 1, and so on. It then must be the case that:

$$\pi_1 > \pi_j, \ \forall j, \tag{1}$$

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[5] This high degree of heterogeneity and concentration has also been documented for the US by Bernard, et al. (2005). In the US, firms that export more than 10 products accounted for 94.3% of exports in 2000 although they represent only 17.4% of the number of firms in the same year.

[6] Eaton et al. (2004, 2005) and Bernard et al. (2005) document similar patters on export destinations for France and the US, respectively.

[7] This framework does not consider the decision to exit the market or stop exporting a product. This can be an interesting extension for future studies in this area.

where j represents a certain product-market pair, and π_j is the current (π_{jt}) and expected profit of exporting the j product-market pair alone.

If the firm exports a total of x product-market pairs, the joint profit of exporting all these goods at any given time t ($\pi_{1,...,xt}$) is given by the difference between total revenue ($TR_{1,...,xt}$) and total cost ($TC_{1,...,xt}$):

$$\pi_{1,...,xt} = TR_{1,...,xt} - TC_{1,...,xt}. \qquad (2)$$

Total revenue is defined as $TR_{1,...,xt} = \sum_{j=1}^{j=x} p_{jt}q_{jt}$, where p_{jt} is the price of each of the product-market pairs at time t, and q_{jt} is the quantity exported of product-market pair j at time t. Total cost is:

$$TC_{1,...,xt} = \sum_{j=1}^{j=x} c_j(q_{jt}), \qquad (3)$$

where $c_j(\cdot)$ is the variable cost function of product-market pair j. This cost includes the cost of producing each product-market pair, as well as trade costs, such as the costs of shipping the product to the destination market. For a given x, the firm will choose quantity q_{jt} such that $\pi_{1,...,xt}$ is maximized.

Following the multiproduct firm literature,[8] the firm will introduce a new product-market pair if the increase in the current plus expected joint profits net of any entry costs exceeds the current and expected profits of the existing x combinations:

$$\pi_{1,...,x+1} - e_{x+1} - \pi_{1,...,x} > 0, \qquad (4)$$

where e_{x+1} is the start-up sunk-cost of exporting product-market $x+1$, which includes the costs of contacting potential customers, establishing distribution channels, and adapting the product to market

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[8] An earlier example of this literature is Nicolaou and Spencer (1975), which examines the case of a multiproduct firm deciding how many products to produce.

specific preferences or regulations. Based on the empirical patterns described in the previous section, it is assumed that these costs are product and market specific.

It is clear that the firm will continue introducing new products into new markets as long as (4) is satisfied. The last product-market pair, z, will satisfy:

$$\pi_{1,\ldots,z} - e_z - \pi_{1,\ldots,z-1} > 0 \text{ and } \pi_{z+1} - e_{z+1} - \pi_z < 0. \tag{5}$$

3.2 Empirical Implementation

The empirical analysis examines the determinants of the probability of introducing new product-market pairs, conditional on having exported in the past. The main hypothesis to be tested is whether the experience of the firm and of other exporters is a significant determinant of the probability to introduce a new product-market pair.

Let X_{ipct} be equal to 1 if firm i exported product p to destination country c at time t, and define $Y_{ipct} = 1$ if $X_{ipct} = 1$ and $X_{ipc,\tau<t} = 0$. In other words, a new product-market pair is a pair that is exported at time t and was never exported before t. Since firms may export a new product or to a new market due to a specific demand shock (e.g., a customer order) or a supply shock (e.g., a temporary increase in the price of the product in a particular market), the empirical analysis considers only cases in which a product-market pair is exported for at least three years. For robustness, the analysis also uses a one-year definition where the product may or may not have been exported to that market after the year of entry and a stricter five-year definition for product-market pairs that have been exported for at least five years.

The theoretical analysis suggests that a firm will start exporting product p to market c at time t if current and expected joint profits $\pi_{i,1,\ldots,pc}$ are greater than the cost of entry e_{ipct} plus the joint profits from exporting the existing product-market pairs ($\pi_{i,1,\ldots,pc-1}$):

$$Y_{ipct} = \begin{cases} 1 \text{ if } \pi_{i,1,\dots,pc} > e_{ipct} + \pi_{i,1,\dots,pc-1} \\ 0 \text{ otherwise} \end{cases}. \tag{6}$$

Since $\pi_{i,1,\dots,pc}$, $\pi_{i,1,\dots,pc-1}$, and e_{ipct} are unobservable, it is assumed that:

$$\Pr[Y_{ipct} = 1/Z_{ipct}, W_{pct}] = \Pr[\pi_{i,1,\dots,pc} > e_{ipct} + \pi_{i,1,\dots,pc-1}],$$

$$\Pr[Y_{ipct} = 1/Z_{ipct}, W_{pct}] = \Pr[\pi_{i,1,\dots,pc} - e_{ipct} - \pi_{i,1,\dots,pc-1} > 0],$$

$$\Pr[Y_{ipct} = 1/Z_{ipct}, W_{pct}] = \Pr[Z'_{ipct}\alpha + W'_{pct}\beta + \varepsilon_{ipct} > 0], \tag{7}$$

where Z_{ipct} is a vector of firm characteristics and W_{pct} a vector of product and destination country characteristics.

The main econometric issue that needs to be addressed is the potential influence of unobserved heterogeneity. Some firms may have managers who are more willing to explore new opportunities in international markets and may therefore be more likely to start exporting new products to new markets.[9] In a similar way, some products are more likely to be exported while some countries may be more attractive for the introduction of new products. These issues are not easy to address with traditional probability models such as probit or logit. So, we use a linear probability model with fixed effects:

$$Y_{ipct} = Z'_{ipct}\alpha + W'_{pct}\beta + \delta_p + \delta_c + \delta_t + u_i + \omega_{ipct}, \tag{8}$$

where δ_p, δ_c, and δ_t are product, destination country, and time dummy variables; u_i is the time-invariant firm fixed effect, while ω_{ipct} is an error term that satisfies $\varepsilon_{ipct} = u_i + \omega_{ipct}$. Bernard and Jensen (2004) discuss extensively the advantages of using a linear probability model to examine the role of export experience on the decision to export. One well known disadvantage of this model is that it can

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[9] In the international business literature it is commonly argued that managers who speak several languages or managers with higher levels of education are more likely to internationalize their firms (e.g., Reid, 1981).

yield predicted probabilities outside the 0-1 interval. Since we are not interested in prediction, this is not problematic in our case.

In equation (8) $Z_{ipct} = [CX_{ipt-1}, CX_{ict-1}, S_{it-1}, H_{it-1}]$, CX_{ipt-1} measures the firm's cumulative value exported of product p to markets other than c at $t-1$, and CX_{ict-1} measures the firm's cumulative value exported of products other than p to market c at $t-1$. The estimates for these two variables are expected to be positive if previous experience, measured as cumulative export activity, is important to explain entry of new products/markets. Firms with previous experience with a given market or a given product should be more likely to start exporting that particular product to that market. For example, suppose that a firm decides to export product p to market c. The experience gained in exporting product p (for example, in terms of product characteristics or how to deliver the product to other markets) may allow the firm to start exporting the same product to a new market, say c'. Similarly, a firm that is exporting product p' to market c may be able to start exporting other products to market c because its knowledge of the market (for example, about commercialization channels) may reduce the entry cost for other products.

Variables S_{it-1} and H_{it-1} are firm-specific variables that can affect profits and entry costs. Ideally, one would like to include measures of productivity, size, capital intensity and skill intensity. All these variables have been shown to affect the probability of exporting in previous studies.[10] Since our dataset has no information on most of these variables, the estimates may be biased due to potentially omitted variables. To minimize this problem, we construct two variables to proxy firm size and productivity. First, we use the total value of exports by a firm (S_{it-1}) as a proxy for its size and productivity. Larger firms tend to be more productive and therefore are more likely to have higher profits from exporting. Size may also be correlated with entry costs. Larger firms may, for example, have more foreign contacts and obtain better deals in contracts with foreign distributors. Second, we use a firm-level Herfindahl index H_{it-1} which attempts to measure the extent to which the firm's exports are concentrated. It is defined

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[10] See, for example, Roberts and Tybout (1997) and Bernard and Jensen (2004).

as $H_{it} = \sum_{pc} \left(\dfrac{V_{ipct}}{V_{it}} \right)^2$, where V_{ipct} is the value of each product-market pair pc exported by firm i at time t

and V_{it} is the total value exported by the firm at time t. Firms that are highly concentrated in a few product-market pairs –for example, because they are less productive– may be less likely to introduce new products to new markets.

The vector W_{pct} contains several variables that affect profits and trade costs. It is assumed that

$W_{pct} = [CXO_{ct-1}, CXO_{pt-1}, CXO_{pct-1}, \tau_{pct}, r_{ct}, g_{ct}]$, where CXO_{ct-1} is the cumulative value exported of products other than p by other firms exporting to market/country c in $t-1$, CXO_{pt-1} is the cumulative value exported of product p to markets other than c by other firms in $t-1$, and CXO_{pct-1} is the cumulative value exported of product p to market c by other exporters at $t-1$. These three variables attempt to measure the potential effect of other exporters' previous experience. For example, an increase in the amount exported by firms exporting to a given market may reduce the cost of obtaining information about tastes, regulations, and distribution channels in that particular market. Thus, an increase in the probability of exporting to that market by other firms is expected.

Variable τ_{pct} corresponds to government-imposed trade barriers, such as tariffs, in the destination countries. They should have a negative impact on Y_{ipct}. Unfortunately, detailed information on tariffs at the product level for a large number of countries is unavailable. This study uses the weighted average tariff rate for each 3-digit ISIC manufacturing sector applied by each destination country in each year.[11]

The next two variables are measured at the country level. Variable r_{ct} is the bilateral real exchange rate between Chile and country c at time t, and is defined as $r_{ct} = (n_{ct} * P_{ct})/P_t$, where n_{ct} is the nominal exchange rate between Chile and country c (Chilean pesos/Local currency), P_{ct} is the consumer price

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index (CPI) of country c at t, while P_t is the Chilean CPI at t.[12] This implies that an increase in r_{ct} represents a real depreciation of the Chilean currency. Thus, r_{ct} should be, in principle, positively correlated with the probability of introducing new products to new markets. It is possible, however, that only large and persistent changes in the real exchange rate induce firms to start exporting products to new markets. This idea is known as *hysteresis* (e.g., Baldwin and Krugman, 1989, Dixit, 1989), and suggests that in the presence of entry costs, a more favorable real exchange rate may not induce entry if the present value of profits is not larger than the entry costs. Therefore, the estimate for this variable may not be statistically significant. Finally, the regressions include the total GDP (PPP) of the destination country, g_{ct}.[13] It is possible that a larger market is more attractive to the introduction of new products if economies of scale are important. However, entering a larger market may be more difficult if establishing distribution channels or differentiating the product from the domestic varieties is more costly than in smaller markets.

4   Results

Table 4 presents summary statistics for the variables used in the estimations. The original sample consists of 550,422 firm-product-country-year observations for 1991-2001. The actual sample used in this study consists of a little more than 400,000 observations during 1992-2001. Missing observations for the tariff variable reduce the sample size to around 270,000 when this variable is included.

Table 5 reports the estimates from the linear probability model given by equation (8). This table shows the regression results with *firm, product, market, and year* fixed-effects. The estimation drops all observations corresponding to the first year of observations (1991) and the year of entry to the dataset for each firm. The first procedure is needed to define entry of a new export relationship properly. The second

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[12] The nominal exchange rates and the CPIs were obtained from the World Development Indicators (World Bank).
[13] Source: World Development Indicators (World Bank).

one excludes new firms that may be different from the rest of the population, and for which all variables of own experience are zero in the first year.[14]

Column (1) shows that the estimated coefficients of CX_{ipt-1} and CX_{ict-1} are positive and statistically significant, which provides support to the hypothesis that a firm's past experience with a product or market affects its decision to introduce a new product to a particular market. The estimates suggest that a one-percent increase in the cumulative value exported of a particular product in the previous period increases the probability that the firm will export the same product to a new market by 0.0232, while a one-percent increase in previous experience in a given market increases the probability of exporting different products to that market by 0.0267. In other words, there appears to be evidence that previous export experience reduces entry costs to export markets.

Second, the coefficient of S_{it-1}, a proxy for firm size, is also positive and significant. Thus, larger firms, which are likely to be more productive and earn higher profits, are also more likely to introduce a new product.[15] The coefficient corresponding to the square of S_{it-1} in the regressions is negative but not significant.

Third, there is evidence consistent with the idea that firms may benefit from the experience of other exporters. The estimates show that the probability of exporting a new product-market pair increases by 0.0069 when the cumulative amount exported of the same product by other exporters to the same market increases by one percent. A similar effect is found for the case of the cumulative amount exported of the same product by other firms to other markets (0.0074). Finally, a one-percent increase in the cumulative value exported of different products to the same market by other firms increases the probability of introducing a new product to that market by 0.0116. These results suggest that exporters may learn from each other about consumer tastes, regulatory environment, or distribution channels before entering a foreign market. Table 5 also reveals a negative relationship between a firm's decision to introduce a new

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[14] Our results hold even if we include the first year a firm is observed in the estimation.
[15] Alvarez and López (2005) show that larger and more productive plants are more likely to enter export markets for the case of Chile.

product and the lagged value of the log of the Herfindahl index for each firm. This index measures how concentrated the exports of a firm are. The negative estimate for this variable confirms that concentration of product-market pairs negatively affects the probability of introducing new products in new markets. Finally, the estimates for the size of the destination market (as measured by destination countries' GDP) and the bilateral real exchange rate are not significant. One possible explanation is that these two variables are measured at the country level, while the observations are at the 8-digit product level. For the case of the real exchange rate it is also possible that exporters only respond to large and persistent shocks to real exchange rate (hysteresis).[16]

Column (2) of Table 5 includes the weighted average tariff rate for each 3-digit ISIC manufacturing sector at each destination country. The estimate for this variable is negative but not significant. One possible problem of this variable is that it is constructed at the 3-digit level while the observations are at the 8 digit.

Columns (3) and (4) report the results of estimating (8) by including the square of the variables measuring the experience of the firm as well as the experience of other firms. This allows us to investigate the existence of a non-monotonic relationship between cumulative exports and the probability of introducing a new product-market pair. It is possible that firms learn the most valuable information about markets and products during the early stages of their export activity so that when their cumulative exports reach a certain level, any additional exports add less relevant experiential knowledge to the firm. Thus, there may be diminishing returns to experience. The same may be true for the experience of others. Firms may learn more from the initial stages of export activity, i.e., when the level of cumulative exports of other firms is low. If this is the case, higher export activity of others may be initially beneficial but then at some level it starts to have no effect or even affect negatively the probability that firms introduce new products to new markets. It is also possible that additional exports by other firms may generate "congestion" effects. This may occur if, for example, the expansion of exports increases the cost of some

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[16] This result is consistent with the finding that the real exchange rate does not explain entry to international markets for the case of Chilean manufacturing plants (see Álvarez and López, 2008).

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specialized inputs. We interpret this as a congestion effect. In all these cases, the estimates for the squared of the experience variables should be negative. The results in columns (3) and (4) of Table 5 seem to confirm this as the estimates for the squared terms are all negative. They are statistically significant for the firm's own experience and for the experience of other exporters in the same product. This suggests that congestion effects among firms exporting the same 8-digit product may be important.

Next, we investigate if the experience of others affects firms differently according to their size. Table 6 shows the results with interaction terms between the experience of other exporters and the size of the firm (the log of exports in the previous year). The estimates for the interaction terms are all negative and significant suggesting that the experience of others may be more important for small firms. It is possible that small firms have more room to learn compared to large firms. The estimates for the firm's own experience remain similar to what we obtained without the interactions with size. Column (2) also includes the tariff rate but its estimate is not significant. Moreover, its inclusion does not affect the estimates of the other variables significantly.

Using the basic specification given in equation (8), we then examine the role of past experience distinguishing between traditional export industries and non-traditional export industries. If the positive effect from other exporters is the result of unobserved shocks, there should not be any systematic differences between traditional and non-traditional sectors; however, if previous experience from other exporters is relatively easier in traditional export industries, then the effect of other exporters on the probability of introducing new products should be larger in these sectors.

To examine this idea, this study constructs a "traditionality" index which is defined as:[17]

$$Trad_j = \frac{\sum_{t=t_0}^{t_1} ce_{jt}}{t_1 - t_0 + 1}, \text{ where } t_0=1983, t_1=2001 \text{ and } ce_{jt} \text{ is defined as } ce_{jt} = \frac{\sum_{t=t_0}^{t} e_{jt}}{\sum_{t=t_0}^{t=t_1} e_{jt}}, \text{ where } e_{it} \text{ measures}$$

exports by industry j at the 3-digit ISIC level and time t. The variable ce_{jt} represents cumulative exports. It takes a value close to zero in the initial period and it rises to 1 in the final period. The traditionally index

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[17] See, for example, Amin Gutiérrez de Piñeres and Ferrantino (1997).

is the mean of the cumulative exports ce_{jt}. A sector with a higher value of the traditionality index is considered a more traditional export sector.

Columns (1) and (2) of Table 7 show that the estimate for this index is statistically significant and negative, suggesting that firms exporting in more traditional sectors are less likely to introduce new products to new markets. Columns (3) and (4) include interaction terms between each of the three variables measuring the effect of other exporters and the traditionally index to see if the experience of other exporters is more important in traditional sectors. The estimated coefficients for two of the interaction terms (the ones for experience in the same product regardless of the destination market) are positive and significant, indicating that previous experience of others may be more important in traditional sectors. This suggests that firms are more likely to obtain information relevant for introducing new product-market pairs in sectors in which the country already has a comparative advantage.

5   Robustness Checks

We perform a large number of tests to check the robustness of our results. Table 8 reports the regression results of using different combinations of fixed effects. In columns (1) and (2) we include interaction terms between country and year fixed effects with sector fixed effects at the 3-digit ISIC level. In other words, we estimate the following variant of (8):

$$Y_{ipct} = Z'_{ipct}\alpha + W'_{pct}\beta + \delta_p + \delta_c * \delta_j * \delta_t + u_i + \omega_{ipct},$$

where δ_j are 3-digit ISIC dummy variables. This is done to control for time varying country and sector specific unobserved shocks or characteristics that may have affected the probability of introducing a new product into a particular market and industry. This specification allows controlling for demand shocks that may influence the entry of new product-market pairs among firms. For example, an increase in the demand for wine in the USA may increase the probability that Chilean firms start exporting wine to the USA. Identification in this case comes from changes over time within a destination country and sector. The regressions results in columns (1) and (2) of Table 8 are similar to those obtained with the basic

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specification and hence, confirm the existence of experience effects – i.e., firms are more likely to introduce a new product based on its past experience with a product or market, or another firm's experience with the product or market.

The dataset does not have information on firm characteristics, such as productivity. According to theoretical models of trade, productivity is an important determinant of the probability of exporting. Thus, the results may be reflecting the effect of this omitted variable. Since this study can not measure productivity directly, it attempts to control for time-varying firm-specific effects by introducing firm * year fixed effects, in addition to country * sector * year effects. In this specification, identification comes from changes within a firm in each destination market and sector. The results are presented in columns (3) and (4) of Table 8 and show that the estimated coefficients for firm's previous experience and for other exporters' experience are still positive and statistically significant while the estimates for the squared terms are negative.

The next robustness check uses the one-year and five-year definitions described in section 3.2. Columns (1) and (2) of Table 9 show the results using the first-year definition, while (3) and (4) show the five-year definition. Most of the estimates remain similar in terms of magnitude and statistical significance to what we obtained using the three-year definition. This gives us confidence that the results are not driven by the specific way in which we define the dependent variable.

We also estimate a regression that includes an indicator variable for the countries that have free trade agreements with Chile. Chile signed free trade agreements with several countries during the period 1992-2001. These countries are Canada (implemented in 1997), Mexico (1999), Ecuador (1995), Bolivia and Venezuela (1993), and the MERCOSUR (Argentina, Brazil, Paraguay, and Uruguay) (1996). The results, not presented here, indicate that this variable is not statistically significant and its inclusion does not lead to any noticeable changes in the estimates. The analysis also use a different measure of market size, population, but the results are similar to those obtained using GDP as measure of size.

As an additional robustness check, we experiment with different ways to capture export experience. One specification includes two indicators variables to measure export experience: one for the case in

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which the firm exported the same product to another market in the previous period, and another for the case in which the firm exported different products to the same market in the previous period. In unreported regressions, we find that the estimates for both variables turn out to be positive and statistically significant. For the experience of other exporters, we include in some specifications, not shown here, the number of firms instead of their cumulative exports. The estimates for these variables are also positive and significant. This indicates that the positive effects are robust to alternative measures of export experience.

Finally, we compare the results obtained with the linear probability model with those obtained with a probit model. Although the linear probability model allows dealing with the issue of unobserved heterogeneity, it has limitations. For example, the predicted probabilities may not be between 0 and 1. In order to have an idea about how different the results are between the linear probability model and the probit model, we estimate a simplified version of (8) including year and destination country fixed effects only. The estimates, available upon request, show that both methods give similar qualitative results. The estimates for the variables measuring export experience of the firm and the experience of others are all positive and statistically significant with either method. The estimates for the control variables have the same sign with both methods, with the estimate for GDP being statistically significant for the case of the probit model only. For export experience we observe that the probit model provides estimates that are larger in magnitude than the ones obtained using the linear model. This suggests that the estimates for export experience presented throughout this study can be considered a lower bound for the potential effect of previous experience on export decisions. In summary, the positive effect of export experience on the probability of introducing a new product to a new market is not the result of the use of the linear probability model, which gives us confidence that our findings are robust to the use of more traditional probability models.

6 Conclusions

This study uses a new firm-level dataset with information on exports by product and destination country to argue that previous export experience is an important determinant of future export decisions. The empirical analysis shows that previous experience exporting a certain product, or exporting to a certain market, increases the probability that a firm will export those products to new markets, or export new products to the same markets. The econometric analysis also shows that the likelihood of exporting a new product increases in the cumulative value exported of a product or to a market by other firms. These findings suggest that previous experience may be an important way to reduce entry costs in new products and in new markets and that entry costs are product, market, and product-market specific. The effects of experience, however, seem to decrease when cumulative exports past a certain threshold suggesting that there may be diminishing returns to experience. In addition, firm characteristics, such as the size of the firm (total exports) or its export concentration (in terms of product-market pairs) are important determinants of the decision to export new products.

These results suggest that new theoretical models may be needed to explain why there is so much heterogeneity in terms of the number of products exported and the number of destination markets targeted by exporters. The results also suggest that more work is needed to understand why previous experience is an important determinant of new trade relationships. It is possible that firms learn from experience and from the experience of others. If this is the case, then policies aimed to increase the number of exporters may generate additional positive externalities for other firms.

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Table 1: Number of Exporting Firms, Destination Markets and Products Exported

	Exporting Firms	Destination Markets	Products Exported
1991	5,207	113	3,233
1992	5,323	135	3,413
1993	5,343	137	3,491
1994	5,708	131	3,607
1995	5,692	146	3,628
1996	5,699	154	3,854
1997	5,679	158	3,731
1998	5,732	159	3,803
1999	5,917	157	3,752
2000	5,559	162	3,705
2001	5,904	159	3,708
Average 1991-2001	5,615	146	3,630
Change 1991-2001 (Number)	697	46	475
Change 1991-2001 (%)	13.4	40.7	14.7

Source: Authors' elaboration.

Table 2: Share of Firms by Number of Products Exported

Number of Products	1991		1996		2001	
	% Firms	% Value	% Firms	% Value	% Firms	% Value
1	45.1	5.3	40.7	4.0	40.8	6.3
2	14.0	5.5	15.4	9.4	16.0	6.5
3	9.2	9.7	9.6	7.6	9.3	6.7
4	6.3	3.6	5.8	4.9	6.7	8.7
5	4.4	5.9	4.4	2.8	4.2	2.2
6	3.5	4.4	3.2	4.8	3.6	4.2
7	3.1	11.2	2.8	5.6	2.6	2.2
8	2.1	2.4	2.3	1.2	2.2	1.6
9	1.7	1.6	1.6	13.0	2.0	4.1
10	1.3	1.8	1.6	2.9	1.7	7.2
More than 10	9.4	48.6	12.8	43.7	11.0	50.3

Source: Authors' calculations. Note: % Firms: The percentage of firms in each category on the total number of firms in that year. % Value: The percentage of value exported by firms in each category on the total value exported in that year.

Table 3: Share of Firms by Number of Destination Markets

Number of Markets	1991		1996		2001	
	% Firms	% Value	% Firms	% Value	% Firms	% Value
1	61.1	4.7	54.9	3.5	52.8	2.3
2	16.1	3.6	15.8	4.5	15.8	3.5
3	6.7	4.0	7.8	2.6	8.2	2.7
4	4.6	3.1	5.1	3.1	5.6	2.8
5	2.8	3.6	3.1	2.8	3.5	3.1
6	1.7	3.0	2.6	3.3	2.6	3.9
7	1.3	1.7	2.0	2.4	2.0	2.8
8	1.0	2.0	1.6	2.4	1.4	2.8
9	1.1	5.2	1.1	3.8	1.2	3.4
10	0.5	1.8	0.9	1.4	1.1	1.3
More than 10	3.1	67.2	5.0	70.3	5.8	71.4

Source: Authors' calculations. Note: % Firms: The percentage of firms in each category on the total number of firms in that year. % Value: The percentage of value exported by firms in each category on the total value exported in that year.

Table 4: Summary Statistics

	Observations	Mean	St Dev
New Product	401,443	0.310	0.462
Cumulative value of the same product exported to other markets in (t-1) (Log)	401,443	1.573	5.518
Cumulative value of other products exported to the same market in (t-1) (Log)	401,443	3.136	7.568
Cumulative value of the same product exported by others to the same market in (t-1) (Log)	401,443	0.402	2.750
Cumulative value of the same product exported by others to other markets in (t-1) (Log)	401,443	0.279	2.259
Cumulative value of other products exported by others to the same market in (t-1) (Log)	401,443	0.074	1.175
Lagged Export value (Log)	401,443	8.840	9.220
Lagged Export value squared (Log)	401,443	163.150	180.417
Bilateral Real Exchange Rate (Log)	401,443	4.596	0.148
PPP-adjusted GDP (Log)	401,443	26.920	2.211
Weighted average tariff rate for the sector (3-digit ISIC)	271,467	8.386	6.423
Firm Export Concentration: Lagged Herfindahl Index (Log)	401,443	-2.180	1.649
Traditionality Index	350,907	0.336	0.054

Table 5: Basic Results with Firm, Product, Country and Year FE

	(1)	(2)	(3)	(4)
Firm's Own Experience				
A: Cumulative value of the same product exported to other markets in (t-1)	0.0232	0.0213	0.0575	0.0572
	(17.54)**	(16.57)**	(8.30)**	(6.61)**
B: Cumulative value of other products exported to the same market in (t-1)	0.0267	0.0276	0.0824	0.0831
	(13.79)**	(14.45)**	(11.69)**	(7.64)**
A Squared			-0.0016	-0.0017
			(5.04)**	(4.12)**
B Squared			-0.0026	-0.0026
			(8.35)**	(5.65)**
Previous Experience of Other Exporters				
C: Cumulative value of the same product exported by others to the same market in (t-1)	0.0069	0.0068	0.0410	0.0413
	(14.35)**	(13.21)**	(6.17)**	(4.02)**
D: Cumulative value of the same product exported by others to other markets in (t-1)	0.0074	0.0069	0.0511	0.0562
	(9.91)**	(12.13)**	(9.43)**	(7.06)**
E: Cumulative value of other products exported by others to the same market in (t-1)	0.0116	0.0126	0.0153	0.0140
	(19.08)**	(15.71)**	(3.76)**	(2.02)*
C Squared			-0.0018	-0.0018
			(5.06)**	(3.32)**
D Squared			-0.0024	-0.0027
			(8.12)**	(6.13)**
E Squared			-0.0002	-0.0001
			(1.02)	(0.25)
Firm Size				
Lagged Export value (Log)	0.0125	0.0112	0.0105	0.0095
	(7.45)**	(5.80)**	(7.34)**	(5.96)**
Lagged Export value squared (Log)	-0.0001	0.0000	0.0000	0.0001
	(0.58)	(0.14)	(0.31)	(0.58)
Bilateral Real Exchange Rate (Log)	-0.0025	0.0047	-0.0061	0.0002
	(0.06)	(0.08)	(0.15)	(0.00)
PPP-adjusted GDP (Log)	-0.1088	-0.0776	-0.0990	-0.0655
	(0.86)	(0.59)	(0.98)	(0.49)
Weighted average tariff rate for the sector (3-digit ISIC)		-0.0005		-0.0006
		(1.08)		(1.19)
Firm Export Concentration: Lagged Herfindahl Index (Log)	-0.0870	-0.0861	-0.0892	-0.0881
	(22.72)**	(22.52)**	(22.31)**	(19.92)**
R^2 (Adjusted)	0.5830	0.5737	0.5900	0.5806
Number of Observations	401,443	271,467	401,443	271,467

Absolute value of robust t-statistics in parenthesis. **, *, +: significant at 1%, 5%, and 10% respectively. Standard errors were clustered by destination country.

Table 6: Results Interactions with Size, with Firm, Product, Country and Year FE

	(1)	(2)
Firm's Own Experience		
Cumulative value of the same product exported to other markets in (t-1)	0.02311	0.02121
	(18.57)**	(16.39)**
Cumulative value of other products exported to the same market in (t-1)	0.02656	0.02739
	(15.07)**	(14.56)**
Previous Experience of Other Exporters		
A: Cumulative value of the same product exported by others to the same market in (t-1)	0.00954	0.00939
	(25.54)**	(19.29)**
B: Cumulative value of the same product exported by others to other markets in (t-1)	0.01049	0.00984
	(10.92)**	(13.08)**
C: Cumulative value of other products exported by others to the same market in (t-1)	0.01288	0.01362
	(21.49)**	(15.67)**
A*Firm Size	-0.00071	-0.00069
	(19.59)**	(18.78)**
B*Firm Size	-0.00071	-0.00067
	(12.81)**	(11.96)**
C*Firm Size	-0.00066	-0.00051
	(7.66)**	(4.26)**
Firm Size		
Lagged Export value (Log)	0.01574	0.01428
	(8.39)**	(6.80)**
Lagged Export value squared (Log)	-0.00018	-0.00013
	(1.47)	(1.20)
Bilateral Real Exchange Rate (Log)	-0.00224	0.00508
	(0.06)	(0.09)
PPP-adjusted GDP (Log)	-0.10760	-0.07544
	(0.93)	(0.57)
Weighted average tariff rate for the sector (3-digit ISIC)		-0.00050
		(1.06)
Firm Export Concentration: Lagged Herfindahl Index (Log)	-0.08641	-0.08552
	(24.18)**	(22.85)**
R^2 (Adjusted)	0.5848	0.5754
Number of Observations	401,443	271,467

Absolute value of robust t-statistics in parenthesis. **, *, +: significant at 1%, 5%, and 10% respectively. Standard errors were clustered by destination country.

Table 7: Results with Traditionality Index, with Firm, Product, Country and Year FE

	(1)	(2)	(3)	(4)
Firm's Own Experience				
Cumulative value of the same product exported to other markets in (t-1)	0.0221	0.0214	0.0221	0.0214
	(19.83)**	(17.61)**	(19.58)**	(16.44)**
Cumulative value of other products exported to the same market in (t-1)	0.0271	0.0275	0.0271	0.0275
	(16.56)**	(14.25)**	(16.16)**	(14.27)**
Previous Experience of Other Exporters				
A: Cumulative value of the same product exported by others to the same market in (t-1)	0.0066	0.0068	0.0018	0.0017
	(15.49)**	(13.92)**	(1.04)	(0.79)
B: Cumulative value of the same product exported by others to other markets in (t-1)	0.0070	0.0069	0.0026	0.0034
	(11.63)**	(11.81)**	(1.54)	(1.68)+
C: Cumulative value of other products exported by others to the same market in (t-1)	0.0120	0.0126	0.0132	0.0156
	(22.93)**	(16.40)**	(5.91)**	(5.48)**
Traditionality Index	-0.6321	-0.6306	-0.6482	-0.6435
	(14.89)**	(11.15)**	(15.81)**	(10.65)**
A*Traditionality Index			0.0145	0.0149
			(3.10)**	(2.56)**
B*Traditionality Index			0.0136	0.0104
			(3.27)**	(2.18)*
C*Traditionality Index			-0.0035	-0.0091
			(0.53)	(1.09)
Firm Size				
Lagged Export value (Log)	0.0128	0.0111	0.0128	0.0111
	(5.87)**	(6.01)**	(5.71)**	(5.53)**
Lagged Export value squared (Log)	-0.0001	0.0000	-0.0001	0.0000
	(0.89)	(0.09)	(0.86)	(0.09)
Bilateral Real Exchange Rate (Log)	-0.0155	0.0068	-0.0157	0.0067
	(0.34)	(0.13)	(0.30)	(0.12)
PPP-adjusted GDP (Log)	-0.1131	-0.0842	-0.1124	-0.0839
	(0.97)	(0.61)	(0.89)	(0.63)
Weighted average tariff rate for the sector (3-digit ISIC)		-0.0003		-0.0003
		(0.65)		(0.61)
Firm Export Concentration: Lagged Herfindahl Index (Log)	-0.0865	-0.0859	-0.0865	-0.0858
	(21.50)**	(21.09)**	(19.09)**	(21.84)**
R^2 (Adjusted)	0.5766	0.5746	0.5767	0.5746
Number of Observations	350,907	271,467	350,907	271,467

Absolute value of robust t-statistics in parenthesis. **, *, +: significant at 1%, 5%, and 10% respectively. Standard errors were clustered by destination country.

Table 8: Results with Different Combinations of FE

	(1)	(2)	(3)	(4)
Firm's Own Experience				
A: Cumulative value of the same product exported to other markets in (t-1)	0.0217	0.0610	0.0213	0.0581
	(18.77)**	(8.59)**	(14.15)**	(8.31)**
B: Cumulative value of other products exported to the same market in (t-1)	0.0282	0.0809	0.0308	0.1094
	(15.61)**	(13.42)**	(13.34)**	(23.23)**
A Squared		-0.0019		-0.0018
		(5.66)**		(5.41)**
B Squared		-0.0024		-0.0036
		(9.38)**		(19.21)**
Previous Experience of Other Exporters				
C: Cumulative value of the same product exported by others to the same market in (t-1)	0.0072	0.0553	0.0057	0.0221
	(15.67)**	(10.01)**	(10.44)**	(4.12)**
D: Cumulative value of the same product exported by others to other markets in (t-1)	0.0072	0.0647	0.0071	0.0424
	(11.38)**	(9.77)**	(6.21)**	(6.06)**
E: Cumulative value of other products exported by others to the same market in (t-1)	0.0120	0.0147	0.0124	0.0186
	(21.47)**	(2.94)**	(16.60)**	(2.44)*
C Squared		-0.0025		-0.0009
		(8.50)**		(3.06)**
D Squared		-0.0031		-0.0019
		(8.90)**		(5.75)**
E Squared		-0.0002		-0.0003
		(0.65)		(0.81)
Firm Size				
Lagged Export value (Log)	0.0506	0.0480		
	(17.64)**	(16.01)**		
Lagged Export value squared (Log)	-0.0031	-0.0030		
	(19.55)**	(17.76)**		
Firm Export Concentration: Lagged Herfindahl Index (Log)	-0.0917	-0.0933		
	(22.58)**	(22.87)**		
R^2 (Adjusted)	0.6141	0.6209	0.6547	0.6338
Number of Observations	404,084	404,084	404,084	404,084

Absolute value of robust t-statistics in parenthesis. **, *, +: significant at 1%, 5%, and 10% respectively. Standard errors were clustered by destination country. (1), (2) FE: Product; Firm, Country*Sector*Year. (3), (4): FE: Product, Firm*Year, Country*Sector*Year.

Table 9: Results with Firm, Product, Country and Year FE: One-Year and Five-Year Definition

	1-Year Definition		5-Year Definition	
	(1)	(2)	(3)	(4)
Firm's Own Experience				
A: Cumulative value of the same product exported to other markets in (t-1)	0.0231	0.0590	0.0244	0.0572
	(18.51)**	(9.11)**	(19.15)**	(8.23)**
B: Cumulative value of other products exported to the same market in (t-1)	0.0285	0.0810	0.0280	0.0827
	(14.93)**	(9.59)**	(14.68)**	(11.45)**
A Squared		-0.0017		-0.0015
		(5.68)**		(4.84)**
B Squared		-0.0024		-0.0025
		(6.65)**		(8.05)**
Previous Experience of Other Exporters				
C: Cumulative value of the same product exported by others to the same market in (t-1)	0.0072	0.0277	0.0072	0.0415
	(19.81)**	(3.85)**	(15.02)**	(5.44)**
D: Cumulative value of the same product exported by others to other markets in (t-1)	0.0076	0.0376	0.0080	0.0523
	(12.20)**	(4.72)**	(12.14)**	(8.40)**
E: Cumulative value of other products exported by others to the same market in (t-1)	0.0121	0.0050	0.0119	0.0173
	(19.25)**	(0.35)	(18.55)**	(3.63)**
C Squared		-0.0011		-0.0018
		(2.80)**		(4.45)**
D Squared		-0.0016		-0.0024
		(3.85)**		(6.84)**
E Squared		0.0004		-0.0003
		(0.50)		(1.23)
Firm Size				
Lagged Export value (Log)	0.0266	0.0249	0.0140	0.0112
	(2.70)**	(2.45)*	(6.43)**	(5.09)**
Lagged Export value squared (Log)	-0.0010	-0.0009	-0.0001	0.0001
	(1.36)	(1.22)	(0.52)	(0.41)
Bilateral Real Exchange Rate (Log)	-0.0288	-0.0327	-0.0269	-0.0306
	(0.40)	(0.46)	(0.56)	(0.64)
PPP-adjusted GDP (Log)	0.0264	0.0328	-0.1892	-0.1776
	(0.15)	(0.18)	(1.21)	(1.13)
Firm Export Concentration: Lagged Herfindahl Index (Log)	-0.0821	-0.0842	-0.0897	-0.0920
	(15.02)**	(15.06)**	(22.56)**	(20.21)**
R^2 (Adjusted)	0.5514	0.5551	0.6468	0.6541
Number of Observations	490,414	490,414	300,389	300,389

Absolute value of robust t-statistics in parenthesis. **, *, +: significant at 1%, 5%, and 10% respectively. Standard errors were clustered by destination country.

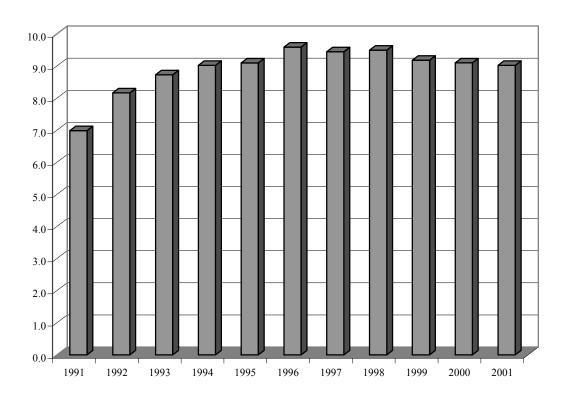**Figure 1: Average Number of Markets per Firm and Products per Firm**

Figure 2: Average Number of Product-Market Pairs per Firm

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