FIRM DETERMINANTS OF EXPORT INTERNALIZATION

Working Paper No. 3758-BPS/95

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January 1995

Research funding from the Carnegie Bosch Institute for Applied Studies in International Management is gratefully acknowledged. Access to the database on Spanish exporters was provided by the Ministry of Commerce. We also thank Carlos Pereira and Montserrat Luengo for research assistance, and Gunnar Hedlund and William Ocasio for helpful comments.

Firm Determinants of Export Internalization and the Choice between Commercial Alliances and Proprietary Distribution Channels

Abstract

The choice to internalize export activities is presented as a forward vertical integration problem and studied in the light of the predictions of the theories of transaction cost economics, contingency organization, and industrial organization. The results from a sample of 843 Spanish firms suggest that the use of mass production technologies decreases a firm's likelihood of internalization, while the firm's levels of intangible assets, size and export orientation increase it. Firms producing non-standarized products in industries with high levels of intangible assets tend to internalize through commercial alliances while large firms with export experience internalize by investing in proprietary distribution channels.

THE INTERNALIZATION OF EXPORTS

This paper studies the decision to internalize export operations in a sample of Spanish firms. The internalization or integration of a firm's export activities is an important aspect of the process of internationalization. The eclectic paradigm of international production argues that firms will strive to internalize foreign operations if it allows for a more efficient and profitable exploitation of its ownership advantages (Dunning 1988). Most of the existing empirical literature has looked at foreign investment decisions by relatively large and established multinationals typically with production facilities in more than one country for the same product or a close substitute. Emerging multinationals tend to start their internationalization by integrating vertically in their value-added chain. This paper analyzes the likelihood that an emerging multinational company will internalize its international marketing and distribution operations.

Firms may export to foreign markets using a variety of alternatives ranging from direct exports to investing in proprietary distribution facilities. Intermediate options include using independent agents or distributors and engaging in a strategic alliance in distribution with a foreign firm. From an economic point of view, the decision facing the firm is one of forward internalization or integration. The research on multinational activity has traditionally concentrated on the problems of: (1) horizontal integration to overcome protectionist barriers or avoid transportation costs; (2) horizontal integration to internalize licensing agreements and other kinds of contractual arrangements by which the firm cedes its proprietary assets for a particular market and time; or (3) backward vertical integration, i.e. the make-or-buy decision for raw materials and intermediate products such as parts, components, and semi-processed goods. As a form of internationalization, export internalization provides an interesting topic for research because it is an indication of the competitive or ownership advantages of firms.

Our empirical results from a sample of 843 Spanish export firms show that the likelihood of internalization of exports increases with the level of intangible assets, the use of technologies other than mass production, export intensity, export growth, foreign capital participation, and total revenues. Firm size and the relative importance of export activities, as measured by total revenues and export intensity, respectively, increase the likelihood of proprietary distribution but not of commercial alliances. Likeliest to engage in commercial alliances are firms of all sizes in advertising-intensive industries not using mass-production technologies.

The rest of the paper is organized as follows. The next section shows the importance of export internalization in total FDI activity and discusses its relationship with the level of economic development of the home country. Section 3 summarizes the existing theoretical and empirical literature on internalization and its implications for export activities. Testable hypotheses are presented drawing on the literatures of transaction cost economics, contingency organizational theory, and industrial organization. Section 4 describes the data and variables used in the analysis. Section 5 presents the results. Finally, Section 6 presents conclusions and suggests some avenues for further research.

EXPORT INTERNALIZATION AND ECONOMIC DEVELOPMENT

Historically, emerging multinationals have taken the first steps in foreign investment so as to substitute proprietary sales organizations for agency contracts (Wilkins 1970; Nicholas 1982, 1983). Even though some of the pioneering British and American manufacturing multinationals at the turn of the century engaged in backward vertical and horizontal foreign investments, their early growth depended more on the creation of proprietary marketing and distribution organizations at home and abroad (Chandler 1977:287-314; Chandler 1990). It was only after home markets matured that manufacturing investments abroad became proportionally dominant.

The internalization of exports is a central aspect of the process of internationalization of emerging MNEs based in middle-income countries because they tend to have very limited international operations in general. Middle-income countries such as Spain, Ireland, Greece or Portugal are very active exporters, but the sales of their overseas subsidiaries are small relative to their total exports. While the sales of foreign subsidiaries of MNEs headquartered in the European Union (EU), the US or Japan amount to between 3 and 6 times the value of their home country's exports, the ratio for Spain is 0.07. As Spanish outward foreign direct investment escalated since the mid-1980s, the ratio increased to 0.13 by 1992 (Campa and Guillén 1995). Countries slightly more developed than Spain such as Italy also have relatively low ratios, except for in areas like Latin America where Italian multinationals have traditionally made large investments in both manufacturing and distribution (see Table 1; Onida and Viesti eds. 1988).

Table 2 presents the evolution of Spain's outward FDI in distribution (as opposed to in manufacturing, raw materials or holding companies) for the years 1975-78 and 1988-92.[1] Relative to the country's GDP, Spanish foreign direct investment (FDI) is now five times greater than in the late 1970s, and a larger proportion has the goal of distributing Spanish exports (Campa and Guillén, 1995).[2] Between 1975 and 1978, 13 percent of the value of outward FDI and 36 per cent of all FDI transactions had to do with product distribution compared to 18 and 46 percent, respectively, between 1988 and 1992. As a percentage of GDP, Spanish FDI in distribution is now about 20 times greater than 15 years ago. The number of FDI transactions in distribution has declined in the late 1980s and early 1990s, but their share of total

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[1]FDI broken down by goal of the investment is not available for other time periods.

[2]Campa and Guillén (1995) found that FDI in distribution, as opposed to asset-seeking or factor-seeking FDI, was inversely related to the GDP per capita and the stock of Spanish FDI in the host country and directly related to the share that trade with Spain represents in the host country's total trade.

FDI value has increased from 11 percent in 1988 to 24 percent in 1992. Thus, as outward FDI took off during the late 1980s, investment in distribution increased more rapidly than investment in manufacturing or raw material procurement. A greater number of firms have engaged in FDI in order to distribute their exported products rather than to manufacture them abroad.

The breakdown of Spanish FDI in distribution by destination country is shown in Table 3. The EU countries have always accounted for the lion's share of Spanish FDI in distribution: around 64 percent of the total number of transactions and 52 percent of total value both in 1975-78 and 1988-92. If one compares these two time periods, Spanish distribution FDI in the EU and the USA as a percentage of total FDI to each region has declined while it increased very rapidly in Latin America due to the sharp drop in Spanish manufacturing FDI there. If one looks at the 1988-91 period only, one observes that distribution FDI in the EU has been increasing as a percentage of total FDI. Only 16 percent of Spanish FDI bound for the EU, however, is in distribution, compared to 22 and 26 percent for the USA and Latin America, respectively.

THEORETICAL FRAMEWORK

Firms can access foreign markets in a range of ways depending on the degree of control exercised over the foreign assets necessary in the distribution of its products. This continuum goes from direct exports or exports through foreign independent agents who do the distribution and sale of the final product abroad to complete internalization of the marketing and distribution process by a wholly-owned subsidiary abroad. Between the two extremes, the firm can choose any combination of joint ownership of foreign distribution assets or strategic alliances in distribution with firms located in the foreign market (Borys and Jemison 1989; Oliver 1990).

A firm will choose to internalize its foreign distribution activities rather than to perform them through market transactions when the expected total costs of internalizing are compensated by the expected benefits of direct managerial control. The existing theoretical explanations for this internalization decision usually emphasize particular aspects of the problem. First, one can focus on the trade-off between minimizing costs and satisfying the perceived managerial need to control operations. Cost minimization basically entails a comparison between the administrative costs of internalized distribution and the cost of negotiating and monitoring contracts with independent distributors or with end-users (Hennart 1982:81-83; Buckley, Pass and Prescott 1990). Second, the firm may consider internalization to the extent that managerial control over distribution activities provides better market feedback, greater customer satisfaction or easier coordination among the different stages of the value-added chain, i.e. manufacturing, wholesaling, retailing, and after sales service (Chandler 1977:287-314). Third, the firm may find internalized distribution a better way of using and/or protecting its assets, resources, and capabilities from imitation by potential competitors (Caves 1982). Finally, firms engage in internalization to overcome informational assymmetries related to market access or knowledge (Borys and Jemison 1989; Contractor and Lorange 1988).

Transaction cost economics (TCE) addresses the question of how a firm should organize its boundary activities with the market and with other firms. According to TCE the firm will arrange transactions so as to minimize its total costs, i.e. the sum of production and transaction costs. It is generally assumed that markets provide lower production costs but that the transaction costs from monitoring arms-length transactions may become so large that it would compensate to internalize and trade off an increment in production cost resulting from transacting internally rather than through the market, if this internalization brings about a big enough reduction in transaction costs (Williamson 1985). Firms will minimize ex ante costs related to

informational problems between buyer and seller in establishing contact, knowing reciprocal preferences and wants, and agreeing over price (Casson 1985). Ex post costs may accrue from the opportunistic behavior of the other party (the end-user, agent, wholesaler or retailer), and have to do with the monitoring and enforcement of the contract. TCE is relevant to the problem of internalizing foreign trade transactions because it makes clear predictions as to the circumstances under which a firm would be expected to bring the transaction into its boundaries. TCE would argue that internalization pays off only if the ex ante and ex post transaction costs are so onerous that internalization as an alternative to arms-length transaction becomes overall less costly. Product and market characteristics such as asset specificity, market uncertainty or transaction frequency are associated with high transaction costs and therefore with a higher probability that the firm will internalize the transaction.

Empirical studies have provided some evidence in support of the transaction cost argument. Nicholas (1982, 1983) has presented archival information showing that British multinational investment in distribution prior to 1939 had to do with attempts to reduce transaction costs. Anderson and Coughlan (1987) found asset specificity to be the most robust predictor of internalization of distribution in a study of 94 introductions of semiconductor products in foreign markets by US firms.[3] Klein and Roth (1990) studied 477 Canadian exporting firms and found experience in international markets to increase the likelihood of internalization in the presence of low asset specificity but not in the presence of high asset specificity.

In our empirical analysis we will focus on product and technology differences across firms to test the effects of transaction costs.[4] We will distinguish between firms

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[3]Holding constant for product differentiation and prior introduction mode. The authors found no effects for product age and service requirements.
[4]No information on asset specificity is available from the dataset used in our analysis.

manufacturing standardized products with mass production technologies and other types of firms. We argue that ex ante transaction costs related to establishing contact with customers or distributors, and to agreeing over product features, performance and price will be relatively higher in the case of non-standardized products manufactured by flexible or small-batch technologies. Ex post transaction costs will also be greater because the variability in the transactions will make monitoring and enforcement of the contracts more difficult. We therefore expect that

> H1a. Firms manufacturing standardized goods with mass production technologies are less likely to internalize export activities than other types of firms.

One can also consider the problem of export internalization from the vantage point of how it may help top managers enhance operational control and achieve stability for the firm. Contingency organizational theory focuses on the impact that technological and environmental conditions have on the firm's organizational structure and domain, i.e. its range of value-added activities (Thompson 1967). Contingency theory argues that organizations would incorporate into their domains those activities or products that if left outside would become sources of uncertainty and constraint.[5]

Contingency theory predicts different ways of expanding the firm's domain depending on the nature of the technology used. According to the theory, firms using technologies such as assembling goods from a multiplicity of components or continuous-flow production typically expand their domains through vertical integration (Thompson 1967:20, 40-43). This implies that internalizing export

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[5]This point is also emphasized by resource-dependence theorists (Pfeffer and Salancik 1978).

activities would yield more benefits in the case of firms with technologies that require stability, predictability, or at least, the ability to forecast change in order to operate efficiently. The paramount example of such a technology is the mass production of standardized goods (Perrow 1967). This theory argues that once the investments in mass-production technology are in place the firm is expected to engage in backward and forward vertical integration as the need to buffer its core production activities from fluctuations and uncertainties in input and output markets arises.

Chandler (1977:287-314) makes a similar argument for the internalization of marketing and distribution by U.S. firms at home and abroad. According to him the mass producer of goods needs to keep the heavy investments in specialized machinery fully employed. By exerting direct managerial control over branding and advertising, inventories, delivery schedules, and cash flows the firm can maximize long-term profits. He presents historical evidence showing that the mass producers of such packaged goods as cigarettes, matches, flour, breakfast cereals, canned products and photographic film integrated into wholesaling during the 1880s so as to achieve faster throughput, coordinate production and distribution with greater precision, reduce uncertainties, and anticipate market changes. In the case of standardized assembled goods, Chandler argues that service, repair and credit requirements invited firms to integrate into retailing as well as into wholesaling.[6] Chandler's thesis is remarkably similar to Thompson's and Perrow's in its emphasis on the need for managerial coordination and control when mass production technologies requiring intensive and smooth operation are in place. These theorists make a prediction alternative to hypothesis H1a above:

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[6]Chandler provides several examples of these goods: sewing machines, agricultual equipment, office machinery, pumps, boilers and different kinds of electrical equipment.

H1b. Firms manufacturing standardized goods with mass production technologies are more likely to internalize export activities.

A third explanation for a firm's decision to internalize value-added activities rather than perform arms-length transactions emphasizes the role of intangible assets (Caves 1982; Kogut 1988; Kogut and Singh 1988). This perspective predicts that a firm will internalize value-added activities when it possesses intangible assets with the characteristics of a public good. For an arms-length transaction to be implemented at the economic value perceived by the exporting firm the intangible asset will have to be explained to the other party in the transaction. Given the public good characteristic of this asset, it is difficult to write up a contract to prevent the other party from using this public good for its own benefit, usually in direct competition with and in detriment of the parent firm. To avoid this dissipation of rents from the intangible asset the parent company will choose to internalize its operations.[7]

Prior research has found robust effects of intangible assets on the degree of internalization of exports. Benvignati (1990) used export data on 249 lines of business in U.S. manufacturing finding R&D and human capital intensity to be significant predictors of intrafirm versus arms-length exports, with capital and advertising intensities being insignificant. Siddharthan and Kumar (1990) came across similar relationships with a sample of 32 manufacturing industries. We follow the literature in this area and measure intangible assets by the ratios of expenditures in R&D

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[7]An alternative explanation for the relevance of intangible assets would argue that firms with high levels of them will tend to produce relatively sophisticated products which are likely to widen the informational gap between buyer and seller, particularly if they are located in different countries. This information-based explanation is conceptually different but empirically indistinguishable from the argument based on the public good nature of intangible assets.

(technological intangible assets) and in advertising (brand reputation) to sales. We therefore expect that

> H2. The larger the level of the firm's R&D and advertising expenditures relative to firm sales, the higher the likelihood of internalization of export activities.

Another potential explanation for export internalization emphasizes the role of the structure of competition in the industry. Several authors have pointed out the key role that industry rivalry among domestic and foreign producers plays in the decision to internalize international operations. The research by Knickerbrocker (1973) and later studies have shown that competitive rivalry in moderately concentrated industries lead to higher levels of foreign investment by U.S. multinational corporations. This effect has been associated with imitative behavior by firms in an oligopoly. Kogut and Singh (1988) and Contractor and Lorange (1988) argue that an oligopolistic industry structure induces both interfirm linkages and greater internalization through joint ventures. However, they also point out that this effect might be negative in highly concentrated industries since for these industries a greenfield investment will increase overall industry capacity and will be likely to lead to competitive reactions by other firms. This negative effect applies to FDI that results in increases in industry capacity. Therefore, it is not likely to be important in our sample since we are measuring internalization of the foreign distribution of goods produced in the home country, which does not necessarily imply an increase in productive capacity. Accordingly, we expect that

> H3. The higher the industry concentration, the likelier the internalization of export activities.

The above hypotheses speak to the likelihood of internalization of exports in general, not to the likelihood of different types of internalization. If the firm faces informational problems because of access barriers to foreign markets or because of lack of experience, it may affect the mode of internalization. We will distinguish between internalization by establishing a commercial alliance with a foreign partner and by investing in proprietary distribution channels abroad. Commercial alliances would be more likely if by teaming up with a partner the firm acquires capabilities or resources not available otherwise (Borys and Jemison 1989). Contractor and Lorange (1988) refer to international alliances in distribution as a step in "vertical quasi integration," i.e. an intermediate solution between pure arms-length transactions and wholly-owned subsidiaries. They argue that commercial alliances will occur if lack of knowledge about the foreign market is an impediment to higher exports or if the firm encounters access barriers that do not affect its competitors in the export market.[8]

The choice between commercial alliance and proprietary distribution will also be affected by the firm's experience in foreign markets (Contractor and Lorange 1988; Kogut and Singh 1988; Oliver 1990). Firms with no or little experience are more likely to need the assistance of a foreign partner. By establishing a strategic alliance the export firm can acquire the required knowledge about the local market, enhance its legitimacy and reputation, break through other types of entry barriers, and accumulate the necessary experience. Therefore, we expect that

> H4. If lack of knowledge about foreign markets, restricted access, or scarce export experience are perceived as limitations to the firm's export activity, the likelihood of internalization by commercial alliance will increase.

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[8]See also Hergert and Morris (1988) and Oliver (1990).

Finally, this literature typically emphasizes resource constraints as a key factor behind the occurrence of international collaborative agreements. Investing in proprietary distribution may be an option only for relatively large firms which have the resources or can bear the risks of foreign direct investment. Therefore,

H5. Firm size increases the likelihood of internalization by proprietary distribution.

DATA AND METHODS

The sample (stratified by industry) is comprised of 2264 firms, representing the universe of firms incorporated in Spain regardless of size or ownership which engaged in exports of tangible goods during 1990 or 1991.[9] According to the survey, nearly 30 percent of all Spanish exports by firms with 25 or more employees reached foreign markets through proprietary distribution channels (see Table 4). Firms with proprietary distribution investments abroad handled up to 70 percent of their exports internally. Spanish firms with a foreign capital participation of 75 percent or more account for 33 percent of total Spanish exports, and they manage a higher percentage of their exports internally than Spanish firms with no or less than 75 percent foreign ownership. As foreign ownership increases, so does the proportion of firms with proprietary distribution for export and the percentage of exports actually managed through the proprietary channels. In other words, inward FDI has pushed up Spain's overall export internalization ratio. But export intensity, i.e. the ratio of exports over total firm sales, is very similar for firms with different percentages of foreign participation. Firms with proprietary distribution abroad tend to have slightly higher export intensity ratios than firms without them, except for firms with 75 percent or

[9]1992 Survey of Exporters conducted by the Instituto Español de Comercio Exterior (ICEX), an agency of the Ministry of Commerce. The margin of error is +/- 2.5 percent.

more foreign capital participation, for which the relationship is in the opposite direction.[10]

A more complex influence of foreign capital participation, however, is to be found when one assesses the use of commercial alliances with a foreign partner. As shown in Table 5, commercial alliances are more frequent among firms with less than 75 percent foreign capital participation than either among wholly Spanish-owned firms or among firms with 75 percent or more foreign capital. The latter group includes, of course, many wholly-owned foreign subsidiaries which tend not to have any commercial "alliances" with a foreign partner but are fully integrated into its parent company's worldwide marketing and distribution organization. Unlike in the case of proprietary distribution, firms with commercial alliances tend to have lower export intensity ratios than firms without alliances. The most significant difference occurs among firms with 75 percent or more foreign capital participation: firms with commercial alliances have an export intensity of only 20.8 percent, compared to 31.1 percent for firms without alliances.[11]

Our regression analyses are based on a subsample of 1175 firms, after excluding firms with less than 25 employees and firms with 75 percent or higher foreign ownership.[12] Very small firms were excluded because there were more missing data than average, and the information collected was presumed to be of lesser quality. Firms with a foreign ownership participation of 75 percent or more were also dropped because we believe safe to assume that the existence of commercial alliances or proprietary distribution channels in these cases would be at

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[10]This unexpected relationship might be due to the importance of (non-proprietary) franchise-type distribution channels for certain export products like autos.

[11]The reasons behind this wide difference are unclear to us. One possibility is that the wholly-owned greenfield subsidiaries of foreign multinationals, most of which are major exporters, tend not to use commercial alliances to sell their Spanish-made products abroad.

[12]This subsample represents 85 percent of all firms with 25 or more employees and 67 percent of all exports.

least partly determined by their association with the foreign parent company, and the independent variables should be measured at the parent firm level, a piece of information not available from the survey. Due to missing data problems, the final sample was 843 firms.

The Data Appendix defines the variables and sources used in the analysis. Firms with mass-production technologies are denoted by a dummy variable (MASS). R&D expenditures over sales were measured for each firm (RANDD) and advertising expenditures over sales for each industry (ADVERT). The five-firm industry concentration ratio based on sales in Spain (C5PRO) is the proxy for industry rivalry. We use two indicators for measuring difficulty of access to foreign markets: a dummy variable of whether the firm perceives lack of knowledge about export markets as a limitation (KNOW), and a three-point measure of the perception that its level of access to distribution channels in foreign markets is an advantage for the firm relative to its competitors, neither an advantage nor a disadvantage, or a disadvantage (ACCESS). We also use two indicators for export experience: exports over sales (EXPINT), and the growth export rate between 1987 and 1992 (EXPGRTH) for each firm. Total firm revenues (REVENUE) were also measured for each firm. Finally, firms with foreign ownership participation are distinguished from firms with no foreign ownership by a dummy variable (KFOREIGN).

We specify dichotomous and multinomial logit models to analyze the predictors of the internalization of exports and the form of such internalization. The dichotomous model compares firms with either commercial alliances or proprietary distribution to all other firms, i.e. firms with no internalization of exports. For the multinomial model we classify firms in the sample into one of three categories: (1) firms with neither commercial alliances nor proprietary distribution; (2) firms with a commercial alliance but no proprietary distribution; and (3) firms with proprietary

distribution regardless they have a commercial alliance or not.[13] The multinomial logit model produces separate parameter estimates and significance t-tests for firms in the latter two categories compared to those in the first (baseline) category. Thus, we report two sets of parameter estimates and significance tests all compared to the reference category of no internalization of exports. We also compare results using firm absolute values and firm values adjusted for industry means in the cases of R&D expenditure over sales, exports over sales, and total revenues in order to test if the observed effects are attributable to industry-level or firm-level differences. Out of 843 firms in the final sample for analysis, 84 had a commercial alliance alone but no proprietary distribution channels, and 174 had proprietary distribution channels.

RESULTS

Table 6 reports the results for the logit regression on the likelihood of export internalization. The first two columns of the table reflect the results for a linear model and for a model in which firm revenues are allowed to affect internalization in a non-linear form through a quadratic term. The last two columns report the results when the firm's levels of R&D expenditure, export intensity, and revenues are expressed relative to the average value of those variables in the industry. The results from these two specifications allow us to determine whether the effects are to be attributed to firm differences, industry differences, or both.

Firms using mass production technologies to manufacture standardized goods (MASS) are less likely to engage in export internalization by commercial alliance and/or proprietary distribution. This result is consistent with hypothesis H1a based on the presence of transaction costs and inconsistent with hypothesis H1b based on the incentives to enhance managerial control in order to reduce fluctuations. R&D

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[13]Only 7 percent of all firms accounting for 12 percent of exports had both proprietary distribution and a commercial alliance.

expenditures over sales (RANDD), and advertising expenditures over sales (ADVERT) are positive predictors of export internalization. These sign patterns are consistent with hypothesis H2 on intangible assets. However, a comparison between the results in the first two columns and those in the last two shows that internalization does not occur among those firms that have a higher R&D expenditure relative to other firms in their industry.[14]

The five-firm concentration ratio is never significantly different from zero, suggesting no relationship between home industry concentration and the likelihood of export internalization.[15] Firms with foreign capital participation (KFOREIGN) are likelier to internalize than wholly Spanish-owned firms. Firm size as measured by revenues predicts a higher likelihood of internalization at both the firm and industry levels. Its effect, however, levels off as firm size increases, reaching a maximum value towards the upper end of the sample distribution. Firms with export intensities (i.e. exports over sales, EXPINT) higher than the average in their industry (rather than those with high export intensity in the sample) are also more likely to internalize their operations. Finally, export growth over the last five years (EXPGRTH) is confirmed as a positive predictor of internalization.

Table 7 reports the results from the multinomial logit regressions. The results differ depending on whether internalization takes place through commercial alliances or through proprietary distribution channels. Firms participated by foreign capital, with R&D intensities higher than the average in their industry, and high export growth over the last five years are positive predictors of both forms of internalization. Commercial alliances are likeliest among firms not employing mass production technology and firms in advertising-intensive industries. By contrast, the

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[14]We cannot do a similar comparison for advertising expenditures since data at the firm level are not available.

[15]We also allowed for a non-linear effect for industry concentration with the same insignificant results.

likelihood of proprietary distribution, unlike that of a commercial alliance, increases with export experience, as measured by export intensity (EXPINT), and with resource availability, as measured by firm size (REVENUE). Export growth (EXPGRTH), however, increases the likelihood of both forms of internalization.[16] It seems, therefore, that sheer size and export volume are the drivers of investments in proprietary distribution, while firms in advertising-intensive industries that do not make standardized products using mass production technologies, regardless of their size, opt for commercial alliances with a foreign partner over proprietary distribution abroad.

Contrary to our expectations in hypothesis H4, the indicators of the limitations to higher export performance (KNOW and ACCESS) are either insignificant or significant and negative.[17] Revenues at both the firm and the industry levels increase the likelihood of internalization by distribution but not by alliance, which confirms hypothesis H5 about the importance of resources.

CONCLUSIONS

This paper has provided evidence on the likelihood of export internalization using information from a sample of Spanish firms. We argued that studying the internalization of export activities is particularly relevant for manufacturing firms based in a middle-income country since export internalizing is the initial step in a process of increasing their participation in foreign markets.

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[16]Of course, there is the possibility of an endogeneity problem in that having proprietary distribution abroad could increase the export intensity of the firm. As shown in Table 4, however, export intensities are very similar for firms with and without proprietary distribution abroad.

[17]An endogeneity effect may be at work because firms that have internalized their export activities are more likely not to perceive lack of knowledge or access to distribution channels as obstacles to better export performance.

The paper drew on existing theoretical work on internalization to develop a set of testable hypotheses. Internalization is more beneficial to the firm than exporting through an arms-length transaction when the information differential between exporter and final consumer is likely to be high. This high information differential can be due to the complexity of the product or to the existence of firm specific assets. On the other hand, a firm with a mass production process will have the incentive to internalize its export operations so as to minimize possible fluctuations in market demand that would lead to disruptions in the production flow.

We found that firms mass-producing standardized goods are less likely to internalize their operations. This result appears to be inconsistent with the prediction from contingency organizational theory that firms using mass-production technologies should integrate downstream to minimize the impact of fluctuations. We also found that firm specific assets, measured by R&D and industry advertising intensity, encourage internalization. To the extent that standardized products require less information to be transmitted from producer to consumer the previous results are consistent with the hypothesis that internalization minimizes the information costs between seller and buyer of the product.

In distinguishing between internalization by commercial alliance and by proprietary distribution we found firm size and export intensity to be significant predictors of the establishment of proprietary distribution channels. This result is consistent with the prediction that higher transaction frequency, i.e. export intensity, makes exports through expensive proprietary distribution channels abroad more efficient as the cost of the investment can be spread over a larger export volume. Commercial alliances where most likely in firms producing non-standardized products in industries with high levels of intangible assets.

The results reported in this paper do not provide sufficient evidence to be able to reject a particular theoretical explanation of the internalization process in favor of

a specific alternative. Even under ideal empirical conditions, it is not clear whether such an approach would prove useful since these theories do not make competing claims but rather tend to emphasize different motives for internalization. The goal of the paper was to provide some empirical evidence concerning particular hypotheses so that future theoretical work can build on the existing knowledge in the direction that will be most likely to represent reality.

This paper has not dealt with an important aspect of the problem of export internalization, i.e. the sequential process by which firms take steps towards internalizing export activities. We have no information regarding the sequence of internalization across foreign markets, product lines or types of internalization. For instance, one would expect a firm to establish alliances and proprietary distribution in markets ripe with uncertainty first, or to internalize exports of products that entail high asset specificity or R&D expenditure before other kinds of products, or to use joint ventures in distribution before they commit resources to wholly-owned subsidiaries.

DATA APPENDIX

Variable definitions and sources were as follows:

MASS: Equal to 1 if the firm manufactures standardized goods with a mass-production technology; equal to zero otherwise. Source: ICEX 1992 Survey.

ADVERT: Industry nominal advertising expenditure as a percentage of industry nominal sales in Spain. Source: Encuesta Industrial 1988.

RANDD: For each firm, R&D expenditure as a percentage of sales. Midpoint values were allocated to each of four closed intervals. Upper open-ended interval was assigned a value of 10 percent. Source: ICEX 1992 Survey. When relative to

industry average: Ratio of R&D expenditure to sales for each firm over ratio of R&D expenditure to sales for the industry. Source: INE R&D 1991 Survey.

C5PRO: Five-firm industry concentration ratio equal to the ratio of the sales for the five largest firms in an industry to the industry's total sales in Spain. Source: Encuesta Industrial 1990.

EXPGRTH: For each firm, exports as a percentage of sales in 1992 minus exports as a percentage of sales in 1987 over exports as a percentage of sales in 1992. Source: ICEX 1992 Survey.

EXPINT: Export intensity, i.e. ratio of exports to sales for each firm. Source: ICEX 1992 Survey. When relative to industry average: Ratio of exports to sales for each firm over ratio of exports to sales for the industry. Source: Encuesta Industrial 1986.

KNOW: Equal to 1 if the firm perceives that lack of knowledge about foreign markets represents a limitation to its export performance; equal to zero otherwise. Source: ICEX 1992 Survey.

ACCESS: Equal to 1 if the firm perceives that its level of access to distribution channels in foreign markets is an advantage relative to its competitors; equal to 2 if it is neither an advantage nor a disadvantage; equal to 3 if it is a disadvantage. Source: ICEX 1992 Survey.

REVENUE: Total firm revenues in billions of pesetas. Midpoint values were allocated to each of seven closed intervals. Upper open-ended interval was assigned a value of 25 billion pesetas. Source: ICEX 1992 Survey. When relative to industry average: Ratio of each firm's sales in billions of pesetas over industry sales in billions of pesetas. Source: Encuesta Industrial 1990.

REVENUESQ: REVENUE squared.

KFOREIGN: Equal to 1 if the firm had foreign ownership participation of less than 75 percent; equal to zero if no foreign ownership. Source: ICEX 1992 Survey.

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TABLE 1: INTERNATIONALIZATION OF EXPORTS

	SUBSIDIARIES' SALES TO HOME COUNTRY'S EXPORTS:				
Home Country	EU	USA	Japan	Latin America	TOTAL
EU (1990)	–	5.10	1.25	.	.
USA (1990)	6.30	–	1.25	.	.
JAPAN (1990)	4.25	3.50	–	.	.
SPAIN (1986)[a]	0.08	0.14	0.01	0.14	0.07
ITALY (1985)[b]	0.17[c]	0.16	.	1.75	0.19

Notes: [a]Data for Spain include in the numerator sales of exported goods by all types of affiliates.
[b]Data for Italy include in the numerator total sales of manufacturing affiliates.
[c] EU is EEC-9.

Sources: Encarnation (1994:212); Secretaria de Estado de Comercio (1989:225-226); Onida and Viesti eds. (1988:7, 9, 51, 54)

TABLE 2: SPAIN'S OUTWARD FDI IN DISTRIBUTION, 1975-78 AND 1988-92

YEAR:	NUMBER OF TRANSACTIONS		VALUE OF TRANSACTIONS:		
	n	% of Total	Million Current Ptas.	% of Total	Per 100,000 GDP
1975	52	42	435	22	7.2
1976	96	49	1028	24	14.1
1977	88	30	1436	11	15.6
1978	139	33	1425	11	12.6
1975-78	375	36	4325	13	–
1988	903	50	23,349	11	58.1
1989	1148	47	45,237	16	100.4
1990	1387	47	90,648	19	180.9
1991	1050	45	97,774	14	178.4
1992	600	42	130,997	24	222.6
1988-92	5088	46	388,005	18	–

Sources: Nueno Iniesta et al. (1981:96, 102-105, 149-153); Ministry of the Economy.

TABLE 3: SPAIN'S OUTWARD FDI IN DISTRIBUTION. BY HOST COUNTRY (1975-78 AND 1988-92)

HOST COUNTRY:	NUMBER OF TRANSACTIONS:			VALUE OF TRANSACTIONS:			Percent of Total FDI
A: 1975-78	n	% of Total Distribution FDI by Country	% of FDI in Distribution to Total FDI	Million current pesetas	% of Total Distribution FDI by Country	% of FDI in Distribution to Total FDI	
EU	240	64.0	65.0	2,284	52.8	33.2	21.1
USA*	48	12.8	70.6	740	17.1	39.4	5.8
Latin America	54	14.4	13.4	858	19.8	4.3	61.0
TOTAL	375	100.0	36.4	4,325	100.0	13.3	100.0
B: 1988-92							
EU	3276	64.4	50.9	199,091	51.3	15.9	56.8
USA	404	7.9	45.2	38,541	9.9	22.0	7.9
Latin America	627	12.3	40.1	50,201	12.9	25.9	8.8
TOTAL	5088	100.0	46.2	388,005	100.0	17.6	100.0

Notes: * Includes Canada

Sources: Nueno Iniesta et. al. (1981:143, 152-153); Ministry of the Economy.

TABLE 4: USE OF PROPRIETARY DISTRIBUTION (PD) FOR EXPORT IN 1992[a]

	Firms		% Exports Through Proprietary Distribution (PD)	Export Intensity
Type of Firm:	n	% of Exports	Mean[c]	Mean[b]
No Foreign Capital	997	50.9	20.1	29.2
With PD	198	22.8	56.2	32.4
Without PD	799	28.1	0.0	27.0
Foreign Capital < 75%	147	16.4	36.3	31.7
With PD	56	9.2	76.7	33.8
Without PD	91	7.2	0.0	29.3
Foreign Capital ≥ 75%	211	32.7	41.4	29.4
With PD	122	19.0	80.9	27.6
Without PD	89	13.7	0.0	32.3
All firms with PD	376	51.0	69.6	30.7
TOTAL	1355	100.0	29.7	29.6

Notes: [a]Firms with less than 25 employees are excluded.
[b]Weighted by firm exports.
[c]Percentage of exports to sales. Weighted by firm revenues.

Source: Instituto de Comercio Exterior 1992 Survey of Exporters.

TABLE 5: USE OF COMMERCIAL ALLIANCE (CA) FOR EXPORT IN 1992[a]

Type of Firm	n	Percentage of Exports	Export Intensity[c]
No Foreign Capital	997	50.9	29.2
With CA	146	9.1	26.1
Without CA	848	41.7	30.0
Foreign Capital < 75%	147	16.4	31.7
With CA	41	6.0	30.3
Without CA	105	10.3	33.7
Foreign Capital ≥ 75%	211	32.7	29.4
With CA	49	4.8	20.8
Without CA	158	26.0	31.1
All Firms with CA	236	19.9	30.7
TOTAL[b]	1355	100.0	29.6

Notes: [a]Firms with less than 25 employees are excluded.
[b]There are 8 firms with missing data.
[c]Weighted by firm revenues.

Source: Instituto de Comercio Exterior, 1992 Survey of Exporters.

Table 6: Logit regressions on the internalization of exports by either commercial alliance or proprietary distribution, or both

	A	B	Relative to Industry Averages[a]: C	D
Constant	-1.7536 7.854	-2.1121 8.575	-1.5382 7.174	-1.7160 7.724
MASS	-0.4440** 1.987	-0.5431** 2.398	-0.4485** 2.049	-0.4706** 2.120
ADVERT	0.2070* 1.814	0.1920* 1.668	0.2904*** 2.580	0.3319*** 2.911
RANDD[a]	0.1096*** 4.175	0.1028*** 3.861	0.0012 0.487	0.0008 0.333
C5PRO	-0.3104 0.563	-0.3908 0.697	0.0404 0.073	0.0028 0.005
EXPGRTH	0.2819** 2.230	0.3070** 2.370	0.2770** 2.241	0.2888** 2.299
EXPINT[a]	0.5649 1.622	0.4869 1.381	0.1067*** 2.603	0.1047** 2.539
REVENUE[a]	0.0524*** 4.818	0.3734*** 4.616	7.9699*** 2.851	40.1920*** 4.637
REVENUESQ[a]		-0.0123*** 4.017		-147.2700*** 3.938
KFOREIGN	0.9345*** 3.857	0.9087*** 3.739	1.0697*** 4.537	0.9500*** 3.930
Model Log-Likelihood	-460.30	-452.20	-452.77	-444.75
N	843	843	780	780

Note: [a]For models C and D the following variables were redefined relative to industry averages: RANDD, EXPINT, REVENUE and REVENUESQ.

t-ratios reported beneath regression coefficient.
* $p < 0.10$
** $p < 0.05$
*** $p < 0.01$

Table 7: Multinomial logit regressions on the internalization of exports

Commercial Alliance	A	B	Relative to Industry Averages[a]: C	D
Constant	0.3955 0.466	0.2525 0.294	0.8039 0.972	0.6499 0.777
MASS	-0.6806* 1.904	-0.6938* 1.925	-0.6804* 1.907	-0.6850* 1.919
ADVERT	0.3218** 1.992	0.3125* 1.933	0.3005* 1.851	0.3180* 1.958
RANDD[a]	0.1032*** 2.722	0.1008*** 2.650	0.00004 0.009	-0.0003 0.062
C5PRO	0.5464 0.686	0.4891 0.616	0.8230 1.018	0.6771 0.829
EXPGRTH	0.3765* 1.833	0.3772* 1.835	0.3693* 1.787	0.3849* 1.840
EXPINT[a]	-0.3426 0.619	-0.3484 0.629	0.0141 0.209	0.0183 0.270
REVENUE[a]	0.0099 0.564	0.0805 0.665	-5.4769 0.852	11.4700 0.780
REVENUESQ[a]		-0.0028 0.599		-108.1300 0.794
KFOREIGN	-0.9687*** 2.820	-0.9388*** 2.737	-1.0152* 2.962	-0.9859*** 2.866
ACCESS	-0.4804*** 2.926	-0.4661*** 2.833	-0.5228*** 3.117	-0.5096*** 3.039
KNOW	-0.5366 1.475	-0.5298 1.456	-0.6181 1.623	-0.6010 1.576

Note: [a]For models C and D the following variables were redefined relative to industry averages: RANDD, EXPINT, REVENUE and REVENUESQ.

t-ratios reported beneath regression coefficient.
* $p < 0.10$
** $p < 0.05$
*** $p < 0.01$

(Continued)

Table 7: Multinomial logit regressions on the internalization of exports (continued)

Proprietary Distribution	A	B	Relative to Industry Averages[a]: C	D
Constant	0.3272 0.487	-0.3810 0.549	1.3751 2.148	1.3068 2.035
MASS	-0.3651 1.443	-0.5054** 1.966	-0.3551 1.438	-0.3600 1.453
ADVERT	0.1051 0.798	0.0864 0.651	0.1650 1.267	0.2090 1.583
RANDD[a]	0.1110*** 3.723	0.1020*** 3.356	-0.0044* 1.698	0.0036 1.307
C5PRO	0.4121 0.678	0.3057 0.486	0.8889 1.447	0.7742 1.243
EXPGRTH	0.2625* 1.757	0.2932* 1.912	0.2667* 1.821	0.2920** 1.974
EXPINT[a]	0.4977 1.239	0.4245 1.043	0.1141** 2.502	0.1169** 2.557
REVENUE[a]	0.0577*** 5.113	0.4972*** 5.119	0.5936 1.375	7.0559*** 2.581
REVENUESQ[a]		-0.0167*** 4.579		-3.4298** 2.389
KFOREIGN	-0.8672*** 3.175	-0.8426*** 3.081	-1.1043*** 4.137	-1.1238*** 4.203
ACCESS	-0.3067** 2.391	-0.2603** 2.009	-0.4469*** 3.512	-0.4384*** 3.426
KNOW	-1.0931*** 3.281	-1.0961*** 3.261	-1.0343*** 3.149	-1.0342*** 3.139
Model Log-Likelihood	-615.64	-604.88	-598.68	-595.28
N	843	843	780	780

Note: [a]For models C and D the following variables were redefined relative to industry averages: RANDD, EXPINT, REVENUE and REVENUESQ.

t-ratios reported beneath regression coefficient.
* $p < 0.10$
** $p < 0.05$
*** $p < 0.01$