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LIFTING THE DOMESTIC VEIL:
THE CHALLENGES OF EXPORTING DIFFERENTIATED GOODS ACROSS THE DEVELOPMENT DIVIDE

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ABSTRACT

Several developing countries feature weak performances as exporters of differentiated goods to developed countries. This paper builds a conceptual framework to explain the obstacles that prevent producers of differentiated products from establishing a consistent presence in the developed world and the process through which those obstacles may be overcome. We build our framework based on case studies of export emergence in four Argentine industries: motorboats, television programs, wines, and wooden furniture. We find that exporting consistently to developed countries requires drastic changes in how business is conceived and conducted relative to the practices that prevail among domestically-oriented firms. Attempts by these firms to export often do not succeed because they approach foreign markets the same way that they approach the domestic one. Their failure to change the business approach stems from their inability to access critical (tacit) knowledge about differences in consumption patterns and business practices in developed countries. In three of the sectors we study, an export pioneer is the first to implement the necessary changes to established practices. His actions set a benchmark, unleashing a diffusion process that fosters export emergence in the sector. The most salient feature of export pioneers is their knowledge advantage about foreign markets stemming from their embeddedness in the business community of their industry in a developed country.

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1. Introduction

A hallmark of developing countries that have industrialized in the last fifty years (e.g. South Korea, Taiwan) is the impressive growth of their exports. Fast rates of export growth have also been achieved, more recently, by several other developing countries in different regions of the world.[2] One distinguishing feature of the rapid export growth experiences of these countries is the ability of their firms to become established as consistent suppliers of *differentiated* products to high income economies.[3] The export success of these countries is sometimes attributed to the drastic reductions in barriers to international trade associated with the process of globalization. However, other developing countries have so far displayed a lukewarm performance as exporters of differentiated goods to high-income economies despite a similar exposure to globalization. This contrasting export performance is particularly salient in the case of countries that have a longer tradition in manufacturing and a more diversified industrial base, such as several countries in South America. While these countries would be expected to take advantage of their accumulated industrial knowledge by exporting differentiated products, only in a few specific industries do they seem capable of exploiting the opportunities of a more integrated world by leveraging on this prior knowledge. This study contributes to identifying the obstacles behind this apparent failure and the circumstances under which those obstacles are overcome.

Standard theories of international trade could potentially account for this puzzle. Developing countries with a longer tradition in manufacturing could have developed a domestic production of differentiated goods through protection despite lacking international competitiveness in those goods. While this account is plausible, it is not entirely convincing. The set of differentiated goods includes a wide span of products, ranging from frozen vegetables and footwear to precision instruments and specialized machinery. In turn, this set of products requires a diverse set of technological capabilities, natural conditions, factor proportions, and raw materials. Given this diversity, the notion that a country has a comparative disadvantage in the production of almost any differentiated good is hard to accept. Here, we develop the alternative view that a developing country's possession of a (latent) comparative advantage in a differentiated good is

[2] See Kim (1997) and Nelson and Pack (1999). Section 3 provides a summary description of export performance by region.
[3] Differentiated products are characterized by disparities in terms of design, components, functions, durability, or other features that make them imperfect substitutes of one another to the eye of the buyer. This category of products is primarily – though not exclusively – composed of manufactured goods.

often not sufficient to support sustained exports to developed countries. In order to access those markets local producers are required to change the way they conceive and conduct business.

We develop a conceptual framework to explain export emergence (and the lack thereof) in differentiated good sectors. We first characterize the hurdles that prevent most producers of differentiated products in developing countries from entering markets in the developed world and the way of conducting business of firms that are able to overcome those hurdles. Then, we describe the appearance of export pioneers in specific sectors whose main advantage is their knowledge about the main features and operation of foreign markets. Also, we identify common elements in their past experiences that explain their possession of this knowledge. Finally, we analyze how the general nature of key components of their knowledge facilitates its diffusion to other firms in the sector generating a process of export emergence.

Our findings are based on four Argentine case studies of export emergence in differentiated good sectors: motorboats, television programs, wines, and wooden furniture. These sectors were selected among those that displayed substantial export growth oriented towards developed countries. These industries vary in their stage of export emergence. In television programs and wines, export development is already advanced and features numerous established exporters selling to a wide variety of countries. In motorboats, export emergence is incipient and involves only a few exporters with an established presence in developed countries. In wooden furniture, export emergence is also incipient but consists primarily of sporadic exporters who have still been unable to find a stable way into foreign markets. In all four cases, exported products have an important design component.

We limit the scope of our study to exports of *differentiated* products to *developed* countries. We focus on those exports because the breadth of the set of differentiated products and the combined market size of developed countries imply that countries that can successfully perform them might attain fast and sustained rates of export growth. Also, despite the wide diversity of products and destination countries covered under this scope, performing this type of export on a sustained basis involves common challenges that can be analyzed under a single conceptual framework. In fact, we find common determinants of export emergence in four industries that produce differentiated products but span a broad diversity of economic activities, namely agriculture-based manufacturing (wines), traditional manufacturing (wooden furniture), non-traditional manufacturing (motorboats) and services (television programs).

Our conceptual framework contains three parts. The first part characterizes how firms that have been able to achieve consistent exports to developed countries conduct their business and compare it with the way of conducting business of firms primarily oriented toward the domestic market. The differences we find are stark. Firms that export consistently to developed countries introduce drastic changes in the way of conceiving, producing, and marketing products relative to the practices that prevail among domestically-oriented firms. These changes are not implemented as isolated improvements in business operation but as coherent elements of a different approach to business. We call a stylized characterization of this approach the "export business model" and contrast it with the "domestic business model".

Firms that implement the export business model understand that establishing a substantial and consistent presence in a developed country cannot be attained by simply replicating the prevailing formulas for achieving domestic success. For example, they know that even successful products in their domestic market tend to require critical adaptations to appeal to foreign consumers in developed countries as such customers tend to demand products of higher quality and more sophisticated designs. Thus, these companies hire designers that are familiar with the tastes and needs of foreign markets and can "speak the same language" with international consultants and distributors abroad. Furthermore, since they value the role of foreign distributors as providers of information about the evolving features of demand and are aware that business practices in developed countries are different, they are careful to adjust their production and marketing practices to the more stringent requirements of those distributors to keep them as partners in long-term relationships.

Implementing this different approach to business is a hard task but not an insurmountable one once firms understand the importance of changing their business model. However, it is often the case that domestic firms are not even aware of the need to implement these changes. This situation is particularly common when the industry has no established exporters. Under those circumstances, domestic producers lack a benchmark about how things should be done to achieve consistent exports to developed countries. As if covered by a "domestic veil", they attempt to export following the business approach they use to compete in the domestic market. Those attempts are often condemned to failure, or at most achieve limited or sporadic sales abroad.

The second part of our conceptual framework characterizes the initial stages of export emergence in a sector. In three of the four industries we study, we encounter one export pioneer who develops a new way of conducting business that is conducive to establishing a sustained presence in high-income countries. The export pioneer is the first to fully implement the export business model. His export success is based on his possession of a knowledge advantage that stems from his *embeddedness* (Granovetter, 1985) in the business community of his industry in a key foreign country. That is, in addition to being embedded in his industry's business community at home, as is the case of any other domestic producer, he is also part of a business and social network in a foreign (developed) country. His foreign embeddedness allows the pioneer to access detailed, subtle information about markets abroad such as the latest consumption trends, which distributors would be good partners, and how to gain their trust. Furthermore, he becomes aware of the need to change the way business is done. In contrast to a long tradition of research that emphasizes the acquisition of technological capabilities as the main determinant of export performance in industrial sectors (Katz, 1984; Amsden, 1989), in the sectors we study we find that the knowledge advantage of export pioneers consists primarily of a thorough understanding of how foreign markets operate. This knowledge allows them to conceive and implement the export business model. The wooden furniture industry is an exception among our four sectors. In this industry, we find no individual who can be considered an export pioneer. Consistent with our emphasis on the role of pioneers in sectoral export emergence, after an initial export spurt this industry has displayed stagnant sales to the developed world.

The foreign embeddedness of export pioneers is not the outcome of purposeful actions they undertook to enhance their chances of establishing a future export business. On the contrary, it is the result of *previous* life experiences they acquired *independently* from their subsequent decision to become exporters (two of the pioneers were previously importers). Since acquiring this background was in all cases the natural consequence of choices they made to satisfy other goals at a time when they did not think of exporting, the route they took is in general not replicable for other domestic producers. Nevertheless, it is not necessary for others to follow the pioneer's same path once he sets off the diffusion process.

The final part of our conceptual framework characterizes the process of diffusion of the export business model. This process is ignited by the pioneer's export success. On the one hand, the pioneer demonstrates that exporting consistently to developed countries is possible and profitable. On the other hand, his exporting efforts make clear to others that achieving an established presence in those countries requires substantial changes in the way business is done. Sometimes his actions also convey valuable clues about which markets to target or which kind of products to design. The export pioneer sets an observable benchmark that provides visibility to a new way of conducting business.

The impact of the export pioneer in his industry relies on the fact that his actions, and sometimes his own predicament, convey knowledge that is of a very general nature. For example, they demonstrate the importance of addressing specific tastes of target markets or the need to ensure high and consistent quality standards. The general character of this knowledge facilitates its diffusion. While more specific components of the pioneer's knowledge, e.g. commercial secrets, might remain unknown to other firms, the mere diffusion of its general components loosens some of the most important constraints that hamper the export potential of other firms.

Although we cannot ascertain how export performance in the industries we study would have evolved in the absence of export pioneers, our findings suggest that sustained export growth in those industries would have not occurred or would have been substantially delayed. They also suggest that a potential explanation for why *a priori* similarly promising sectors do not display sustained export activity is that an export pioneer has not emerged in those sectors – as is the case in wooden furniture. Thus, identifying the constraints that prevent most firms from exporting and understanding why the background of export pioneers allows them to overcome those constraints may contribute to the design of public policies to promote cross-sectoral diffusion and help firms deal with similar difficulties in sectors in which an export pioneer does not appear spontaneously.

The rapid growth of differentiated-good exports from various developing countries in recent decades was initiated by the integration of their firms into global value chains. These firms took advantage of low local wages by assembling products or performing other unskilled labor-intensive activities following designs created by their buyers in developed economies (Abernathy et al, 1999; Gereffi, 1999; Humphrey and Schmitz, 2002). Argentina, in contrast, does not display new exporting sectors that support their international competitiveness on low wages.[4] In

[4] We conduct a statistical analysis to identify emergent exporting sectors in Appendix 2.

fact, in the four sectors we study the foreign success of exported products is heavily dependent on the appeal of their designs. This is not surprising. Argentina's relatively high wages undermines its firms' competitiveness in unskilled labor-intensive tasks. As a result, the prospects of export success for firms in this country seem more closely associated with an alternative route into world markets entailing the ability to *design* products that can appeal to foreign consumers. This ability is not confined to specific design skills but involves as well the ability to understand the idiosyncrasies of foreign demand and to establish channels to keep updated about their evolving patterns. The difficulties of acquiring this ability prove to be the primary source of most of the obstacles we identify in this study. Many apparel firms in East Asia followed an export path that started with assembly work and concluded with the acquisition of marketing and design capabilities (Gereffi, 1999). This path appears not to be open for firms located in developing countries that have relatively higher wages.

The rest of the paper is structured as follows. Section 2 relates our findings to those of the literature. Section 3 compares the recent evolution of Argentina's differentiated-good exports with the world. Section 4 justifies the scope of the study and describes the methodology. Section 5 characterizes the export business model and contrasts it with the domestic business model. Section 6 describes the knowledge advantage of export pioneers and how this advantage helped them establish a consistent presence in developed countries. Section 7 characterizes the process of diffusion. Section 8 provides concluding remarks. While this paper describes and conceptualizes the main findings of our study, a detailed description of our four case studies is available in a companion paper.[5]

2. Related literature

This study is related to literatures in international trade and international business concerned with the determinants of export performance, export dynamics, and firm internationalization. First, a bourgeoning theoretical and empirical literature in international trade analyzes determinants of export behavior at the firm level. This literature points to firms' productivity as the key determinant of whether firms export. Melitz (2003) lays out the basic mechanism in a

[5] "Export Emergence of Differentiated Goods from Developing Countries", Economics Department Working Paper 107, Universidad de San Andrés, March 2011.

formal model. Since more productive firms can charge lower prices abroad, their products attract more demand and generate higher profits. Thus, only more productive firms export because they can make profits abroad sufficiently large to cover the fixed or sunk costs of entering a foreign market. Other models introduce additional elements to this framework such as endogenous quality choice (Verhoogen, 2008) and marketing costs (Arkolakis, 2008). However, they still point to productivity as the only source of firm heterogeneity and hence the sole determinant of export behavior. Compared to these models, our findings suggest that export performance might be more dependent on how thoroughly foreign markets are understood than on how efficiently production is organized.

A related set of models postulates that, in addition to productivity, firms are also heterogeneous in the amount of fixed or sunk costs that they need to pay to enter foreign markets (Das et al., 2007; Ruhl, 2008; Armenter and Koren, 2009). For example, firms might differ in how much they need to invest to set up a distribution network, learn about export procedures, or understand foreign regulations. Thus, exporting not only depends on firms' productivity but also on export-specific attributes. A relatively unproductive firm, for instance, might still export because it has family ties abroad. While export performance in these models is partly determined by firm attributes that are specifically related to the exporting activity, the models assume that firms sell the same products abroad that they sell in the domestic market.[6] In contrast, our conceptual framework – focused on exports from developing to developed countries – emphasizes the importance of product adaptation. Product adaptation is required both to address systematic differences in demand patterns associated with the income gap between developing and developed countries and demand idiosyncrasies that exist even among markets with similar income per capita.

A more recent set of models introduces the notion that the appeal of products varies across countries (e.g. Albornoz et al., 2010; Bernard et al., 2009; Eaton et al., 2008; Nguyen, 2008). This variation is modeled as a country-specific random component of demand affecting how much of an *existing* product is consumed in each country. Although these models account for demand variation across countries, there is no knowledge firms may possess that might help them adapt their products to match the specificity of countries' demands. In our framework,

[6] This assumption is also present in the work of Hallak and Sivadasan (2009), in which they model heterogeneity in productivity and "caliber".

possessing this knowledge is critical for establishing a successful presence in developed countries.[7] Furthermore, this ability is not confined to awareness about demand idiosyncrasies of targeted markets. It is the capacity to implement the export business model, which encompasses knowing how to design and produce goods that meet those demand idiosyncrasies and how to relate to distributors to continuously keep this knowledge up to date. Moreover, making a product "appealing" to foreign consumers also involves conforming to the business practices of foreign distributors who are the means to reach those consumers.[8]

In addition to the above literature, this study is also related to a long tradition in the field of international business concerned with the dynamics of firm internationalization. A seminal work in this literature is the Uppsala model (Johanson and Vahlne, 1977; Johanson and Vahlne, 1990). This model emphasizes the uncertainty surrounding a firm's initial involvement in a foreign market and the gradual process of learning that results from its foreign exposure.[9] Due to the initial uncertainty, the amount of resources a firm first commits to a foreign venture is limited. However, even this limited foreign exposure allows it to gain foreign market knowledge, which reduces its uncertainty and induces more investment. More export-related investment then leads to higher foreign exposure and further learning, initiating a "virtuous circle" of firm internationalization. More recently, the literature has pointed to the existence of "born global" firms. Instead of the gradual process emphasized by the Uppsala model, these firms have a global orientation from inception. Born globals are "small, (usually) technology-oriented companies that operate in international markets from the earlier days of their establishment" (Knight and Cavusgil, 1996).[10] Studies of born global firms find that an important determinant of their rapid internationalization is the international experience of the entrepreneur (Madsen and Servais, 1997; Sharma and Bomstermo, 2003). This experience provides him with professional connections and knowledge about intricacies of foreign markets that allows him to speed up the internationalization process.

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[7] In Mayer et al. (2009), firms pay customization costs to sell their products abroad. However, all firms know how to customize and are uniformly able to perform this customization.

[8] In this last regard, our study also relates to models of search and matching in international trade by Rauch and Watson (2003) and Eaton et al. (2009). Compared to those models, our account emphasizes firms' ability to engage in a long-term relationship with a foreign distributor and the role this relationship plays as a source of information about foreign demand.

[9] Johanson and Vahlne (2009) provide a recent adaptation of the Uppsala model and describe recent developments in the literature.

[10] See Rialp et al. (2005) for a survey of this literature.

We also stress the importance of foreign market knowledge. In particular, like born-global entrepreneurs our export pioneers' knowledge about foreign markets also stems from their previous familiarity with those markets. However, the distinguishing feature of our analysis is that, given our focus on exports from developing countries, we emphasize the existence of a gap between what firms know and what they need to know in order to succeed in the developed world. Export pioneers, and later their followers, bridge that gap by conceiving and conducting business in a drastically different way from how firms do it domestically. Furthermore, in our context the knowledge gap that firms need to bridge is so wide that rather than the *speed* of internationalization, the possession of this knowledge determines, more fundamentally, whether firms can eventually become established exporters. Thus, firms that do not possess this knowledge do not enter the virtuous learning-investment process postulated by the Uppsala model as they are unable to correctly process the signals and feedback received from their incipient activity and deals abroad. In fact, their efforts at internationalization follow a process that is soon truncated.

Our focus on exports from developing to developed countries also explains why we analyze the process of diffusion, which is unaddressed in the literatures reviewed so far. In our context, the study of this process is important because the knowledge advantage of export pioneers is susceptible to being diffused. For example, like born-global entrepreneurs export pioneers are also familiar with intricacies of foreign markets. However, their most important knowledge advantage relative to other domestic producers consists of a more basic acknowledgement and understanding that the way of doing business needs to be changed to address demand patterns, quality standards, and business practices that are systematically different in developed countries. This knowledge is more susceptible to diffusion because it is manifest in the actions of pioneers and becomes visible as they implement the export business model.

A less developed literature in international business deals with foreign market entry of firms located in developing countries. For example, Ellis (2000) studies Hong Kong toy manufacturers, Zhou et al. (2007) small and medium enterprises in the Chinese province of Zhejiang, and Elango and Pattnail (2007) Indian manufacturers. This literature also stresses the importance of foreign market knowledge for export performance. However, despite its focus on developing countries, it does not emphasize the fact that acquiring this knowledge is especially challenging for developing country producers accustomed to different consumption patterns and business practices. Rather, their main findings point to parental ties with foreign networks as the key conduit for acquiring such knowledge. Implicit in their analysis is the existence of a large Chinese and Indian diaspora, in developed markets such as the United States and the United Kingdom in particular. The absence of a comparable Argentine diaspora implies that in our cases firms cannot take advantage of this type of ethnic network.

By adopting a sectoral approach and a pioneer-diffusion framework to explain export dynamics we follow the work of Hausmann and Rodrik (2003) – henceforth HR. As in their work, we also emphasize a learning externality generated by the actions of an export pioneer. However, the pioneer-diffusion framework we propose is different. First, in HR production costs are the only source of uncertainty and the object of diffusion. Instead, we find that the main source of uncertainty and object of diffusion is the viability and characteristics of the export business model. Second, the export pioneer in HR is *ex-ante* identical to other explorers of potential export opportunities but *ex-post* the fortunate one to discover a profitable export activity. Rather, we find that export pioneers are distinguished by the possession of a knowledge advantage in their industries about how foreign markets operate. Third, while HR emphasizes the existence of an appropriability problem depleting incentives to explore new export opportunities, we find diffusion to benefit more than harm export pioneers. The policy conclusions that could be derived in each case are also different. While HR suggests the potential benefits of policies that spur *discovery* activity, our findings suggest that those policies may not be effective unless firms gain prior understanding of foreign markets and change their approach to business to serve them.

Recent papers have used customs data to statistically identify the appearance of exports pioneers. Freund and Pierola (2009) analyze exports in the non-traditional agricultural sector in Peru and find that pioneers are larger than followers. Iacovone and Javorcik (2010) investigate manufacturing exports in Mexico and find that in half of the cases when a new product starts being exported an additional firm follows during the next year. Wagner and Zahler (2010) study Chilean exports finding that pioneers enter and remain smaller than followers – opposite to Freund and Pierola (2009). These papers differ in their criteria for identifying an export pioneer.[11] Nevertheless, their common use of quantitative criteria differs from the qualitative approach we take here to identify export pioneers. Our export pioneers are not necessarily the

[11] Wagner and Zahler (2010) use the most stringent criterion. To be classified as a "new export", they require that a product has not been exported in the previous five years.

first to export a product but rather the first to implement the export business model. We find the latter type of export activity to be the one with the potential to generate diffusion and spur export emergence in a sector.

Our study originated as part of a larger project conducted by the Inter-American Development Bank (IADB) in 2006.[12] Many of the case studies included in that project emphasize the resolution of coordination problems as the main trigger of export growth. While we also identify coordination problems that hinder export growth in our case studies, we do not find that the initial stages of export emergence are explained by the resolution of this type of problems. Our discrepancy with those findings may stem from the strong predominance in that project of cases of export emergence in agriculture-based products such as flower cuts in Colombia or artichokes in Peru. In that type of sector coordination among producers, or between producers and public agencies, would appear to be necessary to sustain activities that generate large externalities (e.g. experiments with new seeds) or that demand the provision of public goods (e.g. roads or air transport). As those products tend to have limited scope for differentiation, exporting them implies different obstacles to be surmounted than those we underline in this study.

Finally, Keesing and Lall (1990) characterize the challenges of exporting consumer goods from developing to developed countries and point to similar obstacles as those we identify here. However, they emphasize the role of international buyers for overcoming those obstacles. In their account, these buyers spontaneously approach potential sellers in developing countries, provide them with designs, and gradually teach them how to change their products and business practices to conform to their demands. As we argue in the next section, this gateway to world markets does not appear to be open for firms located in countries with wages that are not sufficiently low to attract unskilled-intensive stages of the production process. In fact, in none of the sectors we study we find that export emergence originated from the spontaneous actions of foreign buyers.

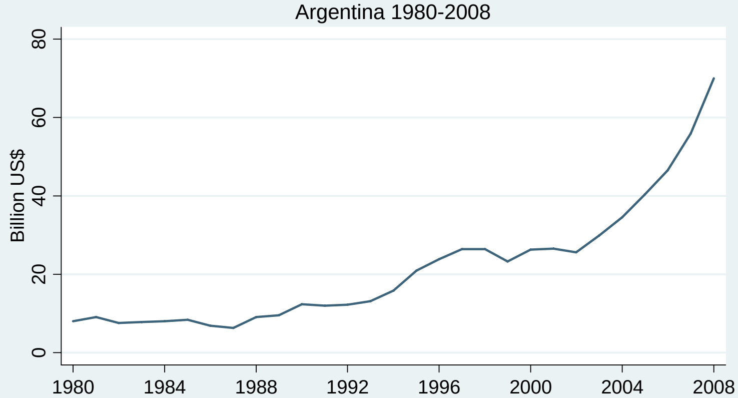
[12] The working papers of that project can be downloaded from the following website: http://www.iadb.org/research/projects_detail.cfm?id_sec=8&id=89&Language=English.

3. Argentina's recent export performance in differentiated goods compared to the world

External conditions and government policies faced by Argentine exporters varied widely over the period from 1980 to 2008. After a decade of commercial protection and high inflation, in the 1990s the government implemented the Convertibility Plan (a currency board) and a drastic reform program that included unilateral trade liberalization, opening of the capital account, removal of restrictions on FDI, privatization, and de-regulation. This decade was characterized by high rates of economic growth and a strong real appreciation of the domestic currency.[13] The Convertibility Plan culminated in a severe financial, currency and debt crisis in 2001 and 2002. The recovery from the crisis was rapid, and the rest of the 2000s witnessed high rates of economic growth associated with a depreciated domestic currency at approximately half of the value of the real exchange rate that prevailed in the previous decade.

The evolution of total exports also underwent periods of varied performance. As displayed in figure 3.1, export growth picked up in the early 1990s in response to the liberalization program but stalled at the end of that decade due to the loss of international competitiveness brought about by the steady real appreciation of the peso. This process was accelerated in 1999 by the devaluation of the currency in Brazil. After the large devaluation of the peso in January 2002, exports resumed vigorously for the rest of the decade.

FIGURE 3.1
Total Exports
Argentina 1980-2008

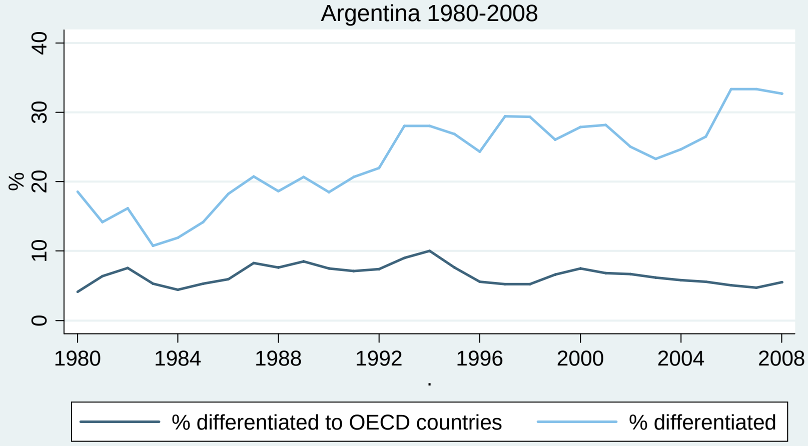


Source: INDEC (National Institute of Statistics)

[13] Appendix 1 describes the evolution of the Argentine economy during the period 1980-2008 in further detail.

The change in the composition of exports from 1980 until 2008 displayed a relative increase in the participation of manufactures at the expense of primary products. While the export share of primary products declined from an average of 35% during the period 1980-1990 to an average of 21% during the period 2002-2008, the export share of manufactures increased from 22% to 30% between the same periods. In line with the rise in manufacturing exports, sales of differentiated products also exhibited a substantial increase, going from 18% of total exports in 1980 to 32.7% in 2008 (see figure 3.2).[14] Yet, this rise has been primarily driven by exports to the developing world, in particular to neighboring countries in MERCOSUR. While exports of differentiated products to non-OECD countries grew by a factor of 11.7 between 1991 and 2008, exports of differentiated products to OECD countries grew by a factor of 4.5 during the same time period. As a result, Argentina's exports of differentiated products to developed nations have consistently accounted for less than ten percent of its total exports over the last three decades.

FIGURE 3.2
Exports of Differentiated Products
Argentina 1980-2008

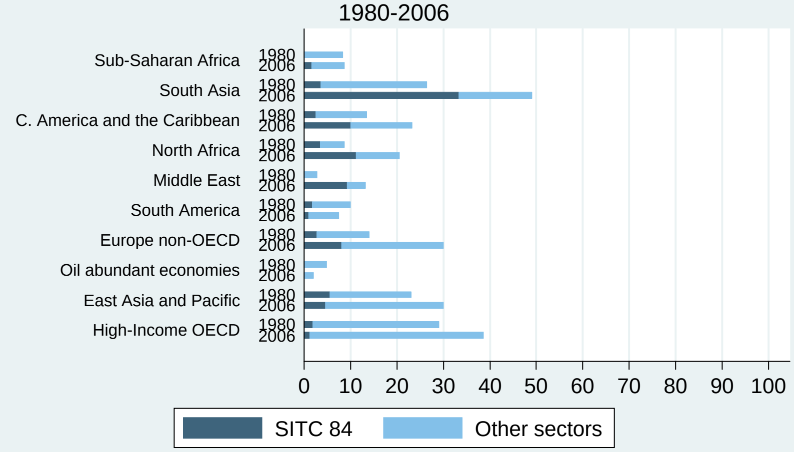


Note: Products are considered differentiated according to Rauch liberal classification
Source: COMTRADE

[14] We use Rauch's (1999) classification to classify goods into differentiated and non-differentiated. Rauch (1999) classifies SITC 4-digit categories into three categories: homogenous goods are those that are traded in organized exchanges (e.g. wheat). Reference-priced goods are those that are not traded in organized exchanges but have reference prices in specialized publications (e.g. polyethylene). Differentiated goods are all remaining ones. We follow the "liberal" version of his classification and group the first two categories as "non-differentiated". Some SITC 4-digit-categories are not included in his classification. We assign them to "differentiated" and "non-differentiated" following this criterion: First, we count for each 3-digit category the number of products classified by Rauch as "differentiated" and "non-differentiated" and we assign the unclassified products to the group with the highest number of products within that 3-digit category. Then, we repeat the procedure at the 2-digit and at the 1-digit level as certain products remain unclassified after the first two rounds.

Argentina's lukewarm performance as an exporter of differentiated products to developed countries can be compared with the export performance of different groups of countries. Figure 3.3 displays the evolution by region, from 1980 to 2006, of the share in total exports accounted for by differentiated products exported to the OECD.[15] There is considerable heterogeneity between regions. In most regions, this share has increased more than five percentage points, achieving more than 20% of total exports. This is particularly the case of South Asia, where exports of differentiated products to the OECD accounted for almost a half of total exports in 2006. Central America, North Africa, Eastern Europe and the Middle East also display substantial rises, while East Asia and High-income OECD countries exhibit modest increases although starting from relatively high levels.

FIGURE 3.3
Share of Differentiated Exports to OECD in Total Exports
1980-2006



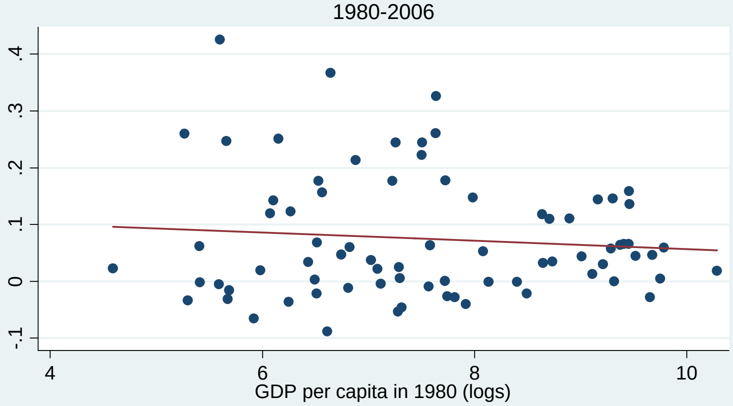
Note: Products are considered differentiated according to Rauch liberal classification
Sources: COMTRADE, Stats Canada

By contrast, in Sub-Saharan Africa, Oil abundant economies, and South America (except Brazil) these exports have remained stagnant and still account for less than 10% of total foreign sales. The weak performance of South America is particularly interesting in the context of our study as it shows that Argentina's apparent lack of international competitiveness in this type of exports is not exceptional.

[15] The figure displays average shares by region. Oil abundant economies are included in a single group and excluded from their geographic region in order to analyze their performance separately.

One potential explanation could be related to the fact that export growth of differentiated products in most developing countries has been largely driven by the integration of firms into global value chains. At the initial stages of these export growth processes, local firms attract unskilled-labor intensive stages in the production of mass-produced items to take advantage of prevailing low wages. In most cases, they primarily perform assembly work following designs created by their buyers in developed countries. The products they sell are typically unbranded as branding and marketing is conducted by retailers or other intermediaries (Abernathy et al., 1999; Gereffi, 1999; Humphrey and Schmitz, 2002). The apparel industry is prominent among the economic activities undertaken by those firms. Figure 3.3 above singles out one product category, "Articles of apparel and clothing accessories" (SITC 84), which is among the most unskilled labor-intensive product category within manufacturing. The figure demonstrates the prominent role that this single product category has played for most regions displaying substantial export growth of differentiated products to the OECD. While many low wage countries have integrated (part of) their economies to global value chains delivering consumption goods for high income countries, other developing countries with higher wages (such as some countries in South America) appear unsuitable to perform this role in the globalization process. Some evidence supporting this explanation is provided by figure 3.4. This figure shows that countries with higher GDP per capita (and hence higher wages) in 1980 have tended to be those with the smallest increase in the share of exports of differentiated products to the OECD between 1980 and 2006.[16]

FIGURE 3.4
Change in the share of differentiated exports to OECD vs GDP 1980
1980-2006



Sources: COMTRADE, Stats Canada

[16] A test that the negative slope is significantly different from zero yields a p-value of 0.12.

The prevalence of relatively higher wages may undermine the latter countries' participation in global value chains as producers of mass-produced items. As a result, those countries need to find a different route to developed markets. This route involves facing challenges that tend to be insurmountable for most firms and frequently result in unsuccessful attempts to establish a consistent presence in the developed world. In the remaining sections, we describe the nature of those challenges and the circumstances under which they can sometimes be overcome.

4. Scope of the study and methodology

This section delimits and justifies the scope of this study, lays out the criteria we use to select our four case-study sectors, and describes the methodology used in our investigation.

4.1. Scope in terms of products and destinations

This study characterizes the challenges and constraints facing firms in developing countries that attempt to export differentiated products to developed countries on a consistent basis. Since imports of these products by developed countries constitute a substantial fraction of world trade and largely exceed the production capacity of most developing countries, this type of exports offers ample room for expansion. Hence, understanding the factors that determine their growth is relevant as these exports constitute a potential opportunity for economic development.

Despite the wide span of products and destinations covered by the scope of this study, the challenges and constraints for exporting that we identify in the different cases are remarkably similar. Thus, they can be analyzed under a unified framework.[17] On the one hand, exporting differentiated products requires firms to have the ability to make product adaptations that appeal to specific needs and tastes of foreign consumers. This ability is not required in the case of agricultural and industrial commodities, or other homogenous products, due to their intrinsic absence of differentiating features. Marketing the latter products also involves lower information requirements both for the buyer and for the seller. In fact, transactions are often performed

[17] We do not include highly concentrated sectors in our analysis, e.g. automobiles or electronics, which have high entry barriers and require large fixed outlays in R&D or advertising. Export behavior in those sectors might have different determinants than the ones we emphasize here.

anonymously through organized exchanges.[18] On the other hand, exporting differentiated products to developed countries imposes the common need to address systematic differences in consumption patterns and business practices between developed and developing countries.

The challenges for exporting differentiated products that we identify here apply to developing countries broadly. However, following our discussion in section 3 our characterization of how those challenges are overcome have more specific applicability to the case of developing countries that have relatively higher wages. These countries are the primary focus of our investigation. Nevertheless, our conceptual framework may have more general relevance. Easterly and Reshef (2010) investigate the emergence of new exporting products in East Africa and find their determinants to be remarkably consistent with our conceptual framework even among some of the poorest nations in the world.

4.2. Choice of case-study sectors

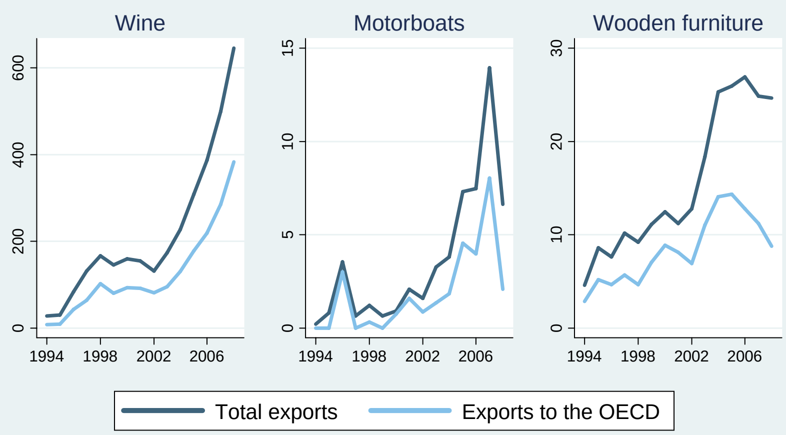
We conducted case studies of export emergence in four industries: motorboats, television programs, wines, and wooden furniture. These industries were chosen among sectors producing differentiated goods that satisfy the following criteria: (a) strong recent export growth; (b) substantial fraction of exports shipped to developed economies; and (c) non-trivial amount of exports. The wine and wooden furniture industries were identified and selected after conducting a statistical analysis of exports at the 4-digit product-category level of the Harmonized System (HS) during the period 1991-2005. The analysis filtered 4-digit HS product categories that passed quantitative thresholds for the above criteria – 40% top percentile in terms of export growth, at least 1/3 of exports shipped to OECD countries, and more than 10 million US dollar exports in 2005, respectively.[19] The motorboats and television program industries were identified based on our previous knowledge of their recent emergence as new exporting sectors in Argentina and selected after confirming that they also satisfied the above criteria.[20] The four selected sectors span a diverse set of broadly-defined economic categories: agriculture-based manufacturing (wines), traditional industrial manufacturing (wooden furniture), non-traditional industrial manufacturing (motorboats), and services (television programs). Among sectors that

[18] See Rauch (1999) for a characterization of the distinctive nature of international trade in differentiated goods and its quantitative implications for bilateral trade flows.
[19] This analysis and its results are described in detail in Appendix 2.
[20] An exception was made in the case of motorboats, which displayed exports in 2005 slightly below the 10 million U.S. dollar threshold.

satisfy the above criteria, these industries were selected to maximize the diversity of economic activities and thus the potential for generalizing our findings.

Figure 4.1 displays the evolution of exports from 1994 to 2008 in the three sectors with available data on trade flows, namely wines, motorboats and wooden furniture[21]. Total exports exhibit substantial growth in those three sectors, particularly after the currency devaluation of 2002. In wines, total exports reached US$ 645 million in 2008, making Argentina the tenth largest exporter of wine in the world. At the same time, the share of the OECD in total exports increased from 33% in 1994 to 66% in 2008. This industry features a substantial number of established exporters sending their products to more than one hundred countries. In motorboats, the volume of exports is still modest and is explained by a small number of regular exporters. Nevertheless, exports from this sector have greatly diversified since the mid-nineties in terms of countries of destination, mainly due to an increased presence in the European market. The sharp decline in exports during the last year of our sample, 2008, is explained by the international crisis which disproportionately hit luxury-good sectors with income-elastic demand.

FIGURE 4.1
Total exports in selected industries
1994-2008



Note: exports are expresed in US$ millions
Source: COMTRADE and Argentine Customs

[21] Although the amount of exports of T.V. formats is not available in our customs dataset, the existing evidence indicates an important growth over this period. According to the Format Recognition and Protection Association

The panel on the right of figure 4.1 shows that total exports of wooden furniture increased from less than 5 US$ million in 1994 to approximately 25 US$ million in 2008. In this case, exports to the OECD have remained relatively stagnant since 2000 while 96% of export growth since that year is explained by increased sales to Latin America. This sector displayed a peak in exports to the OECD around the time we selected our four sectors (early 2006). But consistent with the absence of an export pioneer in this sector, exports to the developed world subsequently declined. Moreover, a substantial fraction of exporters of wooden furniture sell abroad only on a sporadic basis.

4.3. Methodology for case studies

After selecting the industries to be studied, our first objective was to gain a general understanding of those industries and, in particular, of their histories of export emergence. We contacted local trade associations, conducted interviews, and consulted academic studies and industry reports. We also analyzed customs data to identify the top exporters in each sector and their export performance over the last fifteen years. In all four of the sectors we soon found ample consensus among industry participants about the person that could be singled out as the one who first made decisive and successful efforts at exporting consistently to the developed world. One of the authors of this study had some previous knowledge about the television and motorboat industries and therefore had a general idea about potential pioneers in each of these sectors. Nevertheless, even in those sectors the existence of an export pioneer was established after consulting different industry sources and analyzing customs data.

In the wine industry we conducted interviews with nine of the leading exporters and representatives from four organizations linked to this sector. In the wooden furniture sector, we carried out interviews with four of the leading exporters, the leading designer for exporters, and representatives of two trade associations. In the motorboat industry, we interviewed four of the top exporters, the leading designer for exporters, and representatives of the main trade association. In the television industry, we conducted interviews with seven firms and with support organizations including an educational institution and a scriptwriters association. Interviews were generally conducted with the owner or general manager of each firm. In all of

(Frapa), Argentina is the fourth largest exporter of formats in the world in terms of volume, only behind the U.K., the U.S., and the Netherlands.

the sectors except the wine industry, all of the owners or general managers had been directly involved in developing the export business of their companies. In the few cases we could not talk to the owner or to the general manager of the company, we arranged meetings with the export manager.

All interviews were conducted over an eight-month period between May and December of 2006. A few follow-up interviews and phone calls were made afterwards. The interviews were conducted in Spanish using open-ended questions and generally lasted approximately one hour and a half. In most cases, they were conducted at the production facility of the firm and were accompanied by tours of these facilities. All interviews were digitally recorded. We used an inductive method to identify the elements that established exporters had in common in their way of thinking of and carrying out their export business. Based on those common elements we built our characterization of the two ideal-type (export and domestic) business models. Similarly, we used an inductive method to identify the common elements that were present in the background and vision of export pioneers.

5. What do exporters do differently? Export versus domestic business models

Firms in a developing country that attempt to export differentiated products to high-income countries on a sustainable basis are severely hampered in their efforts to achieve this goal if they do not accompany their attempts with a drastic change in the way they do business. The knowledge they possess and the business practices they are familiar with may work in the domestic market but are in general not conducive to establishing a long-run presence in developed markets. To achieve this goal, firms need to do things differently. Based on the findings of our fieldwork, in this section we characterize the different requirements foreign and domestic markets respectively impose on the way firms operate by contrasting two business models: the "export business model" and the "domestic business model".

We define a business model to be a simplified representation of the elements that, as a coherent system, characterize a way of conducting business. While actual business models that firms implement contain specific elements that differentiate them from one another, we focus on two ideal types. The first is the export business model, which characterizes the way of doing business of consistent exporters to developed countries. The second is the domestic business model, which characterizes the way of doing business of firms primarily focused on the domestic market.[22] We propose a characterization of business models built upon three main components. The "product" component relates to the identification of the products to sell and the market segments to target. The "production" component relates to the design and actual production of goods. The "marketing" component relates to how products are marketed and sold.[23]

While the domestic business model provides viability in the domestic market, it is not conducive to achieving long-term profitable exports.[24] Firms primarily focused on the domestic market that wish to export need to change their business model. Transitioning between models involves changes in business practices in all three components of the model (product, production, and marketing). Prominent among these changes are the need to adjust product characteristics to foreign tastes (product), production processes for quality upgrading (production), and marketing practices to conform to those of foreign distributors (marketing). These changes are fundamentally intertwined and need to be implemented as a coherent system.

Domestic firms often embark on an export venture while still conducting business according to the domestic business model (or after applying only some elements of the export business model). But unless they implement all elements of the export business model concurrently as a coherent system, the success of their export venture will be limited. These firms might achieve stable and substantial exports to developing countries, particularly those that are geographically proximate. They might also achieve sporadic, or stable but insignificant, exports to developed countries. However, they will face great difficulties in exporting substantial volumes to the latter countries on a sustained basis.

Unfortunately, it is often the case that domestic firms do not understand the particular ways in which they need to change their approach to business or even fail to recognize the need to make

[22] Despite its wide use, there is no agreed upon definition of the term "business model" in the management literature (Shafer, 2005). Since we focus on ideal types rather than on specific business models, our characterization of the business models highlights more general issues than those emphasized in the literature. Also, abusing terminology we refer to "the" export (domestic) business model as the ideal type and to "an" export (domestic) business model as an actual form of the ideal-type model as is implemented by a particular firm.
[23] Although the term marketing is customarily used to refer to those activities associated with defining the product to be produced as well as those associated with selling it on the market, we use this term only to refer to the latter so that we can distinguish between two distinct activities that are located at each end of the process of developing, producing and selling a product.
[24] We emphasize once again that this study focuses on *consistent exports of differentiated goods from developing to developed countries*. For compactness, we sometimes refer to those as just "exports". Also, we sometimes refer to foreign markets in developed countries as just "developed markets".

those changes. A critical obstacle is that the channels and mechanisms at their disposal for acquiring relevant information and knowledge about the domestic market are not suitable for understanding foreign markets. A substantial amount of their knowledge about the domestic market is spontaneously acquired due to their geographical and cultural proximity with consumers, distributors, and other participants in this market. In contrast, the geographic and cultural distance (Kogut and Singh, 1988; Shenkar, 2001) that separates them from developed markets renders analogous information and knowledge about those markets considerably more difficult to access and interpret. As we argue below, this difficulty is one of the main hurdles for adopting the export business model, particularly at early stages of export emergence in a sector.
The remainder of this section characterizes the export and the domestic business models emphasizing the contrast between their main components. We also illustrate our characterization of the two ideal-type business models using examples from the actual business models that firms in our case studies have implemented.

i) The product component

Characteristics of consumer demand usually vary, often markedly, between countries. Part of this variation is systematically related to countries' income per capita. Consumers in high income countries tend to demand products of higher quality (Hallak 2006, Choi et al. 2009), which have more sophisticated designs, are made of better materials, or are less likely to malfunction. Variation in consumer demand across countries also stems from market-specific factors such as idiosyncratic tastes or needs. For example, U.S. consumers prefer fruiter wines with less alcoholic content while Europeans tend to like less fruity wines with a higher content of alcohol. Idiosyncratic tastes are also manifest in style differences. While leather covering on tables is increasingly appealing to U.S. consumers, this design feature is not considered stylish in other countries.

Since demand characteristics vary across countries, firms must know the idiosyncrasies of demand in the markets they target. Although this requirement also applies to domestic sales, acquiring knowledge about idiosyncrasies of foreign demand in developed countries is substantially more challenging. Moreover, as demand characteristics evolve over time, firms need to secure information channels for continuously updating this knowledge. In our fieldwork, we have encountered that successful exporters use foreign distributors as a key source of information about the evolution of foreign consumption trends.

Understanding the characteristics of consumer demand in a specific country allows firms to identify the market segments they wish to target, understand the nature of competition in those segments, and define the specific products they want to sell. For example, motorboat exporters in Argentina have decided to focus their exporting efforts on the segment of relatively small units (less than fifty feet) to avoid competition with the largest European producers. The existence of differences in consumer demand often implies that market segmentation in foreign countries is considerably different from the way the domestic market is segmented. For instance, Argentine exports of wooden furniture to the U.S. are mainly concentrated in the "contemporary furniture" market segment. This market segment consists of consumers that place a distinctive emphasis on design originality and replace their furniture with relatively high frequency (about once every five years). In the domestic market, there is no distinguishable market segment with the same features. Also, consumers in the U.S. tend to demand longer tables than those customarily purchased in Argentina since apartments and houses in that country are generally larger. Due to the differences in market segmentation and in the relative appeal of specific product features, most firms that attempt to export find the task of identifying the right market segment and the particular products to sell in a foreign country extremely challenging.

Opportunities for entering foreign markets are often associated with shifts in consumption patterns. One notable recent shift, primarily taking place in high-income countries, is associated with the increasing importance of "new luxury" goods. These are a "new category of products and services that possess higher level of quality, taste and aspiration than other goods in the category but are not so expensive as to be out of reach" (Silverstein and Fiske, 2003).[25] Although some of these goods still satisfy basic necessities, their appeal resides in the fact that they "...evoke and engage consumers' emotions while feeding their aspirations for a better life" (Silverstein and Fiske, 2003). In the three goods-producing sectors we study – the fourth (television programs) produces a service – export emergence has been based on products that can broadly be defined as "new luxury".

The increasing importance of this type of good in the consumption patterns of developed countries elevates the knowledge requirements imposed on firms from developing countries that attempt to export. While understanding the idiosyncrasies of foreign demand is already difficult

[25] Specific examples of this type of goods are Sam Adams beers and BMW cars.

for those firms, the challenge may become insurmountable when the potential appeal of the products they offer hinges on the extent to which their particular features engage consumers' emotions and aspirations, shaped by specific cultural traits and collective values of a country. Furthermore, it is often the case that shifts in consumption patterns are associated with the emergence of a new product or a substantial variation of an existing product that reshapes consumer demand in the industry. As a considerable time lag might elapse before the new product gains significative acceptance in lower-income countries (Vernon, 1966), domestic producers might struggle to understand the specific ways in which foreign demand has changed due to the absence of analogous products in the domestic market that can act as a reference benchmark. Thus they may be unable to identify the proper segment to target or the products to sell abroad, thereby risking the opportunity to establish themselves as regular suppliers to a foreign market.

The transformation of consumption patterns in the wine industry is a notable example. This market was traditionally divided into two primary segments, one dominated by price-sensitive consumers of table wines and another dominated by consumers of high quality wines who customarily possessed extensive knowledge about the French vineyards from which most high quality wine originated. The emergence in the early 1970s of new high quality wineries in Napa Valley led to a revolution in this industry. In particular, the nature of market segmentation changed enabling wineries throughout the world to compete with the French by producing "new-world wines". This new competition generated a wider variety of high quality wines at substantially lower prices, thereby giving rise to a large new segment of wine consumers.[26]

Although Argentina has a strong tradition in winemaking, domestic winemakers did not take advantage of this new opportunity for more than a decade after the revolution in Napa Valley. Despite their long expertise in winemaking, they were unable to produce and market their wine in a way that could satisfy those foreign needs and aspirations. One illustrative example is their failure to pay attention to the important role played by labels. Consumers of new world wine want the labels of wines to communicate something about the place where the wine was produced, while also stating basic facts about how the wine was made. For example labels should state whether the wine was aged in oak barrels and if so what type of oak barrels were

[26] New world wines are an example of new luxury goods. They fulfill consumer's basic necessities while also satisfying their aspirations for a better life at a price that is significantly lower than traditional high quality wines (Bartlett, 2003).

used and how long the wine was stored in them. Also, such consumers do not tolerate labels that peal off easily or boxes that are easily damaged. These presentation problems were common among Argentine wines and largely tolerated by domestic consumers.

In our fieldwork, we have encountered numerous cases of firms that attempt to export without understanding the idiosyncrasies of foreign markets. Most of these firms are not even aware that understanding these idiosyncrasies is critical for establishing a long-term presence abroad. These firms sometimes make substantive efforts to find export markets for their *existing products* rather than examining potential export opportunities that would require slight or radical modifications to these products. Their failure to address the specificities of foreign demand limits the volume and sustainability of their exports. For example, Bodegas López, one of the most widely recognized brands of wine in the domestic market, has not adapted its wines to the new consumption patterns in the developed world. As a result, the export performance of this winery did not replicate its domestic success. At the same time, as the market in Argentina gradually adopts the consumption patterns of the developed world, this winery is finding its sales increasingly limited to a declining market segment. Ideas del Sur, one of the most successful producers of television content in the domestic market, has attempted to export its T.V. programs but did not succeed because its program designs were not sufficiently flexible to incorporate content with the local flavors of their target countries. Several furniture producers also have attempted to sell their products in the U.S. market without realizing the simple fact that this market demands larger units. Those producers sometimes export on a limited basis but find substantive difficulties in expanding their foreign penetration.

The main reason why it is so hard for domestic producers to understand the differences in consumption patterns and market segmentation between the domestic and foreign markets is that the knowledge they need to acquire is, to a large extent, tacit in nature (Polanyi, 1966). As opposed to explicit knowledge, tacit knowledge is hard to codify and therefore difficult to transmit. For example, it is difficult for a domestic producer to learn from books, trade magazines, or other formal communication channels how stylish consumers in a particular foreign country will regard specific aspects of product design, or how those specific aspects will engage their emotions and feed their aspirations. As a result of its tacit nature, domestic producers usually lack precise knowledge about specificities of what foreign consumers, at any given point in time, like or need.

Although tacit knowledge is hard to transmit in codifiable form, there are alternative channels through which it can be transmitted. Building on Granovetter's (1985) embeddedness approach for understanding the economic activities of firms as shaped by the communities in which they operate, Uzzi (1997) examines how embeddedness in a business community of a specific sector influences the flow of tacit knowledge within that community.[27] In the context of our study, domestic producers are naturally embedded in the domestic business community of their sectors *in their own countries*. Consequently, they access critical "fine-grained information" about features of domestic demand, such as perceptions of style, consumer aspirations, and quality expectations. This information allows them to identify the specific products that will have appeal to local consumers.

By contrast, as domestic producers are typically not embedded in the business communities of their industries *abroad*, analogous transmission of tacit knowledge about foreign demand does not occur spontaneously. As a result, their understanding of its distinguishing features is lacking. In particular, they cannot elucidate the specific ways in which foreign demand differs from domestic demand. Moreover, this lack of understanding is precisely what prevents them from being aware that those differences are important.[28] Even if they communicate and engage in transactions with foreign agents, key information about foreign markets comes bundled and can only be understood in a specific context that needs to be shared by the communicating parties.[29] These difficulties are particularly pronounced when export emergence in a sector is still incipient. Intricacies of foreign markets may later become common wisdom within the local business community once the diffusion process has taken place.

ii) The production component

[27] In particular, he studies the consequences of embeddedness in a network of relationships in the New York City fashion industry. He contends that embeddedness facilitates the interchange of fine-gained information between a firm and its suppliers enabling them to address problems rapidly.

[28] Experiments in psychology find that people who are incompetent in the strategies they adopt to reach success and satisfaction not only reach erroneous conclusions and make unfortunate choices but also their incompetence robs them of their ability to realize it: "the skills that engender competence in a particular domain are often the very same skills necessary to evaluate competence in that domain" (Kruger and Dunning, 1999).

[29] According to Uzzi (1997), "fine-grained information transfer is not only more detailed and tacit but has a holistic rather than a divisible structure that is difficult to communicate through market ties... this information structure is manifested as a particular "style", which is the fusion of components from different fashions, materials, nomenclaturas, and production techniques."

Once companies have understood the characteristics of market demand, identified the market segments to target and the type of products they want to sell, they still need to create and make the specific products to be marketed. The production component of a business model characterizes how firms design and produce these products.

In the sectors we study, professional designers are usually in charge of the actual design of a product. They are the "enologists" in the winemaking industry, the "yatch designers" in the motorboat industry, and the "content managers" in the television industry. The specific task of professional designers, like the more conceptual task of defining which goods to produce described earlier, also requires the ability to understand the tastes and needs of consumers in foreign markets. Moreover, professional designers need to be able to integrate idiosyncrasies of foreign demand into actual product designs.

To help local designers perform this task, the entrepreneur or manager of a firm sometimes hires an outside, customarily foreign, consultant. This agent is the "design expert", an intermediary who conveys relevant information about foreign markets to the local designer. For example, in wooden furniture, motorboats, and wines there are international consultants who help firms understand international trends and provide them with general advice about how to produce the type of products that could be in line with them. They lay out the basic parameters of a potential product and work with local designers to adapt their products to the tastes of foreign consumers. Sometimes these adaptations are minimal but they are nonetheless critical. These consultants do not fully design a product but they may sometimes revisit a factory or winery to see how a product is evolving. In the television industry, "format consultants" are experts in a format who have the ability to interpret cultural codes of different national audiences and translate the principal components of the format to match specificities of those audiences.

In order to take full advantage of the services of foreign experts, local designers must be capable of understanding and communicating with them, i.e. they need to "speak the same language". The existence of these foreign consultants facilitates the acquisition of tacit knowledge necessary for making products with appeal to foreign consumers. However, since the cost of their services is high, entrepreneurs are usually reluctant to hire them unless they are convinced of the importance of adapting products to foreign needs and are also willing to implement the remaining components of the export business model.

Once products are designed, firms need to adjust the production process to effectively make those products. One of the most important differences between the export and the domestic business models regarding how goods are produced stems from the fact that consumers in high-income countries demand products of higher quality. Satisfying the higher quality requirements of these consumers often imposes the need to reorganize production processes.

Adapting production processes to meet foreign demand sometimes requires investing in new machinery. For example, in the wine industry exporters had to invest in stainless steal tanks and in some cases 225-liter oak barrels in order to produce wines suited to the tastes of international consumers. Those investments may in turn require access to financial resources and technological capabilities. However, such requirements do not appear to be the most important hurdles firms need to overcome to meet the quality standards of international markets. Rather, the main production challenge is more often associated with making changes in production techniques to gain better control of the production process. Firms that implement the export business model need to pay careful attention to how goods are produced as small defects in the products can lead to their rejection by their foreign distributors or even to the termination of the business relationship. In the wooden furniture industry, quality derives from how parts are dried, stained and assembled. For example, firms have to ensure that wood is dried properly so that stain can be applied evenly. They also have to ensure that no cracks are visible between two separate pieces of wood in the same piece of furniture. In essence, workers have to pay careful attention to how they do their work. To be able to do so, factories have to be well lit so that workers can see better what they are doing. Producers of goods for the domestic market do not pay attention to such details simply because they do not play such a determinant role in the purchasing decisions of domestic consumers. Similarly, exporters in the motorboat industry own the matrices used to mould the hull of the boats to control their precision and obtain a standardized finished product that does not require subsequent hand polishing. In the domestic market, standardization is not a valued feature as domestic consumers are more tolerant of polishing imperfections.

To accompany their production upgrade, firms also need suppliers and service providers to upgrade their own products or services. Accomplishing this task requires them to work closely with suppliers. In the wine sector, the most difficult production challenge is not related to the actual elaboration of wine but rather to methods for growing higher quality grapes. Grape vines have to be pruned and trimmed carefully. Grape producers also need to learn how to adapt the standard techniques for producing such grapes to the particular conditions of the Argentine climate. Because of the critical role that grapes play in the elaboration of high quality wine and the difficulty in ensuring the provision of quality grapes by suppliers, wineries often produce their own grapes for their top wines and rely on suppliers for their medium range ones.

We never find it to be the case that a firm understands the importance of meeting the quality standards of developed countries but lacks the technological capability to attain them. While many firms appear to be technologically capable of attaining those standards, most often they do not achieve stable exports to developed countries because they fail to maintain them consistently. In the furniture industry, a large amount of production and commercialization effort by a group of producers and distributors to establish a long-term presence in the United States and Canada was wasted when the first consolidated shipment was found to contain an unacceptably high fraction of defective items. The fact that managers and workers are not sufficiently convinced of the critical importance of achieving and maintaining quality standards appears to be a stronger impediment for export growth than lack of technological knowledge. Indeed, in the sectors we studied access to production knowledge does not stand out as a critical bottleneck for export success.

iii) The marketing component

Finally, we describe the marketing component of a business model. In this component, we emphasize the relationship that firms establish with their distributors and the actions they take to make their products known and appealing to consumers in destination markets. There is a sharp contrast between how products are marketed in the domestic market and how they need to be marketed in developed countries. The latter requires establishing long-term relationships with foreign distributors who, compared to domestic ones, demand conformance to more stringent business practices, have stronger bargaining power, are more uncertain about the reliability of the seller as a partner, and play a more important role as suppliers of information about the evolution of demand. Producers who want to export also need to develop a marketing strategy for products that do not enjoy brand recognition in foreign countries.

The way of conducting business and the business codes that regulate the commercial activity differ considerably between developing and developed countries. Despite these differences, distributors in developed countries expect their foreign suppliers to conform to their own business practices and codes. For instance, they are used to much higher standards of quality consistency and timely delivery than those that prevail in developing countries. Foreign distributors also have specific requirements about packaging and back office procedures that they expect their providers to fulfill. For example, Trapiche, a leading exporter of wines, has restructured its back office to ensure issuing invoices that are consolidated and easy to process. Failure to conform to these requirements may risk the continuity of the business relationship with the channel. For instance, a furniture producer's incipient relationship with a foreign distributor was terminated when the producer failed to provide the requested price quotes in time. Similarly, the relationship between another furniture producer and a foreign distributor was abruptly severed when the producer attempted to increase the original price quote soon after he learned about the distributor's success at selling his products.

The importance of complying with the expectations and requirements of foreign distributors stems from the fact that their negotiating power tends to be substantially larger than that of domestic distributors. Foreign distributors can choose business partners from a large worldwide pool of *a priori* similarly apt potential suppliers and select only a few to engage in a long-term relationship. Domestic producers, therefore, need to understand and deal with the fact that their relationships with foreign distributors are more asymmetric than those they establish with distributors at home.

Foreign distributors usually lack information about the professionalism and reliability of potential suppliers overseas. Therefore, they extract signals about those attributes from the suppliers' compliance with their procedures and requirements. For example, foreign distributors in the wine and wooden furniture industries interpret receiving products in boxes that are damaged as an indication that the producer is not serious about quality. Firms that implement the export business model are aware of the importance of such signals and make specific efforts to reduce the distributor's uncertainty about their reliability. Compañía Constructora de Embarcaciones (CCE), a leading exporter in the motorboats industry, ensures post-transaction services for the ships they sell to convey the assurance that they are trustworthy. This firm has even sent its own technicians to the country in which a ship was bought to make specific repairs. The distributors' reliance on such signals constitutes a severe problem for local firms that operate under the domestic business model. Not only are they unfamiliar with how business is done abroad but also they are unaware of the importance distributors place on such signals.[30]

Finally, foreign distributors in developed countries seek out long-term suppliers with whom they can establish fluent communication and mutual understanding about the evolving patterns of consumer demand and who can react rapidly with new or modified products to those changing patterns. In turn, firms that implement the export business model regard their distributors as a resource not only to help them sell their products abroad but also to help them understand how markets are evolving. In contrast, firms that attempt to export but still work according to the domestic business model do not realize that they are unlikely to establish a stable presence in foreign markets unless they develop this kind of a relationship with a distributor. These firms end up working with distributors who act merely as middle-men. Business relationships with those distributors tend to be transitory as they conduct transactions on a spot basis, do not invest in making the supplied products distinctively appealing to consumers or retailers, and are ready to substitute those products with similar ones from competing suppliers when offered a slightly lower price. In essence, dealing with those distributors implies that their differentiated products end up being sold in the foreign market as if they were commodities.

In the case of branded products, firms need to elaborate an advertising strategy to make their products known and appealing to potential consumers. While these products often enjoy brand recognition domestically, those brands are in general not recognized abroad. The domestic recognition may have been built through past advertising investments. Sometimes, it is the mere result of their long presence in the domestic market. In contrast, implementing the export business model requires that firms create a brand from scratch and develop its positioning strategy in an unfamiliar market. For example, CCE advertised its boats in major European trade magazines while Catena Zapata, a leading exporter of wines, created a tour with tango dancers around the U.S. to introduce its wines to specialized journalists.[31]

[30] A potential explaination for why domestic firms so often fail to conform to foreign distributors' requierments is that, in some cases, they might consider those requirements to be inefficient relative to alternative arrangements that fit local conditions better. This perception might sometimes be right. DiMaggio and Powell (1983) argue that isomorphic processes – in this case distributors' demands that xporters conform to their business practices – usually proceed in the absence of evidence that they increase internal organizational efficiency.

[31] In the wooden furniture industry, direct advertising to consumers is less common as consumers tend not to base their product choice on brands.

At the early stages of export emergence in a sector, firms that wish to export typically have to confront the existence of "country-of-origin (COO)" bias. As a response to the imperfect observability of quality attributes in a product at the time of purchase and the absence of a country reputation as a reliable producer of quality in a given sector, consumers often use the level of development of the product's country of origin as an extrinsic cue of product quality.[32] COO bias also exists among distributors. If they have a bad image about a country's business practices – e.g. the degree to which they fulfill contracts – they may be unwilling to invest in a long-run relationship with a producer at the outset as they might presume that this potential partner shares those practices. Potential exporters, therefore, need to be aware of this bias and develop a strategy to offset it. Reno, a furniture producer, opened a warehouse in California to store his goods with the main purpose of convincing his potential customers that he would be able to deliver their orders in time. Horacio Levin, a television program producer, confronted COO bias by associating with a Spanish colleague at a television festival. As an owner of a production company from a country that at that moment had scarce participation in the international market of T.V. formats, he was convinced that this bias would hamper the possibility of engaging in favorable commercial deals.

In sum, firms that wish to export to developed countries on a consistent basis need to learn how to market their products in a different environment. In foreign markets, they need to adapt to foreign distributor's business practices and codes, they depend on information about consumer demand that those distributors can provide, and they might need to develop an advertising strategy. Implementing the marketing component of the export business model, like implementing the product component, also requires a substantial amount of tacit knowledge about how markets in the developed world operate. Firms that do not possess this knowledge have substantive difficulties in adapting marketing practices to those markets' requirements. As we argued above, those firms end up commercializing their differentiated products as commodities, thereby causing them to sacrifice profitability and the prospects for a long-run presence in those markets.

[32] A vast literature in international marketing documents the existence of COO bias. See, for example, Bilkey and Nes (1982) and Verlegh and Steenkamp (1999).

6. Export pioneers

In three of the four sectors we study (motorboats, television programs and wines) an export pioneer was the first to establish a consistent export presence in a developed country. A common characteristic shared by export pioneers is their possession of a substantial knowledge advantage about foreign markets over other domestic producers in their industries. Based on this knowledge they conceive and implement the export business model. In this section, we start by characterizing the approach to exporting of a typical domestic producer in an industry that does not yet display consistent exports to developed countries. Then, we describe the knowledge advantage of export pioneers, how they acquire this knowledge, and how its possession helps them become consistent exporters to the developed world.

When an industry has no established exporters to a developed country, the typical domestic producer in the sector who evaluates whether to embark on an export venture lacks a benchmark about how things should be done in order to achieve a consistent presence abroad. This producer realizes that he is unfamiliar with the foreign environment and is usually even able to distinguish key differences between this environment and the domestic one. But he is unable to map those differences into specific changes that are needed in his approach to business. More generally, he does not realize that he needs to change his business model.

As this producer does not realize that his way of doing business needs to be changed or is unable to elucidate the relevant dimensions along which he needs to do it, he approaches foreign markets the same way as he does it domestically. Thus, he soon finds that his incipient deals abroad do not develop into deeper and more stable relationships. The export activity of a large fraction of differentiated-good sectors in Argentina consists exclusively of producers like the one just described. Those industries display a stagnant and limited export performance. However, there are also a few specific industries that exhibit substantial export growth and ship a considerable fraction of exports to developed countries.[33] Our four case studies are chosen from these sectors. In three of them we find that export growth was spurred by an export pioneer whose success in the foreign market demonstrated to the industry the logic and viability of the export business model.

[33] The statistical analysis used to identify those sectors is described in Appendix 2.

We define an *export pioneer* of an industry as the individual who first implements all of the elements of the export business model. By implementing the export business model, he inaugurates a new way of conducting business that is conducive to establishing a stable presence in developed markets. Export pioneers in our case studies display a common characteristic. They possess a knowledge advantage over their peers consisting of a thorough understanding of foreign markets. In particular, they understand their demand idiosyncrasies and ways of conducting business. This understanding allows them to build a "vision" of the export business model as they decipher its key pieces and put them together according to the model's internal logic.

Based on their vision, export pioneers assess the implementation of the export business model as feasible and profitable, and hence develop and embark on a focused export strategy. As they experiment and learn in the course of its implementation, pioneers mould their original vision into a complete business model. The implementation of the export business model requires making a number of changes to common industry practices. For example, export pioneers sometimes develop new suppliers rather than work with established ones, visit international trade fairs systematically, and hire employees with relevant work experience abroad or with a different set of skills than those traditionally demanded. Since other players in the industry do not see the logic of the pioneer's actions, they simply deride his efforts at early stages in the implementation of the export business model. Later, they widely acknowledge them as the individuals who "have shown the way" to developed markets.

The distinguishing element of export pioneers is their foreign market knowledge. This knowledge stems from their *embeddedness* in their industry's business community in a developed country. Moreover, in all cases they are embedded in the business community of a country that concentrates a substantial amount of world trade in their industries. While they are also embedded in the business community of their industries at home, as any other domestic producer, their foreign embeddedness constitutes a doorway to a variety of resources for acquiring foreign market knowledge. In particular, their foreign social and business relationships allow them to acquire fine-grained information about the market such as the latest consumption trends and the nuances of the competition environment. Also, these relationships allow them to identify distributors that would be willing to form partnerships and to understand how to gain their trust. More fundamentally, they gain an understanding of the logic of the market, its demand patterns and its business practices. As described in the previous section, this information is fundamentally tacit and as such very difficult to acquire through alternate channels.

Given the importance of being embedded in a foreign business community – in a context in which export emergence has not taken off – it is critical to understand how export pioneers become enmeshed in those social networks abroad. We find that their foreign embeddedness is the result of past activities carried out *previously* and *independently* to their subsequent decision to become exporters. In particular, export pioneers in our study did not undertake those activities as a means to learn about the export market.

Next we describe some particular instances in the life experiences of our three export pioneers that have enabled them to become embedded in business communities of their industries abroad. We also describe how the knowledge they acquired helped them construct an export business model. While we provide a very succinct account here, the individual case studies in our companion paper describe in much greater detail their individual experiences that enabled them to achieve consistent exports to developed countries. The case of wooden furniture, where we do not find an export pioneer, is treated later in this section.

In two of our industries (motorboats and television programs) the export pioneers were first importers. Luis López Blanco was the pioneer in the motorboat industry. He founded his own trading company after working for years as an accountant and business administrator for different shipyards. This company was the representative in Argentina of internationally recognized brands such as Ferreti, a premium Italian brand of motorboats, and Cummins, a U.S. motor engine producer, as well as domestic boat brands. Despite no previous production experience, in 2000 he started to produce his own motorboats and even made his first export to a developed country. López Blanco was the first to establish a consistent presence in OECD markets. Since 2002, his exports to those markets – primarily to Europe – have been consistent and increasing. Among the producers in this industry in Argentina who exported to the OECD until 2004, he was the only one still active in the export market in 2006.[34]

His experience as an importer was crucial as it made him familiar with the motorboat market in Europe. The core of this market is in Italy, the largest world exporter in this industry. His

[34] We have access to customs data by exporter only until year 2006.

importing activity, which involved regular trips abroad, attendance at the most important trade fairs, and frequent and fluent contact with foreign agents, promoted his embeddedness in the business community of European motorboat producers and traders. He learned about consumer tastes, demand trends, quality requirements, and business practices. He also learned about foreign distributors' needs and how to gain their trust. For instance, López Blanco became aware of the importance of providing distributors with detailed blueprints and manuals of every boat so that they could respond to specific requests from their clients. More generally, the knowledge he acquired allowed him to build the vision of the export business model he later implemented.

A few examples are useful to illustrate how López Blanco's embeddedness in the European business community of the motorboat industry allowed him to achieve a stable presence in the European market. First, the knowledge he acquired by socializing in that community permitted López Blanco to develop a thorough understanding of the tastes and aspirations of European motorboat users. He discovered, for instance, that purchasers of such boats in Europe are more leisure-oriented than motorboat users in Argentina. Based on this understanding, he designed the control panel of the Aqualum 35, the first motorboat he sold abroad, following the style of instrument panels of premium automobiles such as Audi and Ferrari. He also realized that European consumers had concerns about buying a big-ticket item such as a motorboat from a developing country with no established reputation in the industry. Thus, among other initiatives to address these concerns, he decided to equip the boat with more expensive Italian comfort appliances to set foreign consumers at ease by providing appliances they already recognized and trusted, and that could easily be repaired in Europe. López Blanco also understood that similar concerns from distributors could hamper their willingness to invest time and resources in a serious partnership with him. To show trustworthiness and commitment to quality, he once sent his own technician abroad – rather than rely on outsourced post-sale service – to repair a boat he had recently sold.

Horacio Levin, the pioneer in the television program industry, also was an importer before becoming a producer. Having started his business career as a producer of television commercials, he later imported cartoons and animated films that he sold to state-owned television broadcasters in Argentina. He was the first person in this country to take advantage of the growing importance of formats in the television industry and of the myriad of services associated with them.[35] Initially, he adapted foreign formats to the domestic market. Then, he exported production services by adapting foreign formats to audiences in third countries. Finally, he systematically created and exported his own formats.

As in the case of López Blanco, Levin's previous experience as an importer proved critical. By regularly visiting industry trade fairs in Europe and the U.S. and being involved in commercial dealings with foreign agents, he became embedded in an increasingly global television business community. As a result, early on he understood the new logic underlying the design, production and trade of television formats, and exploited the opportunities that they created for a country like Argentina.

His familiarity with this global business community also shaped key business decisions he made. For example, he acknowledged that foreign agents might be reluctant to make deals with a businessman from Argentina. To avert those concerns and ensure that he would be taken seriously by potential partners, he associated with the independent Spanish producer Globomedia to obtain the rights to adapt the format *The Survivor* to Spain and all of Latin America.

In contrast to the pioneers in the motorboat and television program industries, the pioneer in the wine industry, Nicolás Catena Zapata, was not new to production in his industry. In fact, he was the heir of one of the oldest and largest wineries in Argentina. Although he was only the second largest exporter during the initial years of export emergence in this sector during the early nineties, he was the first to implement the export business model. He was also the only producer whose exports to the OECD have displayed uninterrupted growth since those initial years. His early exports were directed to the United States. Now he exports to more than 32 countries. His winery is the second largest exporter in Argentina and the largest one to the OECD.

Catena Zapata's early choice of the U.S. as the destination market for his fine wines was not a coincidence. He was a Visiting Professor at the University of California, Berkeley for three years,

[35] Television formats consist of the structure and main features of a television program, which is later completed with specific content adapted to the idiosyncratic tastes of local audiences.

where he taught courses in basic microeconomics at the Agricultural and Resource Economics Department. The proximity of Berkeley to Napa Valley allowed him to socialize with members of the wine business community in that region and become embedded in that community. In particular, he became a close acquaintance of Robert Mondavi, a pioneer of the transformation of this sector in the United States. Catena Zapata's familiarity with the intricacies of that transformation motivated him to attempt to emulate it in Argentina. Thus, he became the pioneer of the transformation of the Argentine wine industry and led the way in establishing international recognition for Argentina as a producer of new-world wines.

Catena could not have built his successful export strategy without his thorough knowledge about how new-world wines are produced, consumed, and marketed. For instance, convinced that he would risk his long-run export prospects if the quality of his wines faltered, he decided not to export the wine from the first harvest he obtained using new-world wine production methods. He also leveraged his understanding of the new prevailing attitude toward wine consumption to organize a promotional tour that included a sophisticated tango-dance show so as to associate his wines with other recognized symbols of high quality from Argentina. His familiarity with how prestige was assigned in the wine business community of the United States also led him to seek recognition for his icon wines so that they would serve as a quality-signaling umbrella for his other wines. More generally, he sought to have his wines reviewed by the Wine Spectator, the most important wine magazine in the United States, and he courted specialized journalists to obtain positive reviews that would be critical for promoting his wines.

It is less obvious in Catena's case that his embeddedness in the business community of Napa Valley was the result of activities undertaken previously and independently to his decision to export. However, we think this is still the case. On the one hand, it is unlikely that his decision to accept the visiting position at Berkeley was influenced by the possibility of acquiring knowledge that would later help him become an exporter of new-world wine. In fact, Catena explicitly told us that his willingness to accept the position was not motivated by Berkeley's proximity to Napa Valley as he was not even aware of the transformation taking place in the industry at that time.[36] On the other hand, the offer to take a visiting position at Berkeley was the consequence of having done a Ph.D. in Economics many years earlier, since it was one of his former classmates at Columbia University who offered him the position. Another consequence of

[36] Furthermore, he told us he would have accepted a similar position elsewhere in the United States.

this decision was that his four years as a Ph.D. student in New York City made him familiar with the American culture and its values, which might have facilitated his social embeddedness in the wine business community of Napa Valley.

Two types of evidence underlie our claim that the key advantage that distinguishes export pioneers from other domestic producers is their foreign embeddedness. First, as illustrated in some of the examples above (and others described in the case studies), we identify several instances in which key decisions of export pioneers appear to have been the result of their thorough understanding of export markets and unlikely to have been made by other producers lacking this knowledge. Second, since it is very uncommon for a domestic producer in Argentina to be embedded in the business community of a developed country, the chances of observing all three export pioneers exhibiting this uncommon characteristic would be extremely low if this attribute were not critical for attaining consistent exports to the developed world.

Our emphasis on export pioneers' embeddedness abroad does not imply that other aspects of their background, resources, and personality characteristics are not important determinants of export performance. In fact, export pioneers know their industries well, have access to financial resources, and probably possess some common psychological characteristics such as ambition, drive, creative energy, and ability to think systematically. Following Diamond's (1997) *Anna Karenina Principle,* which he uses to characterize a situation in which many elements *need* to be present for an event to happen, we could think of a pioneer's profound understanding of foreign markets as being as critical to their export success as their industry-specific knowledge, financial resources, or psychological characteristics.[37] However, we highlight their understanding of foreign markets in our analysis because this characteristic is the most common lacking attribute among domestic producers.

The case of the wooden furniture industry provides an example of an industry in which no producer combines all necessary requirements for achieving a stable presence in developed markets. In this industry, we do not find an export pioneer as no single producer has implemented all the elements of the export business model. The absence of a pioneer is manifest in the fact that, although the industry shipped 35% of its exports to the OECD in 2008, almost all export growth since 2000 (96%) was accounted for by exports to other destinations.

[37] Kremer's (1993) O'Ring theory is built on a similar principle.

Furthermore, while total exports grew substantially until 2004, they have since stagnated. Many of the firms in this sector continue to export on a sporadic basis, simply seeking to compensate for occasional declines in the domestic market.[38]

Despite the absence of an export pioneer, the case of Jorge Etchebehere is illustrative as an example of an individual who has a vision of an export business model but can not successfully implement it. Etchebehere is not a producer. He is a commercial agent. However, he was regularly singled out by other members of the industry as the person who best understands foreign markets and who made the most substantive efforts to enter them. After working many years as a sales representative for a domestic furniture company, Etchebehere decided to start his own business as an intermediary between local producers and U.S. distributors. First, he contracted a U.S. designer to teach Argentine producers how to adapt the style of their furniture to the tastes of U.S. consumers. Later, he formed a company with two U.S. sales agents to represent eight Argentine firms in the U.S. and Canada.

Etchebehere's early life experience exposed him to social interactions that provided him with a strong familiarity with the U.S. culture and values. When he was 16 years old, he spent three months as an exchange student in the United States. As an adult, he held a position in a multinational company that involved regular social and business interactions with Americans who went to Argentina to train local employees. This experience gave him the ability to understand and communicate with people from the United States. These skills proved critical in helping him build business ties with people from this country.

Etchebehere is fully aware of the basic elements of the export business model. For example, he is convinced of the importance of adapting the products to foreign tastes, maintaining consistent quality standards, and conforming to the requirements of foreign distributors. Despite this knowledge, he seems unable to convince the local producers he represents that they need to change the way they do things to successfully export. In particular, as those producers are geographically dispersed around the country, he is unable to guarantee the quality of their shipments. As a result of the failure of these companies to meet the requirements of foreign distributors, Etchebehere's export business has not taken off.

[38] The case study of wooden furniture in the companion paper describes some of the main exporters in the industry and explains why none of them can be considered an export pioneer.

Before concluding this section, we would like to emphasize that our findings should not be understood to imply that embeddedness in a foreign business community is *always* necessary to consistently export. While this appears to be the case when export development in an industry has not yet occurred, producers can acquire the required tacit knowledge through alternate channels at later stages of this process. In fact, once the pioneer demonstrates that a successful business model exists and some of its elements become visible to others in the industry, this knowledge can spread throughout the local business community without the need for those who follow the pioneer to have a similar experience abroad. The latter constitutes the process of diffusion. We now turn to this topic.

7. The diffusion of the export business model

The export success of the pioneer generates a demonstration effect that induces others to follow him and thus spurs export growth in an industry. In this section, we analyze the process of diffusion of the export business model. We describe its main determinants and the most important channels through which it operates. Since there is seldom a smoking gun to identify most critical instances of diffusion, the characterization we provide here is partially based on indirect evidence and, in some cases, even on mere speculation. However, all of its elements and implications are consistent with the evidence collected in our field work.

The implementation of the export business model by the pioneer is visible to other players in the industry. Notable among them are competitors and suppliers. Although those players do not observe many aspects of the business model the pioneer is implementing, they understand that he is making consistent efforts to export such as systematically attending trade fairs, developing new suppliers or procuring upgraded versions of his inputs. More generally, they realize that those efforts involve a different way of conducting business. But they find it hard to understand the economic logic that drives his actions. In fact, some even think the pioneer is simply crazy. In any event, it is still clear for most industry participants that he is trying something different. Luis López Blanco, Horacio Levin, and Nicolás Catena are all acknowledged by their peers as export pioneers in their respective industries. Even Jorge Echebehere, the commercial agent in the furniture industry, is so regarded. Sometimes export pioneers are themselves open and vocal about what they are doing. This is particularly the case of López Blanco, who was the president of the business association of motorboat builders at the time he was developing the export business model. From this position, he preached about the benefits of establishing a consistent presence in foreign markets and adopting the business practices that are conducive to that goal.

Once an export pioneer succeeds in his venture, knowledge about his export performance spreads throughout the industry. The export success of the pioneer is taken as an indication that there is a way of doing things to achieve profitable exports on a sustained basis – i.e. that a profitable export business model exists in a given industry. Even if several components of the pioneer's business model are not visible, merely realizing that there is a profitable way of approaching foreign markets might be sufficient to convince some firms to search for its unknown components. For instance, potential followers may pay careful attention to a pioneer's actions, poach some of his employees, or hire an international consultant. The pioneer sets an observable benchmark. He shows that gaining a stable and profitable presence in developed markets is possible. The transmission of this very general knowledge is the most important role of the pioneer in the diffusion process.

In addition, as the export pioneer implements the export business model other firms might gain knowledge about the markets he targeted or the type of products he exports. For example, winemakers in Mendoza knew that Nicolás Catena was targeting the U.S. market and working with Cabernet Sauvignon and Chardonnay grapes. While Cabernet Sauvignon and Chardonnay were the staple varietals of the emergent new wine industry in California, focusing on those grapes at the time was not an obvious choice for a potential Argentine exporter as they were not important in the domestic market. Another example is found in the motorboat industry, where it was known that López Blanco was specifically targeting the European market. Altamar, an early follower, switched its exporting efforts to that market after initially attempting to export to the United States. Three other firms also followed López Blanco soon after he first exported a yatch to the United Arab Emirates. In sum, generating diffusion about export opportunities in particular products or markets is another important role of the pioneer in the diffusion process.

The actions and decisions of export pioneers might also transmit more specific information. For instance, the pioneer may voluntarily or unintentionally provide information about specific aspects of what he is doing to competitors and suppliers, or they may learn about them through other channels such as former workers and managers switching firms. For example, competitors and suppliers might learn that the pioneer has hired an international consultant to help him design products with foreign appeal, or they might hear about specific features of the technological upgrade that he is implementing. Below, we describe particular episodes we identified in our field work that we can reasonably presume have encompassed instances of diffusion stemming from the actions of pioneers. We note, however, that it is very difficult to find those specific instances as the transmission of knowledge seldom leaves a trail and managers tend to be reluctant to acknowledge what they have learned from competitors.

Two of these episodes involve Horacio Levin, the export pioneer in the television industry. Besides his efforts at exporting his own programs, Levin was also an intermediary in the export of *Caiga quien Caiga*, the first export of an Argentine format to a developed country. The owners of this format, the production company Cuatro Cabezas, had created the program without knowing how to format or export it. Levin connected them with his Spanish commercial partners, who were interested in buying the format, and managed the whole transaction by representing those partners. Soon after this operation, Cuatro Cabezas sold this format to numerous other countries and later created and exported several other formats. This transaction, generated and conducted by Levin, provided Cuatro Cabezas the opportunity to learn the very basic logic underlying the production and trade of T.V. formats. In addition, we presume this operation also taught them more specific issues about the types of programs that could be formatted and the main elements of a format over which a contract could be written.

A second episode involving Levin is related to his leasing of studio space from Telefé Contenidos to shoot *El Frijolito*, a Mexican-style soap opera aired in the U.S. for the Hispanic audience. Although Telefé Contenidos had no relevant export experience at the time, it later would become one of the leading Argentine exporters in the television industry. Despite the fact that we do not have concrete evidence of learning in this case, we find it reasonable to presume that by hosting Levin, staff at Telefé learned about his target market, the type of program he was exporting, and various technical aspects of its production. This knowledge may have later helped them develop their own exportable products. Another episode we identified consists of a classical example of diffusion that occurred in the wine industry. Pedro Marchevsky, the long-time head agronomist for export pioneer Nicolás Catena, left the latter's company to found his own winery Dominio del Plata with Susana Balbo, his wife and former foreign sales representative for various wineries in Mendoza. In his new company, Marchevsky applied the knowledge about how to produce appealing wines for world markets that he acquired working for Catena. His winery eventually gained a strong presence in the United Kingdom.

Diffusion is facilitated by the fact that the type of knowledge that gives export pioneers an advantage over other local producers is, to a large extent, of a very basic and general nature. Export pioneers understand the need to change the business model in order to export. They know that the gap that divides consumption patterns of developing and developed countries requires specific efforts to bridge it, such as building design capabilities and upgrading production processes. They also know that business practices are different and thus require efforts to comply with the expectations of foreign distributors to gain them as partners in long-term relationships. Furthermore, they possess the fundamental understanding that establishing a profitable and consistent export business in developed countries is feasible. The general nature of this knowledge enables it to be diffused. It is embedded in specific components of the export business model, such as target markets, main product characteristics, type of technological upgrades, and skills of hired workers and managers. These components of the export business model become observable in the course of its implementation. Their visibility may be just sufficient to induce early followers to embark on an export venture of their own and hence initiate a process of export emergence in the sector.

The general nature of key components of our export pioneers' knowledge advantage is strongly associated with the fact that these pioneers are located in developing countries. As discussed in previous sections, in developing countries it is often the case that even this very basic and general knowledge is not widespread among local producers of differentiated products. Thus, these producers have much to gain from the diffusion of the pioneer's knowledge. In contrast, producers of differentiated products in developed countries already possess this general knowledge since there is no gap in consumption patterns and business practices that they need to bridge to sell their products in other developed countries. The difference between the knowledge background of firms in developing countries and those in the developed world explains why diffusion is important in the context of our study but not necessarily so for studying export performance in developed countries. Of particular interest is the comparison of our export pioneers with the born-global entrepreneurs described in the international business literature. Both had previous international experiences that allowed them to acquire knowledge about intricacies of foreign markets such as commercial secrets, business contacts, and details of the competition environment. However, the knowledge advantage of born-global entrepreneurs relative to other producers in their countries is confined to these intricacies. This knowledge is less prone to being diffused as it tends to be specific and does not become visible to others through the actions of those who possess it. The knowledge advantage of our export pioneers, by contrast, has more general components that are diffusible. Hence, their export success has the potential to generate export growth in the industry justifying a sectoral approach to understanding export performance.

Although a large number of firms know about the pioneer's efforts at exporting and are potentially aware of specific aspects of what he is doing, at an initial stage in the diffusion process only a few early followers embark on the business transformations required to export. But the adoption of the export business model by these few early followers is critical to ignite its diffusion throughout the industry. As diffusion progresses, the export business model becomes more visible while the notion that it is possible to export consistently and profitably to developed countries becomes increasingly accepted. This stage in the diffusion process has only been reached in two of our four cases, wines and television programs, where a large number of firms successfully export to the developed world. In those industries, current knowledge about how to conduct business to achieve that kind of foreign presence is, following Marshall's metaphore, "in the air".

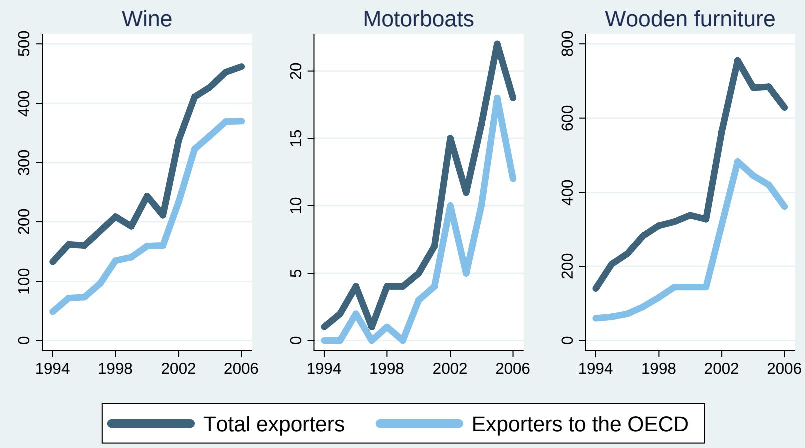
The left panel of figure 7.1 shows the total number of exporters by year in the wine industry (dark color) and the number of wine exporters to the OECD (light color). Since the early development of export emergence in this industry, the total number of exporters and the number of those exporting to the OECD has increased steadily. In particular, exporters to the OECD increased from less than 50 firms in 1994 to more than 350 exporters in 2006.[39] In the motorboat industry, by contrast, export emergence is only incipient. In 2006, the total number of exporters was eighteen, twelve of which sold their ships to the OECD (middle panel of figure 7.1). Despite this small number, the growth in the number of exporters has been remarkable during the last decade, taking into account that during the 1990s exports of motorboats to the OECD were only sporadic. Given the existence of an export pioneer and a few early followers, we would expect that diffusion in this industry will eventually follow a similar path to that observed in wines and television formats. However, the spread of this process within the industry is yet not certain.[40] Finally, the right panel of figure 7.1 shows the number of exporters in the furniture industry. Both the total number of exporters and the number of those exporting

[39] As explained in section 4, our customs dataset does not include information on value of exports or number of exporters for the television industry.

[40] Granovetter (1978) develops a model of diffusion with heterogeneous thresholds for adoption across agents. The diffusion process might be halted if there is a sufficiently large gap between the thresholds of adopters and non-adopters.

to the OECD peaked after the devaluation of the peso in 2002 and later stagnated. Since no firm has yet implemented the export business model in this industry, the object of diffusion is not even present. Therefore, the diffusion process cannot take place to spur sectoral export growth.

FIGURE 7.1
Number of exporting firms by industry
1994-2006



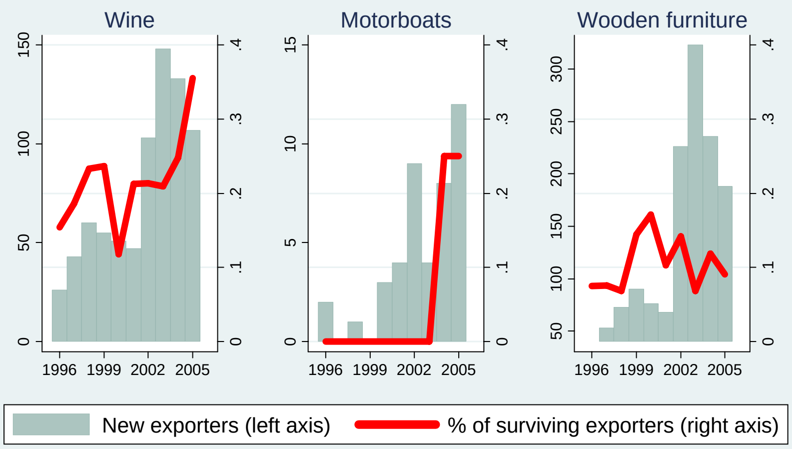
Source: Argentine customs

The diffusion of the export business model entails firms learning how to change the way they approach foreign markets in developed countries. As firms learn, we should expect a higher likelihood that they will be able to maintain an active presence in those markets after they enter them for the first time. Figure 7.2 displays two time series for each of the three industries with available exporter-level data. One is the number of new exporting firms that sell to at least one OECD country by year (left axis). The other is the survival rate, measured as the fraction of those new exporters that continue to export to the same market in the following year (right axis). Consistently with the stage of the diffusion process in each of the three industries, the survival rate of new entrants to the OECD in 2005 is highest among the three in the wine industry, reaching 35% of new exporters.[41] Moreover, this rate has doubled since 1996, when export emergence was only starting. In the motorboat industry, the (incipient) emergence of exports is also associated with a stark increase in the survival rate. While no single exporter was

[41] Since our firm-level customs data cover the period 1994-2006, we exclude the first two years of data from the figure in order to avoid a disproportionate presence of export reentrants – which tend to have a higher survival rate – in the first years of the sample.

able to maintain a stable presence in the same OECD market before 2003 (0% survival rate), this rate reached 24% in 2005. By contrast, despite the large number of new exporters in the wooden furniture industry, the absence of an export pioneer to make the export business model visible is manifest in the virtual long-run stagnation of the fraction of surviving exporters to OECD countries. In fact, this fraction has been decreasing in the last two years displayed in the figure and was below 10% in 2005.

FIGURE 7.2
First time exporters to the OECD
1996-2006



Source: Argentine customs

The generalization of the diffusion process involves a wide variety of actors. Among them, the role of multinationals is salient. In the wine and television industries numerous multinationals have entered the sector at relatively early stages of the diffusion process and currently account for a substantial fraction of production and exports. In both industries, multinationals mainly entered through the acquisition of domestic firms with the primary objective of serving the foreign market. Thus, their presence significantly contributed to the spread of the export business model. Despite their important role, in none of our case studies do we find a multinational to be the export pioneer or one of the very early followers. While they possess organizational knowledge about how foreign markets operate, before the pioneer and early followers implement the export business model they are unconvinced that they can adapt their way of conducting business to the local conditions. Their uncertainty is magnified by the fact that not only they need to ensure appropriate production conditions in the domestic market but also find a way to develop latent design capabilities into their products to address the evolving needs and tastes of foreign markets. This uncertainty is only resolved once the pioneer and early followers demonstrate the viability of the export business model. [42] Our findings here are consistent with those of Wagner and Zahler (2010), who find in their quantitative analysis of Chilean new exports that export pioneers tend to be smaller than their followers. They explain this fact with a model in which larger firms have more choices about how to allocate their managerial capacity and prefer to wait until their uncertainty is resolved by the actions of smaller firms.

Other important agents of diffusion are independent designers, who are hired by firms to develop new products that address the demand needs and tastes of foreign countries. In the motorboats industry, for instance, Gino Giandino owns a design company that works for different boatyards. He transfers knowledge to them about design features that would enhance a boat's appeal in the Italian market. He acquired this knowledge working in Italy for Germán Frers, an Argentine naval architect internationally renowned for his successful designs of racing yachts.

Some studies underscore the role of public agencies and private associations as agents of diffusion in export development (e.g. McDermott, 2007). We find, however, that their role is not important at the initial stages of export emergence but only later in this process. For example, the government's main agricultural extension agency, INTA, conducted experiments with new grapes and wines in the early 1980s, simultaneously with Nicolás Catena's own trials with new world wines. Despite those early experiments, this agency became an important agent of diffusion only later in the 1990s after Catena had already exported his first bottles of new world wines to the United States. In addition, INTA did not help wineries understand the new ways in which wine was consumed in the developed world, as it was only involved in the diffusion of the production component of the export business model.

A common theme in the innovation-diffusion literature is the appropriability problem. In particular, Hausmann and Rodrik (2003) emphasize that the incentives to discover a new product for export can be severely reduced by the prospects of diffusion. Although diffusion

[42] In fact, in the sectors we study we do not observe either a relevant presence of multinations oriented to the domestic market before export emergence takes place, maybe due to its unattractively small size. A few exceptions, such as Bodegas Chandon in wines, and Aceros Johnson in furniture, were specificialized in champagne and kitchen furniture, respectively. But these products were different from those at the core of export growth in their industries.

could potentially hurt the pioneer, in our cases we have not encountered evidence that the possibility of diffusion discouraged them from investing relative to a benchmark with no diffusion. Furthermore, the pioneers' own account of their decision environment at the time of implementing the export business model suggests that they were not concerned about diffusion eventually eroding their profits. On the contrary, in most cases the pioneers were themselves promoters of diffusion. This behavior can be rationalized by the fact that foreign markets are sufficiently large to accommodate many potential competitors from their own country. Furthermore, diffusion may even benefit export pioneers, in particular at early stages of this process. First, consumers often identify country of origin as one of the main characteristics of foreign products. In all of our case studies, pioneers benefited from the appearance of other exporters who helped them develop brand recognition for the country as a whole. Second, pioneers sometimes benefit from the appearance of other exporters as they increase the demand for specialized infrastructure, intermediate inputs, and services. Third, pioneers might benefit from cooperating with others to take advantage of economies of scale in international transactions. For example, they can share stands at trade fairs, organize trade missions together or cross-offer their products in foreign markets to diversify their portfolio. The fact that export pioneers benefit from diffusion to other firms points to the potential feasibility and desirability of schemes aimed at fostering inter-firm cooperation.

One lingering but crucial question is whether export emergence would have nevertheless occurred without the existence of the export pioneer. Was he necessary for the eventual spread of the export business model throughout the sector or was he instead just the first emergent player in a process that would have happened inexorably (although maybe with a substantial delay) due to changing external conditions? The second view can be sustained more forcefully in the case of the wine industry, as drastic shifts in consumption patterns and production methods gave many countries the opportunity to enter world markets as exporters of bottled fine wine. Given that Argentina was already an important producer of traditional wines, it is reasonable to think that its rise as a significant world exporter would have occurred even if Catena had not pioneered the transformation of the wine industry in Argentina. Greece, however, constitutes a counterexample of a country that is also a traditional wine producer (actually one of the oldest ones) but has been unable to take advantage of the transformation of wine consumption by developing new-world wines that appeal to customers in the developed world.

In the motorboat and television industries it is less obvious that export emergence could have occurred without the existence of an export pioneer. In Argentina these industries do not seem to enjoy a stronger comparative advantage than other industries, like leather footwear and wooden furniture. The latter industries enjoy favorable conditions in terms of design capabilities and access to raw materials but also display weak performances as exporters to the developed world. The existence of an export pioneer in one industry but not in the others appears to be the main distinguishing feature that explains the different export performance of these industries.

8. Conclusions and further comments

This paper develops a conceptual framework to explain the constraints that prevent producers of differentiated goods in developing countries from achieving a consistent export presence in the developed world and the process through which those constraints may be overcome. The framework is built upon the findings of four sectoral case studies of export emergence in Argentina and consists of three main parts. The first part contrasts two ideal-type business models to compare the different ways in which consistent exporters and firms oriented to the domestic market conceive and conduct business. The second part describes the role of export pioneers in the emergence of new exporting sectors, emphasizing their understanding of foreign markets and how to approach them with differentiated products as their most important common attribute. The third describes the process of diffusion initiated by export pioneers. This last part characterizes the general nature of their knowledge advantage, which makes it susceptible to diffusion.

One of our key findings is that export performance appears to be more dependent on how thoroughly foreign markets are understood than on how efficiently production is organized. This understanding by pioneers and later by their followers leads them to implement an approach to business, the export business model, which differs drastically from the one that prevails in the domestic market. Most notably, those firms address the need to adapt products to the consumption patterns of developed countries and build long-run relationships with foreign distributors. Firms that attempt to export to the developed world while doing business according to the domestic business model often achieve only limited and sporadic sales abroad. Despite this limited success, they do not change their approach to foreign markets since they lack the knowledge that would prompt them to do it. Due to its tacit nature, this knowledge is difficult to access. Moreover, firms are often unaware of the need to possess it. In contrast to the importance of understanding foreign markets, we do not find that firms face strong technological difficulties in designing and producing products for export once they understand the type of adaptations in design and quality that are required and are convinced of the importance of implementing them to achieve a stable presence in developed markets.

The knowledge advantage of export pioneers stems from their embeddedness in the business communities of their industries abroad. Other producers, however, do not need to be similarly enmeshed in a foreign network. They can acquire this knowledge through the process of diffusion set off by the pioneer. In addition, this knowledge could be potentially diffused *across* sectors since some of its critical components, such as awareness of the need to adapt products to foreign needs, ensure quality consistency, and build long-run relationships with distributors, are quite general in their nature. In this light, an implication of our study for policies of export promotion is the potential desirability of programs focused on building "soft skills" associated with changing the mindset of potential exporters when they approach foreign markets relative to helping them buy machines or attend trade fairs. Those programs could even involve the participation of successful exporters who, according to our findings, are not necessarily reluctant to share their experience and knowledge with other producers.

An interesting finding of our study relates to the role of multinationals in export emergence. In the sectors we study, multinationals are not the ones that initiate the process of export emergence. Rather, they enter the industry once the export pioneer has demonstrated the viability of the export business model. Multinationals have the foreign market knowledge that domestic firms tend to lack. However, they may not be familiar with the local conditions. In the first place, they may be uncertain about their ability to combine local factors to produce the goods that they need while satisfying quality standards and cost pressures imposed by world markets. In the second place, establishing operations in a developing country to design and produce differentiated products for the developed world implies harder challenges than those involved in just manufacturing them using designs developed elsewhere. They need to transform local design capabilities into the ability to design and produce goods that at the same time meet the tastes and needs of consumers in developed countries and the local production conditions of a developing country. Multinationals may be uncertain about their ability to achieve this goal or even about its feasibility. In any event, while we underscore the fact that we do not observe multinationals pioneering export emergence, we also acknowledge that their role in this process deserves further research. Such research could inform debates about the desirability, or perhaps the optimal timing, of polices designed to foster new exports from local producers *vis a vis* those aimed at promoting new exports by attracting foreign direct investment.

Finally, our findings suggest that the systematic study of the success and failure of export emergence in different industries may provide further insights into export development and how public policy can influence it. In this study we have largely devoted our research to understanding the conditions that explain the appearance of an export pioneer and his role as the initiator of export emergence in a given industry. Further research could focus on later stages of the diffusion process, paying special attention to the role played by public and private support institutions as well as multinationals.

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Appendix 1: Recent evolution of Argentina's economy and exports (1980-2008)

This section provides a brief background of the Argentine economy in the last decades and describes the structure and recent evolution of its exports.

Reversing a long history of protectionism, in the late 1980s Argentina initiated a unilateral trade liberalization process that was mostly completed by the early 1990s.[43] The nominal average tariff decreased from 37% in 1985 to 12% in 1991 while most non-tariff barriers were removed. Argentina was also a founding a member of Mercosur, which was launched in 1991 and included a transition period that finished in 1995 with the creation of a customs union. In addition to substantial unilateral and regional trade liberalization, other structural transformations took place simultaneously. These reforms included the removal of restrictions to FDI, the liberalization of the capital account, and a drastic privatization and de-regulation program. After a decade of stagnation, the Argentine economy started a period of considerable growth which lasted until the third quarter of 1998. That moment was the beginning of a severe recession that culminated in a financial, currency and debt crisis in 2001. Since reaching the trough of the crisis in 2002, GDP growth has been consistently strong until 2008. Figure A.1 shows the evolution of Argentina's GDP at constant prices since 1980.

FIGURE A.1

Gross Domestic Product

Argentina 1980-2008

Note: 1993 prices
Source: INDEC (National Institute of Statistics)

[43] A drastic program of trade liberalization was implemented in the late 70s but lasted only a few years.

Large real exchange rate fluctuations have also been a chief characteristic of the conditions facing Argentine exporters since 1980. As displayed in figure A.2, the real exchange rate drastically decreased following the launch of the convertibility regime in 1991, as inflation persisted for several months following the peso's peg to the U.S. dollar. After remaining relatively stable for more than half a decade, it considerably appreciated in 1999 due to Brazil's devaluation of the real, and continued at this level until the crisis of 2001-2002. This episode led to a large sudden devaluation of the real exchange rate. It has since been decreasing gradually and, in 2008, was roughly at about twice its value during the previous decade.

FIGURE A.2

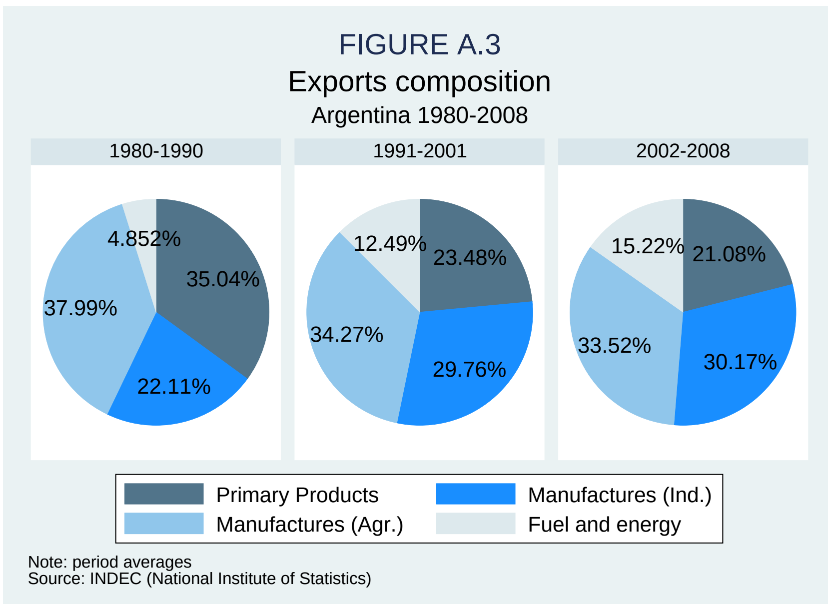
Real Exchange Rate Index

Argentina 1991-2008

Note: Dec. 2001=100
Source: Central Bank of Argentina until 2006. Own calculations based on Central Bank of Argentina and Buenos Aires City (University of Buenos Aires) since 2007

The combined effect of reforms in the trade and investment regimes and a relatively more stable macroeconomic environment had a significant impact on the evolution of Argentina's exports. While export growth averaged 5.9% annually in the period 1980-1990, it averaged 10.6% in the period 1991-2008 (see figure 3.2). Export growth picked up in the early 1990s, stalled during the end of that decade, and resumed vigorously after the devaluation of the peso in January 2002.

Even though all major export categories have grown substantially in the past 30 years, different rates of growth have led to a significant change in Argentina's export composition. Figure A.3 reports the composition of exports in three different periods. Primary products and agriculture-based manufactures, which jointly dominated exports in the period 1980-1990 with 73% of the total exported, declined to 54% in the period 2002-2008. Most of this fall can be attributed to primary products, whose share went from 35% to 21%. On the contrary, the share of industrial manufactures went from 22.1% in 1980-1990 to 30.1% in 2002-2008, although most of this increase was accounted for by increasing exports to other developing countries (see figure 3.2). Finally, exports of fuel and energy increased from 4.8% to 15.2% as a result of the privatization and deregulation of the oil and gas industries – which was partially reversed in the last years of the period.



Appendix 2: Quantitative identification of new exporting sectors

This appendix presents a brief statistical analysis of Argentina's export performance at the sectoral level. The objective of this analysis is to identify sectors that have been successful in exporting differentiated goods to developed economies.

Although our database reports Argentina's exports at the 6-digit level of the Harmonized System (HS), we aggregate at the 4-digit level and use this level of aggregation to conduct the statistical analysis of sectoral export growth. In the majority of cases, we think that 4-digit categories best group firms and products that share similar technologies, labor-skill needs, distribution channels and marketing requirements, and thus can be thought of as economic sectors. There are 1328 4-digit HS categories.

We consider export growth between the average of the periods 1991-1994 and 2002-2005. The Argentine economy underwent a period of drastic trade liberalization that was mostly complete by 1991. Therefore, the choice of base period attempts to minimize the identification of sectors with emerging export activity driven by sectoral reallocation in response to trade liberalization. Averaging over four years prevents exceptional peaks – sometimes driven by measurement error – from dominating the measure of export growth.

We impose the following quantitative filters on the database. First, we require exports in 2005 to be above the threshold value of US$ 10 million to exclude categories that have insufficient economic significance. This amount represents 0.025% of total Argentine exports and 0.091% of industrial manufacturing exports in that year. This criterion leaves 267 out of 1328 4-digit categories in the database. Second, we rank the remaining 267 categories according to export growth between 1991-1994 and 2002-2005, and select only those in the top 40 percentiles. Applying this criterion narrows the list to 106 4-digit categories. Finally, among those 106 categories, we select only those that have shipped more than a third of their exports to OECD countries. The application of this last filter results in a list of 30 4-digit sectors. Applying Rauch's (1999) classification, 13 sectors can be classified as differentiated (listed in table A.1) and 17 as non-differentiated (listed in table A.2).

Since categories in the Harmonized System do not necessarily correspond to relevant economic sectors, the industries we choose for case study do not exactly match the 4-digit categories used in the statistical analysis. One of our sectors, wooden furniture, straddles HS category 9403 ("furniture NESOI and parts thereof") and HS category 9401 ("seats (except barber, dental, etc), and parts"), which are two of the thirteen categories included in table A.1. Another of our selected sectors, wines, coincides with HS category 2204 ("wine of fresh grapes; grape must NESOI"). Although this category is classified in table A.2 as "non-differentiated", we consider this classification to be the result of an ambiguity created by aggregation. Whereas this category is dominated by fine wines – a differentiated product – in Argentina's exports, Rauch (1999) classifies wine as a reference-price category maybe based on the category's inclusion of grape must and table wine. A third of our sectors, motorboats, is very hard to identify using customs data since not even at the finest levels of disaggregation does the HS classification discriminate by tonnage or length. Once properly defined, the motorboats industry passes all the criteria established above, except for its value of shipments which is slightly below the minimum threshold of US$ 10 million. Finally, information about exports in our fourth sector, television programs, is not included in customs data.

For a number of sectors listed in tables A.1 and A.2, growth is primarily driven by the increasing exploitation of resource-based comparative advantage in response to trade liberalization and deregulation. For instance, this is the case of copper ores (HS 2603), leather (HS 4107) and wood boards (HS 4407, 4409 and 4421). A few other sectors are highly idiosyncratic. On the one hand, nuclear reactors (HS 8401) are exported by only one government-owned agency. On the other hand, exports reported under "reaction initiators and accelerators and catalyst preparations NESOI" (HS 3815), "turbojets, turbo propellers and other gas turbines and parts" (HS 8411) and "aircraft" (HS 8802) correspond to sales of used equipment, previously imported. Netting these sectors out from the list and re-classifying wine as a differentiated product places wines, seats and seat parts, and furniture at the top of an export-ranked list of differentiated products with high export growth and substantial orientation towards OECD markets.

Table A.1. High growth, high value sectors with large exports to OECD. Differentiated

HS4	Exports 2005 (US$ M)	To OECD (%)	Growth†	**Description**
3815	41	36	13.1	reaction initiators & acceler & catalyt prep NESOI
9403	36.3	36	5	furniture NESOI and parts thereof
4409	30.4	93	49.3	wood, continuously shaped (tongued, grooved etc.)
6907	27.2	94	32.4	unglazed ceramic flags & paving, hearth tiles etc
8401	17.6	100	6.6	nuclear reactors; fuel elem (n-i); mach isotop sep
8455	17.5	51	5.7	metal-rolling mills and rolls therefor; parts
8516	12.5	35	4.6	elec water, space & soil heaters; hair etc dry, pt
4421	12	89	16.7	articles of wood, NESOI
8411	11.9	50	11.8	turbojets, turbopropellers & oth gas turbines, pts
6109	10.4	47	14.7	t-shirts, singlets, tank tops etc, knit or crochet
	39,876	69	2.4	Total exports

†Growth: ratio between the average for 2002-2005 and the average for 1991-1994.

Table A.2. High growth, high value sectors with large exports to OECD. Non-differentiated

HS4	Exports 2005 (US$ M)	To OECD (%)	Growth†	**Description**
2603	1026.9	42	318783	copper ores and concentrates
2204	303.7	67	6.8	wine of fresh grapes; grape must NESOI
4107	268.1	41	57.8	leather of animals NESOI, no hair NESOI
7210	166.6	51	6.3	fl-rl iron & na steel nun600mm wd, clad etc
7108	145.4	70	16.2	gold (incl plat plated), unwr, semimfr or powder
2008	130.5	70	5.4	fruit, nuts etc prepared or preserved NESOI
2905	110	65	5.3	acyclic alcohols & halogenat, sulfonatd etc derivs
806	75.7	60	5.2	grapes, fresh or dried
7224	54	99	1144.5	alloy steel NESOI in ingots, oth pr frm & semif pr
2302	52.1	91	5.1	bran, sharps etc from working cereals & leg plants
7214	39.6	64	8.5	bars & rods, iron & na steel NESOI, h-r etc
2827	38	70	149.2	chlorides etc; bromides etc; iodides etc.
2901	30.1	60	27.1	acyclic hydrocarbons
810	28.9	99	126.8	fruit NESOI, fresh
3913	24.9	34	166.4	natural (inc modified) polymers NESOI, primary forms
2836	19.4	62	21.6	carbonates; peroxocarbonates; comm amm carbonate
811	11.1	72	434.6	fruit & nuts (raw or cooked by steam etc), frozen
	39,876	69	2.4	Total exports

†Growth: ratio between the average for 2002-2005 and the average for 1991-1994.