Corporate financial structure and firm's decision to export

- **Purpose**: This study aims to analyse the decision to export in relation to financial issues, specifically the impact of corporate financial structure on a firm's export propensity (the likelihood of a firm becoming an exporter) by firm size.

- **Design/methodology/approach:** A multivariate probit model is applied to a sample of 8,019 Spanish manufacturing firms drawn from the Iberian Balance Sheet Analysis System (SABI). The analysis is performed separately for small, medium and large firms.

- **Findings:** The paper evidences, by firm size, a positive link between ownership concentration and export propensity, although for SMEs if shareholder concentration is very high it can be counterproductive. In addition, a high degree of liquidity influences the probability of entering export markets, while those firms that face high costs as result of their export activity may need to become indebted in order to secure the necessary financial resources. However, the strength of these latter effects differs in SMEs.

- **Originality/value:** This paper broadens our understanding of the relationship between firms' export propensity and their financial health and ownership concentration, an internal factor not previously considered in the international business literature despite its relevance for firm's decision to export. Our paper highlights that their influence is not uniform but affects firms of different sizes in different ways. This is of interest and value to scholars, investors and policy makers worldwide, since handling corporate financial structure and international strategies needs to be addressed in today's global business environment.

1. Introduction

International trade is traditionally considered one of the growth engines of a country; indeed, export activities boost the wealth not only of nations but also of individual firms. Accordingly, exporting has been widely studied in the literature of both economics and international business, featuring in-depth analyses of firm's export propensity[i] and stressing the heterogeneous characteristics of exporting and non-exporting firms (Bernard and Jensen, 1997; Roberts and Tybout, 1997). From this approach, several internal factors such as size, age and performance have been distinguished when accounting for firm's heterogeneity effects (Roberts and Tybout, 1997; Wagner, 2001; Mañez et al., 2008); either younger, smaller or less productive firms display a lower probability to export since they face bigger sunk costs (Roberts and Tybout, 1997) than their larger, older and more productive counterparts.

Taking this stream of research, the present paper conducts an in-depth look at firms' export propensity, based on an examination of firm-level data from the perspective of their manifest heterogeneity. Since traditional trade models based on a single source of firm heterogeneity fail to account for certain trade patterns (Serti et al., 2010), our analysis of export propensity includes not only the aforementioned explanatory factors, but also non-traditional ones related to corporate financial structure, such as financial constraints and ownership concentration.

Although the impact of financial constraints on firms' investment decisions has been a recurrent topic in the corporate finance literature, studies that examine financial issues in relation to the export decision are limited and generally restricted to static models (Caggese and Cuñat, 2011). Recent empirical studies of firms' heterogeneous productivity, conducted in line with Melitz (2003), stress that a firm's export propensity can be figured out as an investment decision, in which major costs have to be met. As

such, financial constraints might supposed to be a key determinant of a firm's export behaviour (Chaney, 2005; Bellone et al., 2010; Manova, 2013; Muûls, 2015). In fact, in the presence of imperfect capital markets, less financially constrained firms – that is, those whose liquidity and leverage are in a healthy condition (Greenaway et al., 2007) – enjoy easier access to foreign markets. While there is empirical evidence of its relevance for the SMEs, as they typically face greater problems obtaining financial resources (Ayob et al., 2015), comparative research between large and SMEs firms has remained underexplored. Thus, in compliance with the heterogeneity perspective we explicitly test the effect of financial constraints on export propensity by firm size.

Moreover, the effect of equity ownership on the specific decision to go international has not been deeply considered previously in the literature. Some effort has been devoted to examine the influence of shareholder identity on firm's international strategy, but always from the agency theory perspective (e.g. Dosoglu-Guner, 2001; George et al., 2005; Fernández and Nieto, 2005; Filatotchev et al., 2007; Sciasci et al., 2012). As such, they seek to explain the influence of management-ownership relationships on internationalization decisions, identifying the problems that might arise from differences in the incongruence of the principals and agents' attitudes and goals (Eisenhardt, 1989). In contrast, this paper differs from previous studies by applying the resource-based view (RBV) and directly tackling the influence of a firm's ownership concentration on its export decision, another issue that, to the best of our knowledge, has not been examined before.

Beginning to export is one of the risky and relevant firm's decision process that implies additional availability of financial resources to cope with the high presence of sunk costs (Roberts and Tybout, 1997), such as researching new foreign demand, establishing new marketing and distribution channels, adjusting product characteristics

for meeting foreign tastes and fulfilling legislation of other countries (Girma et al., 2004). All these are risky actions because exporting investment decision payoff is really uncertain. Although there is evidence that export activities lead to a positive performance (i.e. Baldwin and Gu, 2003), it only occurs in the long term. Thus, firms' engagement represents a key aspect because success is contingent on the firm's long term effort to increase participation in international markets. Then, it requires a full commitment over a sustained period by those shareholders controlling the firm (Dosoglu-Guner, 2001), that can be more easily achieved if there is a high percentage of equity concentration. In consequence, we posit that ownership concentration may play an important role in firm's export propensity.

Hence, in this article we address this gap in the literature by investigating two main research questions: i) Do a firm's financial constraints and its capital concentration impact its export propensity?; and, ii) Does this impact differ according to firm size?

This paper explores these questions in an effort at broadening our understanding of the relationship between export propensity and corporate financial structure. In doing so, it responds to recent calls in the literature to bring further ideas from corporate finance to the study of international trade and investment (Foley and Manova, 2015). Specifically, we examine the influence of liquidity, indebtedness and shareholders' concentration –alternative mechanisms for accessing financial resources– on the likelihood of a firm becoming an exporter. In addition, we draw inferences about the effect of firm size on any possible differences. To do this, this study employs a panel database containing details of 8,019 Spanish industrial manufacturing firms for the period 2002-2005, performing the analysis separately for small, medium and large firms.

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This paper makes two significant contributions. First, and foremost, we uncover the relevant effect of ownership concentration on a firm's export propensity; an internal factor that has not previously been examined in the literature. Specifically, our results point to the importance of considering differences in the percentage of capital concentration in relation to firm size: in the case of small firms, if the concentration is high (more than 50%), the ownership concentration can be counterproductive. Second, we find evidence of the importance of liquidity for the probability of entering export markets, while those firms that face high costs as result of their export activity may need to become indebted in order to secure the necessary financial resources. However, we only have robust evidence of this positive effect for medium-sized firms. In addition, the nature of our sample, which allows for a longitudinal analysis by firm size, and the novelty of including traditional and non-traditional explanatory factors in a probit random effects model, provide a more comprehensive picture of the firm's decision to export and allows us to control for unobserved heterogeneity.

The paper is structured as follows. Section 2 reviews new internal factors for consideration and testing. Section 3 describes the database and the econometric strategy. Section 4 presents the empirical results. Finally, section 5 discusses the findings and the closing section 6 offers conclusions.

2. Literature review and hypothesis development

There appears to be a very clear connection between a firm's financial structure and its corporate strategic decisions (Porter, 1990). However, while there is considerable support for such an association, especially with respect to diversification strategy (Jensen and Meckling, 1976; Eisenhardt, 1989) and, more recently, innovation strategy (Chin et al., 2009; Lee, 2005), there is no conclusive evidence with regard to

internationalisation strategy or export propensity.

Choosing to enter the export market is a major decision for any firm since it involves great long-term organisational and strategic repercussions. Direct export activity can be a lengthy, costly process with highly uncertain outcomes, owing to the need to develop suitable commercial infrastructure that can guarantee success. Moreover, export activity is linked to the strong presence of high sunk costs (Roberts and Tybout, 1997), such as looking for export market information (Okpara, 2009), researching new foreign demand or complying with the quality and safety legislation of other countries (Girma et al., 2004).

In this regard, the resource-based view (RBV) is a relevant theoretical framework given that it highlights the importance of strategic capabilities and resources for internationalisation (Peng, 2001). From this theoretical perspective, only firms with valuable resources generate competitive advantages and higher long-term performance (Barney, 1991). Indeed, financial funding is crucial for implementing an internationalisation strategy, especially as far as SMEs are concerned, because it provides the capital investment required to develop essential international capabilities and to face the high sunk costs associated with exporting.

Taking this approach, empirical studies based on firm-level trade data show a clear correlation between financial health and export propensity, with the former determining the financial resources available to a firm, which in turn condition its internationalisation strategy (Chaney, 2005; Greenaway et al., 2007; Bellone et al., 2010, Manova, 2013).

As such, financial constraints constitute a further source of heterogeneity and one that should be included to explain differences in export propensity across firms. Yet, empirical findings differ on the impact of financial constraints on exports. On the

one hand, Chaney's (2005) model of international trade incorporating firm liquidity constraints shows that only firms with sufficient liquidity are able to afford the entry costs and access foreign markets. This finding is consistent with Bellone et al.'s (2010) study of a sample of French enterprises that shows that firms in better financial health are more likely to export and, less constrained firms are better able to start exporting. Furthermore, Muûls and Pisu (2009), working with a database of Belgian enterprises, report that even if financially constrained firms manage to access foreign markets, they tend to serve fewer destinations than those served by firms unaffected by credit constraints. On the other hand, Greenaway et al. (2007), drawing on a large dataset of UK manufacturing firms, explore the causal relationship between exporting and financial constraints, but report a reverse causality: Exporters enjoy better financial health but this is not a determinant of their participation in export markets. The authors claim that exporting boosts a firm's financial health, as participating in export markets for a long time tends to make firms more liquid and less leveraged. Campa and Shaver (2001) report results that point in the same direction. Using a panel of Spanish manufacturing firms in the 1990s, they conclude that the steadiness provided by foreign sales means a firm's liquidity constraints are less binding. Silva (2011) corroborates this result with data for Portuguese manufacturing enterprises, reporting a significant improvement in firms' financial health after entering export markets. Hence, based on the previous arguments we posit:

Hypothesis 1: The greater the firm's liquidity, the more likely it is to export.

In addition to the direction of the causal link, what also remains unclear is the relationship between the firm's leverage and its financial constraints. For example,

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Clark et al. (1996) argue that debt has a negative impact upon a firm's internationalisation since it may imply a greater risk of bankruptcy. However, high leverage may also suggest that the firm has had access to external financial resources in the past, so it is not currently suffering the effects of financial constraint. Exporters depend more on external financing than domestic firms since they face additional costs, greater transaction risks and higher working capital needs due to longer transport times (Manova, 2013). As such, we argue that the sign of the association between the level of leverage and export propensity depends on the ease with which a firm can access financial resources. Unlike large firms, SMEs have fewer internal resources they can resort for exporting (Requena-Silvente, 2005); therefore, if they opt to export they need to obtain external funding, even though they are more credit constrained (Antony et al., 2012) and this alternative considerably increases the related risk. Debt capital (including long-term debt) is riskier and more rigid than equity, as the firm has to repay loans and pay interest in line with strict schedules. Yet, for those firms with greater financial constraints, such as SMEs, a high leverage level may be the only way to implement export strategies that might offset their insufficient internal resources that permit undertake strategies with results on the long term. Exporters depend more on external financing than domestic producers because of additional costs related to trade. Therefore, early indebtedness decisions positively influences export propensity, especially in SMEs given their greater difficulties in accessing financial resources. In other words, the firm's leverage level may have influence on the chances to become an exporter according to the firm's easiness of accessing financial resources. Indeed, acquiring external financing for exporting is imperative but difficult for SMEs (Ayob et al., 2015), and for this reason smaller firms would display less export activities. Hence, it can also be argued that firms are heterogeneous with respect to finance (Antony et al.,

2012) and that when a firm opts for the internationalisation pathway its decision is based in part on its borrowing capacity and ability to access financial resources in the past (Graves and Thomas, 2008). Thus, we propose:

Hypothesis 2: The greater the access to external financial resources in the past, the more likely it is to export.

But liquidity and leverage are not the only essential components of a firm's financial health; equity is also a key factor in determining its corporate financial structure. More specifically, shareholders' equity and liabilities can be considered alternative mechanisms of corporate governance and an alternative source of financial funding for a firm. Therefore, they need to be taken into consideration in a heterogeneity approach to explaining a firm's export propensity.

RBV framework suggests that large-block investors may provide access to the resources required for developing international activities (Filatotchev et al., 2008). The decision to export involves risk because the investment pay-off is genuinely uncertain. Successful export activity improves performance (Baldwin and Gu, 2003), but only in the long term. Therefore, success is contingent on a firm's long-term commitment to increasing its participation in international markets and this requires the full support of its main shareholders (Dosoglu-Guner, 2001). Given the critical importance of long-term commitment to internationalisation, i.e. 'patient' capital (Lukas et al., 2007) commonly associated with ownership concentration, plays a vital role in a firm's export propensity. Meyer, et al. (2006) describe 'commitment' as a force that binds the individual to a target and, consequently, to a course of action relevant to achieving that target. In this context, owners that have high equity share capital in a firm are more

likely to show greater commitment to that firm (i.e. shared values, personal involvement, loyalty to the organisation, etc.). Therefore, the greater the concentration of the shareholding, the more tightly controlled a firm tends to be (Gaur, et al., 2015), and hence, the stronger the long-term commitment to internationalisation and the greater the amount of financial resources committed to the firm's export strategies. Nevertheless, if a firm's capital concentration is very high, even though internationalisation may be a source of value creation in the long term, the risk associated with it can be such that it might discourage the shareholders, particularly if the firm is small. According to George et al. (2005), SME owners in this situation tend to favour a more conservative approach to internationalisation, aiming to minimise the uncertainty regarding their income. They may need to share risk with other shareholders in the firm so as not to lower their wealth if, in the end, export activity does not succeed. Therefore, based on the above discussion we posit:

Hypothesis 3a: The higher the firm's ownership capital concentration, the greater the propensity to export of large firms.

Hypothesis 3b: The higher the firm's ownership capital concentration, the lesser the propensity to export of SMEs.

3. Database and method

3.1. Data and sample characteristics

This article analyses the country's export behaviour by means of the Iberian Balance Sheet Analysis System (SABI). This database, which has not previously been used for analysing the impact of firm heterogeneity on export propensity, is maintained by the

Bureau Van Dijk and includes information about the company accounts, activities, ownership and management of almost one million Spanish firms. The object of this study is a sample comprising industrial manufacturing firms located in Spain with a turnover of more than 2 million euros and which provides complete information on their management and strategic variables (exports, ownership structure, financial ratios, diversification and FDI) for the period 2002-2005. The study includes additional information, specifically financial variables for the period 1998-2001, to provide details of the initial performance conditions for the estimation procedures. The resulting data comprise a panel of 8,019 Spanish manufacturing firms registered in the manufacturing sector using NCEA-93 Rev1: codes 15 to 36 (National Classification of Economic Activities provided by the Spanish National Institute of Statistics, INE). For reasons of sample representativeness, the paper uses sampling weights based on sector information taken from Fomento de la Producción (a database containing up-to-date information on the largest 30,000 Spanish companies in all of the country's industrial and service sectors).

Applying European turnover standards[ii], the sample is composed as follows: large firms (5%), medium-sized firms (21.4%) and small firms (73.6%). In terms of their respective export propensity, 75.7% of large firms, 67.4% of medium-sized firms and only 47.7% of small firms were exporters.

Taking the sample as a whole, only 8.4% of Spanish manufacturing firms modified their export behaviour in the period 2002-2005. This percentage falls to just 6.9% if we take only small firms into consideration. This means that the probability of a firm commencing or curtailing its exporting activities from one year to the next is in general low and that for small firms the likelihood is even lower. In line with Bernard and Jensen (1997; 2004) the evidence concerning sunk costs reinforces this point.

3.2. Econometric strategy and covariates

The dependent variable, export propensity, is expressed as a dummy variable, taking a value of 1 if a firm exports during a particular year and 0 when exports sales are equal to zero. This measure is widely used in the empirical literature (Ottaviano and Volpe Martincus, 2011; George et al., 2005; Fernández and Nieto, 2005; Bernard and Jensen, 2004; Ayob et al, 2015).

To model a firm's decision to internationalise ($y_{i,t}$), the present study uses a multivariate probit model where the equations to be estimated are as follows:

$$y_{i,t} = \begin{cases} 1 & X_{i,t}^{'}\delta + \alpha_{j1} + \alpha_{j2} + \mu_t + \varepsilon_i \\ 0 & otherwise \end{cases} \qquad (1)$$

where $i=1…N$ indicates firms; $j=1…k$ represents sectors, and $t=2002…2005$ denotes the periods considered, assuming joint normality, independent distribution and an absence of serial correlation for $\varepsilon_i=$ $_i+u_{i,t}$ (where π_i is an unobserved individual-specific effect that is time-invariant and $u_{i,t}$ is a time-varying idiosyncratic error term). Panel data have the advantage of allowing us to control for unobserved heterogeneity and to obtain stronger causal inference (Hsiao, 1985).

Among the characteristics considered ($X_{i,t-1}$), the present approach includes several internal factors that affect the probability of a firm becoming an exporter. To capture a firm's ownership concentration, the corporate governance literature has relied on the percentage of share ownership held by the largest shareholders (e.g., Filatotchev et al., 2007; Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000). However, as we have a constraint imposed by the database, we include two dummy variables in our model so as to define share ownership intervals: the first, *medium concentration level,* takes a value of 1 if the firm has one or more shareholders with a percentage of share

ownership between 25 and 50% and 0 otherwise; and, a second, *high concentration level,* takes a value of 1 if the firm has one shareholder with an ownership percentage equal to or greater than 50% and 0 otherwise. Since, the base category corresponds to firms showing a *low concentration level* (i.e. less than 25%), only variables of medium and high concentration level are made explicit in the econometric model.

To compute the firm's financial constraints, we use two variables: first, the liquidity ratio, i.e., current assets over current liabilities (Bellone et al., 2010; Silva, 2011); and, second, we measure the firm's level of leverage, using the variable debt measured as the annual percentage of total debt over total assets and lagged one period, as defined by Bernini et al., (2013); Fernández and Nieto (2005) and Becchetti and Trovato (2002).

As control variables, we introduce other firm's internal factors that traditionally account for export propensity. In accordance, firm's *age,* measured as the number of years a firm has been in existence (Sciascia et al., 2012); *legal form*, which takes a value of 0 for public limited companies and 1 for other legal forms; and firm *size,* expressed as a logarithm of the total amount of the firm's assets in thousands of euros lagged for one period (Gedajlovic and Shapiro, 1998) are included in the model.

Performance is captured in the model by the *productivity* ratio (added-value/number of employees) in log terms also lagged one period. Although no entry-exit import-export firms are observed in our longitudinal database, sunk costs are still observed. In other words, a firm's previous economic conditions have an impact on its export decisions because of the presence of fixed costs (Roberts and Tybout, 1997). Then, the parameters are biased. For this purpose, throughout the empirical analysis the study includes information regarding *trade in lagged terms* ($y_{i,t-1}$); average past performance (*operating revenues in logs*) and *volatility in past performance* (EBITDA).

These three indicators refer to the period 1998-2001. As the inclusion of the first variable means losing one year in the panel dimension, and as the results coincide, the present analysis prefers to include the other two covariates.

We include two additional variables to capture a firm's links to international networks. First, the presence of foreign shareholders in a firm's capital is captured by *foreign firm.* In line with Filatotchev et al. (2007), the variable is measured using a dummy variable that takes a value of 1 if the largest shareholder is foreign and 0 otherwise. Second, a firm's foreign direct investment is measured by the variable *FDI*, which is the number of foreign subsidiaries in which a firm has any percentage of ownership.

To capture diversification, in line with Requena-Silvente (2005), we introduce a dummy variable that takes a value of 1 if the firm operates in more than one industry and 0 otherwise. Moreover, we take into account three degrees of diversification based on information from NCEA codes; that is, *low, medium and high diversification* for firms that operate in at least two, three and four different sectors. Additionally, following Hitt et al. (1997), we add a dummy variable, *type of diversification,* that takes a value of 1 for unrelated diversification (firms operating in more than one business and declaring different first two digits in the NCEA codes) and 0 for related diversification (firms operating in related businesses and their NCEA codes have at least the same first two digits).

Finally, we include external factors to measure the effects of externality. Thus, we control for adjusted average share of exporters within the sector indicating *spillovers* within industries (Bernard and Jensen, 2004) and Spanish regions (Autonomous Communities – ACs) (Barrios et al., 2003; Mañez et al., 2008) expressed respectively as ($_{j1}$, $_{j2}$) (corrected regional and sector spillovers as endogenous covariates, following

Aitken et al., 1997). The latter allows us to include industrial fixed effects. The model also includes time fixed effects year dummies (μ_t) denoting macroeconomic environmental conditions.

4. Empirical results

Table 1 presents descriptive data on the export behaviour of Spanish manufacturing firms. It shows that firms that export are older; operate more frequently as public limited companies; present higher performance records; are more likely to belong to international networks but have almost the same intensity of diversification strategy as their non-exporter counterparts. In terms of their corporate financial structure, exporters are healthier, i.e., they present a higher degree of liquidity, lower debt ratios and higher levels of ownership concentration. Moreover, these differences between exporters and non-exporters are more marked in the case of small enterprises. For this reason, the present study has conducted separate regressions according to firm size.

Table 2 reports the final overall results. This table begins with the baseline estimation results (column 1) and then introduces the list of covariates either to test their influence separately or to check their robustness. Thus, column (2) shows the baseline results plus the list of covariates and columns (3 to 5) show the results when disaggregating the sample according to large, medium and small firms.

The results obtained corroborate the fact that the traditional factors determining export behaviour (covariates) are of undoubted validity in accounting for export propensity, especially in the case of small firms. Particularly noteworthy in this regard is the positive relationship between a firm's past experience (lagged export activity) as an exporter and its likelihood of exporting in the future, given that the coefficient of the

lagged export variable is positive and statistically significant in all the estimations. Other findings worthy of mention refer to the variables measuring diversification. Interestingly, none of them presents a high level of significance, with the exception of that of high diversification in the subsample of small firms, which presents a highly significant negative correlation with export propensity.

In addition to these expected results, we find new evidence of the influence of corporate financial structure on a firm's export propensity. On the one hand, H1 and H2 predicted the influence of financial constraints (liquidity and leverage level) in accounting for export propensity. Nevertheless, our analysis yields mixed results as regards the factors analysed. For the whole sample, we can confirm the existence of a positive connection between liquidity and the probability of exporting (H1), albeit at a medium level of significance. This same result holds for small firms, which moreover count on fewer financial resources. In the case of debt (H2), we also find a positive and significant effect for all the firms regardless of their size but most significantly for medium-sized firms. However, the estimated coefficient for small firms is not statistically significant.

On the other hand, H3 predicted that the level of the firm's ownership concentration influences on the propensity to export. This relationship is corroborated in the case of firms with a medium concentration of ownership structure (between 25 and 50%), while firms with a low level of concentration (less than 25%) are unlikely to be exporters. Moreover, large firms with the highest concentration level (shareholders with a share greater than 50%) present a greater probability of entering export markets. Consequently, this supports H3a since a medium level of firm's ownership concentration increases the propensity to export. However, it should be stressed that at the highest concentration of small firms, the coefficient is negative, indicating the

opposite relationship. Hence, H3b is also supported since a higher concentration of ownership in SMEs (more than 50% of capital in only one shareholder) has a negative impact reducing its probability of exporting.

[Insert Table 1 and 2 about here]

5. Discussion

This study applies a random-effects panel probit model to a sample of 8,019 Spanish manufacturing firms for the period 2002-2005 and shows that a firm's corporate financial structure is a relevant internal factor that has been often ignored in earlier empirical analyses. Indeed, our results demonstrate that a firm's ownership and financial structure should be taken into account when seeking to account for a firm's export propensity. Moreover, the impact of these internal factors is particularly important for SMEs and their probability of becoming exporters.

In this sense, the resource-based theory can at least partly predict the impact of differences in corporate financial structure on export behaviour. SMEs that present a medium level of ownership concentration (any owner with a share of between 25 and 50%) are more likely to export than those that have no large-block shareholders (less than 25% which is the base category). Given the risks associated with adopting an export strategy, financing its activities requires a large-scale, long-term commitment to internationalisation ('patient' capital) on the part of a firm's shareholders. However, this study finds that for small firms a high ownership concentration (one owner with a share greater than 50%) is counterproductive. This finding can be explained in terms of the greater perceived risk in undertaking export activities and the need to share the risks arising from internationalisation with more than one partner. The difference between the

effect of high ownership concentration between small and large firms is due to the size and the availability of financial resources of their shareholders, which is stronger for the case of the latters. Regardless therefore of the sign of the relationship, the evidence clearly points to the existence of an influence of ownership concentration on a firm's export propensity. As such, our results provide additional support to the findings of Dosoglu-Guner (2001) and Filatotchev et al. (2008).

Our examination of the effect of financial constraints on a firm's export propensity reveals some evidence of the importance of liquidity and the degree of indebtedness. Indeed, our analysis shows that only firms with sufficient liquidity are able to access foreign markets. This result is in line with Chaney (2005) and Bellone et al. (2010), serving to confirm a causal relationship between export propensity and liquidity. We also find robust evidence for medium-sized firms of the positive effect of debt on exporting. This finding is consistent with the fact that smaller firms face greater obstacles accessing financial resources and so they may rely on external debt to fund their export activity. SMEs are more likely to be new entrants than they are to be continuous exporters. According to Greenaway et al. (2007), new entrants generally display poorer financial health, i.e., a high degree of leverage; however, since we do not have evidence here for small firms we can only partially confirm the connection between these two factors.

Moreover, the traditional factors underpinning export behaviour are also significant in accounting for a firm's export propensity in the Spanish manufacturing sector. Interestingly, these factors have a more intense impact in the case of SMEs: for instance, our results reveal a positive link between export propensity and a firm's internal characteristics (including age, size and initial performance and export conditions) that is stronger for smaller firms. This evidence is consistent with previous

reports on firm heterogeneity (Roberts and Tybout, 1997; Wagner, 2001; Mañez et al., 2008) and export dynamics (Roberts and Tybout, 1997; Bernard and Jensen, 2004; Delgado et al., 2002).

Other findings worthy of mention include the fact that strategy diversification is found not to have a marked effect on exporting firms, except for high diversification which has a negative impact on small enterprises. Owing to the high sunk costs associated with export activity and the notable funding constraints faced by SMEs, past diversification decisions reduce the probability of becoming an exporter, partly confirming the findings of Mañez et al. (2008) and Aw and Batra (1998).

Moreover, this paper provides evidence of the positive impact on a firm's export propensity of its participating in international networks. This effect is also more significant for SMEs. Firms with sizeable foreign capital participation are more likely to be exporters than are domestically owned firms. This result is consistent with earlier studies in the literature (Kneller and Pisu, 2004; Mañez et al., 2008; Filatotchev et al., 2008, Manova et al., 2015). We also confirm that exporting and FDI are two complementary activities, forming part of a firm's overall whole international strategy. Thus, operating foreign subsidiaries does not reduce a firm's export activity, but rather it tends to boost it. In this regard, our results are in line with Bernard and Jensen (2004).

This study also confirms, for the case of Spain, the impact of regional and sector spillover effects (external factors) derived from geographical and industrial agglomerations on firms' export decisions, as identified by Bernard and Jensen (1997, 2004) and Barrios et al. (2003). Interestingly, the positive effects of these external factors (which serve to reduce the costs of exports and, hence, of becoming exporters) are significant only for SMEs and not for large firms.

6. Conclusions

Corporate financial structure is a key issue that determines the internationalisation pathway of firms. However, to date, little effort has been devoted to exploring its influence on the export behaviour of firms and most importantly, few empirical studies have sought to systematically compare the international behaviour of small firms with that of medium and large companies with regard to financial issues.

Therefore, this article is a first attempt to bring financial insights to the study of not only differences *between* exporters and non-exporters but also how they vary *across* size groups. We find that some internal factors that favour export propensity in the case of large firms hint it in the case of small firms. This can be appreciated in the different effect of ownership concentration degree in relation to firm's size, and the lack of clear impact of indebtedness and liquidity on export behaviour of SMEs as compared to large firms. Overall, our paper highlights that their influence is not uniform but affects firms of different sizes in different ways.

These differential effects have relevant implications for designing export driving policies. Policy makers, aimed to enhance the development of a country through export promotion, should appraise the structure of national industrial fabric and tailor the policies in accordance. Particularly, in countries where small firms are predominant, government programs should encourage alliances between companies in order to share the perceived risk associated with internationalisation and counterbalance the negative effect of ownership concentration on export propensity. In contrast, in territories or industries where players are mainly large/medium companies, authorities should support mergers and acquisitions to stimulate processes of accumulation of capital in order to boost the positive effect of ownership concentration on firms' internationalisation. In addition, regardless the firm size, policies should also be

directed at making loan programs readily available to local firms to fund export activities and guarantee sufficient liquidity to access foreign markets.

Nonetheless, these policy recommendations should be taken with care because this research is not deprived of limitations. First, an obvious limitation of this study concerns the fact that our database has no information regarding the length of time firms have spent in the export market. Future research would certainly seek to remedy this problem. Second, in the light of the results obtained a further in-depth examination of the effects of financial corporate structure on SMEs needs to be conducted. This would include not only selecting alternative measures for analysing the impact of the degree of concentration ownership, but also observing the influence of different shareholder types in seeking to account for export propensity, since the different stakes held and goals pursued could well influence their respective internationalisation strategies. Third, the analysis of more detailed variables regarding the effect of firms' financial health (e.g., short- and long-term debt; working capital; other solvency ratios) on export activity (e.g. export intensity; direct and indirect exports; foreign market destinations) by firm size, would doubtless enrich future studies.

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Table 1 Descriptive data of Spanish manufacturing firms included in the regression results in 2005

	Overall sample	Trade = 0	Trade = 1	Large & Trade = 1	Medium & Trade = 1	Small & Trade = 0	Small & Trade = 1
Firm characteristics							
Firm's age	22.99 (12.58)	19.47 (11.25)	24.14 (13.24)	30.23 (19.85)	26.31 (14.89)	18.67 (10.03)	22.65 (11.25)
Not operating as public limited company	0.42 (0.49)	0.50 (0.50)	0.34 (0.48)	0.16 (0.36)	0.24 (0.42)	0.55 (0.50)	0.41 (0.49)
EBITDA in log terms	6.19 (1.33)	5.99 (1.23)	6.36 (1.39)	9.09 (1.26)	7.27 (0.91)	5.65 (0.94)	5.71 (0.93)
Firm size as total assets turnover in log terms	8.58 (1.12)	8.34 (1.00)	8.78 (1.17)	11.41 (1.03)	9.67 (0.60)	8.01 (0.64)	8.16 (0.63)
Productivity ratio in log terms	5.10 (0.75)	5.08 (0.79)	5.11 (0.72)	5.78 (0.80)	5.38 (0.65)	5.01 (0.73)	4.94 (0.66)
Foreign Direct Investment							
Foreign firm	0.05 (0.23)	0.04 (0.19)	0.07 (0.25)	0.27 (0.44)	0.13 (0.34)	0.02 (0.12)	0.02 (0.14)
Number of foreign subsidiaries	0.17 (0.78)	0.06 (0.45)	0.27 (0.97)	1.46 (2.23)	0.47 (1.17)	0.02 (0.14)	0.07 (0.39)
Diversification Strategy							
Low diversification level	0.48 (0.50)	0.48 (0.50)	0.47 (0.50)	0.38 (0.49)	0.44 (0.50)	0.49 (0.50)	0.49 (0.50)
Medium diversification level	0.13 (0.34)	0.14 (0.35)	0.13 (0.34)	0.09 (0.29)	0.12 (0.32)	0.14 (0.35)	0.14 (0.34)
High diversification level	0.02 (0.14)	0.02 (0.15)	0.02 (0.13)	0.02 (0.14)	0.02 (0.15)	0.02 (0.15)	0.02 (0.12)
Type of diversification	0.14 (0.34)	0.14 (0.34)	0.14 (0.34)	0.11 (0.31)	0.13 (0.34)	0.14 (0.35)	0.14 (0.35)
Capital Structure							
Medium concentration level	0.07 (0.26)	0.06 (0.23)	0.09 (0.28)	0.10 (0.30)	0.12 (0.33)	0.05 (0.22)	0.07 (0.25)
High concentration level	0.03 (0.16)	0.02 (0.14)	0.03 (0.18)	0.07 (0.26)	0.06 (0.23)	0.01 (0.12)	0.02 (0.14)
Debt	58.78 (21.82)	60.32 (22.33)	57.45 (21.27)	59.52 (20.44)	57.19 (21.09)	60.85 (22.10)	57.40 (21.40)
Liquidity	1.68 (5.57)	1.62 (2.54)	1.85 (7.14)	1.48 (0.98)	1.71 (1.59)	1.63 (2.68)	1.93 (8.52)
Sample size	8,019	3,689	4,330	292	1,157	3,020	2,881

Note: average values and standard deviations in brackets.

Table 2 ML results for Export activity: firm's size dissimilar effects

	Baseline	Baseline & Covariates	Large	Medium	Small
Lagged export activity	2.963 (76.88)***	2.900 (67.27)***	2.275 (9.47)***	2.456 (26.00)***	3.124 (65.44)***
Externalities					
Adjusted regional spillovers		0.719 (4.99)***	0.586 (1.12)	0.745 (2.58)**	0.693 (3.95)***
Adjusted sectorial spillovers		0.696 (4.78)***	0.922 (1.51)	0.695 (2.39)**	0.683 (3.88)***
Firm characteristics					
Firm's age in log terms		-0.020 (-0.80)	0.309 (4.44)***	0.062 (1.32)	0.423 (20.00)***
Not operating as public limited company		0.002 (0.06)	-0.236 (-1.80)*	0.048 (0.81)	-0.104 (-5.07)***
Lagged productivity ratio in log terms		0.324 (3.73)***	0.447 (0.90)	0.241 (0.85)	0.192 (1.80)*
Lagged squared productivity ratio in log terms		-0.034 (-4.33)***	-0.056 (-1.46)	-0.028 (-1.13)	-0.019 (-1.97)**
Firm size as lagged total assets in log terms		0.533 (3.93)***	1.529 (1.75)*	0.767 (1.14)	0.649 (3.05)***
Squared lagged total assets in log terms		-0.028 (-3.52)***	-0.073 (-1.88)*	-0.035 (-1.00)	-0.031 (-2.34)**
Initial conditions					
Average operating revenue initial conditions		0.018 (0.88)	-0.082 (-1.32)	-0.034 (-0.94)	0.049 (1.67)*
Volatility EBITDA initial conditions		0.000 (1.31)	0.000 (2.67)***	0.000 (2.74)***	0.000 (-0.07)
International networks					
Foreign firm		0.412 (9.15)***	0.048 (0.44)	0.423 (6.56)***	0.527 (6.48)***
Number of foreign subsidiaries		0.226 (12.12)***	0.077 (2.54)**	0.262 (9.13)***	0.337 (7.92)***
Diversification Strategy					
Low diversification level		0.016 (0.54)	-0.169 (-1.39)	-0.020 (-0.33)	0.037 (1.61)
Medium diversification level		-0.090 (-1.88)*	-0.375 (-1.83)*	-0.072 (-0.71)	0.009 (0.25)
High diversification level		0.218 (1.85)*	1.157 (1.80)*	0.375 (1.35)	-0.260 (-2.72)***
Type of diversification		0.026 (0.64)	0.251 (1.27)	0.054 (0.65)	-0.028 (-0.88)
Capital Structure					
Medium concentration level	0.162 (4.91)***	0.083 (2.37)**	-0.366 (-1.19)	0.162 (1.82)*	0.163 (3.89)***
High concentration level	0.111 (2.01)**	-0.155 (-2.61)***	1.225 (3.13)***	-0.123 (-0.97)	-0.182 (-2.25)**
Lagged Indebtedness	0.056 (2.20)**	0.078 (2.88)***	0.245 (1.77)*	0.242 (3.85)***	0.050 (1.50)
Liquidity	0.005 (2.18)**	0.005 (2.11)**	0.109 (1.74)*	0.023 (1.44)	0.005 (2.26)**
Time dummies	YES	YES	YES	YES	YES
Sample size	23,662	22,915	798	4,675	17,442
Wald χ^2	6,235.50 (0.00)	10,881.25 (0.00)	253.20 (0.00)	1,918.72 (0.00)	8,271.49 (0.00)

Note: t statistics are reported in brackets. So: ***, ** and * denote statistical significance at 1, 5 and 10% respectively.

[i] Export propensity refers to the likelihood of a firm becoming an exporter. This differs from export intensity, which is the percentage of a firm's sales that are sold on foreign markets.

[ii] Specifically, large firms have over 50 million euros in operating revenues; medium firms between 10 and 50 million euros; and small firms up to 10 million euros.