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ABSTRACT

This article examines the relationship between middle market firms' access to finance and their exporting intentions. We hypothesise that this relationship is positive but moderated by a firm's age. We test our hypotheses using a novel dataset of middle market firms across four large EU economies. Our analysis demonstrates that the relationship between middle market firms' access to finance and their exporting intentions is different for younger and older firms. When younger firms have ready access to finance they are *less* likely to enter new geographic markets, while when older firms have ready access to finance they are actually *more* likely to enter new geographic markets.

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INTRODUCTION

International expansion has long been acknowledged as an important avenue of firm growth. However, expanding into international markets typically entails additional costs. These costs include ascertaining the potential viability and profitability of international operations, establishing distribution capacity, and making market-specific investments into regulatory compliance and product customisation to suit local consumer preferences and regulations. In light of these additional costs, it has been suggested that firms that intend to expand beyond their national borders are more reliant on access to external finance (Melitz, 2003).

Large-scale business surveys indicate that businesses perceive inadequate access to finance to be a major determinant of their exporting behaviour. For instance, the British Chambers of Commerce's 2014 annual International Trade survey reports that 60% of prospective exporters viewed access to finance as a key factor in deciding whether to trade overseas.

Despite the recognition of exporting firms' greater reliance on external finance, the evidence with respect to the nature of the relationship between access to finance and exporting behaviour is far from consistent (Minetti & Zhu, 2011). Indeed, some scholars argue that exporters tend to have easier access to finance (Bellone, Musso, Nesta, & Schiavo, 2010; Berman & Héricourt, 2010; Bernard, Stabilito, & Yoo, 2010; Muûls, 2015), while others suggest that exporters face greater difficulties in accessing finance (Amiti & Weinstein, 2011; Feenstra, Li, & Yu, 2014), and yet others do not find any significant relationship (Engel, Fischer, & Galetovic, 2013b; Greenaway, Guariglia, & Kneller, 2007).

There are two main theoretical arguments behind exporters' easier access to finance. The sales stabilization hypothesis (Hirsch & Lev, 1971) refers to the benefits of diversification of sales across multiple markets. In such a scenario, exporting firms would have more stable sales and cash flows, which in turn would make them more creditworthy from the lenders' perspective, easing their access to external finance (Campa & Shaver,

2002). The "self-selection hypothesis" argues that given sunk costs to exporting only the most productive firms will self-select themselves into export markets (Chaney, 2016; Roberts & Tybout, 1997). In this scenario, exporting is seen as a signalling mechanism, communicating the firm's quality to its creditors. Being perceived to be financially healthier, exporters may have easier access to external finance, or greater likelihood of securing more favourable terms on their external funds (Bernard & Jensen, 1999; Clerides, Lach, & Tybout, 1998; Delgado, Farinas, & Ruano, 2002).

However, some other scholars argue the opposite - that it is in fact more difficult for exporters to secure external funding (Amiti & Weinstein, 2011; Feenstra et al., 2014). International sales may imply longer time lags between the production of goods or provision of services and the receipt of sales revenue. Furthermore, there is greater uncertainty with regards to actually receiving such revenue, given that it is more difficult to enforce payment across borders (Amiti & Weinstein, 2011). In the context of finance providers having incomplete information about the borrowers' business, exporting firms face greater access to finance difficulties. This is because finance providers fund exporters at below the optimal amount needed (Feenstra et al., 2014).

Alongside the conflicting findings on the effect of access to finance on exporting, little systematic attention has been dedicated to investigating potential moderating effects of this relationship. Does inadequate access to finance represent a problem for all or just for some firms, potentially, young and / or small firms seeking bank finance? This paper provides more fine-grained analysis of the relationship between middle market firms' access to finance and exporting in a bid to answer this question. More specifically, we argue that age, as a proxy for availability of adequate credit history, may moderate the relationship between access to finance and export intentions.

Our paper benefits from a unique empirical setting. Within entrepreneurship, research on internationalisation issues across different countries is relatively scarce (Jones, Coviello, & Tang, 2011). Relying on the responses of the executives in excess of 4,000 mid-market firms' across the UK, France,

Germany and Italy, we present a detailed analysis of executive decision making with regards to exporting. Relying on the survey methodology enables us to incorporate firm executives' perceptions of their access of finance difficulties, something that has not been a focus of research in this literature. We use several alternative operationalizations of both exporting intentions and access to finance variables to provide a more nuanced picture of the association between these variables.

Aside from enabling cross-country comparisons, our data is based on mid-market firms, a category of firms that has not received much systematic analysis in its own right. Much of the work on both international trade and international entrepreneurship has been based on broader groupings of firms, either small firms or firms of all sizes. Middle market firms may differ from both large and small firms along several important dimensions, beyond size. Such firms face consumer expectations that are no lower than for large firms, yet they may lack the resources of the latter, whether in terms of available finance, expertise, or a scaleable pool of human resources.

The paper is structured as follows. The next section provides an overview of the current research on the relationship between access to finance and exporting and develops the hypotheses. The following sections describe the methodology and the variable specifications and present the results. The final section of the paper draws the implications of the research, outlines future research opportunities and concludes.

THEORETICAL DEVELOPMENT

The relationship between access to finance and firms' exporting behaviour remains far from clear in light of different theoretical arguments and conflicting empirical evidence. The majority of scholars argue for a positive relationship between access to finance and exporting (Bellone et al., 2010; Berman & Héricourt, 2010; Bernard et al., 2010; Minetti & Zhu, 2011; Muûls, 2015). However, some others find a negative relationship, i.e. that exporters face greater difficulties in accessing finance (Amiti & Weinstein, 2011;

Feenstra et al., 2014), while others do not identify any significant relationship (Engel et al., 2013b; Greenaway et al., 2007). (See Table 1).

Positive association between access to finance and exporting

Two main theoretical arguments have been invoked in support of a positive relationship between access to finance and exporting. One argument states that exporting enables sales stabilization (Hirsch & Lev, 1971), a concept which refers to the diversification of sales across multiple markets. The success of such diversification is predicated on the assumption that the business cycles in domestic and export markets are not perfectly correlated. Exporting firms in such a scenario shuld have more stable sales and cash flows, enabling them to finance long-term investments more easily. More stable cash flows generated by exporters make them less likely to default on external debt. Consequently, such firms would be seen as more creditworthy by lenders, easing their access to external credit (Campa & Shaver, 2002).

Another theoretical argument supporting a positive relationship between access to finance and exporting is referred to as the "self-selection hypothesis". It argues that only the most productive firms self-select themselves into export markets (Chaney, 2016; Roberts & Tybout, 1997), considering that there are additional, sunk costs to exporting such as transportation, marketing and distribution costs as well as the need for additional skills to manage foreign networks. In this scenario, exporting is seen as a signalling mechanism, communicating the firm's quality to its creditors. Indeed, Bernard & Jensen (1995) show that among US manufacturing plants, exporters are larger, more skill-intensive, more capital-intensive, and more productive, as they are likely to have had some competitive advantage to enable them to export productive (Bernard & Wagner, 2001).

Exporters also tend to have larger cash flows (Campa & Shaver, 2002). Indeed, Greenaway et al. (2007), based on UK firm data between 1993 and 2003, find that exporters exhibit a lower leverage ratio (measured as short-term debt over current assets) and a higher liquidity ratio than non-exporters. Being perceived to be financially healthier, exporters may have easier

access to external finance, or greater likelihood of securing more favourable terms on their external funds (Bernard & Jensen, 1999; Clerides et al., 1998; Delgado et al., 2002). Indeed, Bellone et al. (2010), examining French firms over the period 1993-2005, find that firms with good financial health are more likely to begin exporting. Similarly, Minetti and Zhu (2011) analysed a sample of Italian firms and found that credit rationed firms were less likely to export (39% less likely) and likely to export less (by 38%). Muûls (2015) examined the exporting behaviour of Belgian firms over the period 1999-2007. She established that firms with the lowest default probabilities were more likely to export and serve a larger number of destinations. She also found that such firms were more likely to export more.

A positive relationship between access to finance and internationalisation also tends to predominate in the international business and international entrepreneurship literatures. Within these literatures, firm internationalisation is viewed as a growth strategy undertaken to improve firm performance (Khavul, Pérez-Nordtvedt, & Wood, 2010; Yip, Biscarri, & Monti, 2000). One of the key dimensions of internationalisation is its scope, i.e. the number of markets within which the firm operates (Lu & Beamish, 2004). The scope of internationalisation denotes the international geographic reach of the business (Hilmersson, 2014). When a firm expands its internationalisation scope, it learns about new market and institutional environments. In so doing, it enhances its experiential knowledge (Eriksson, Johanson, Majkgård, & Sharma, 1997).

Knowledge generated through experiential learning constitutes inimitable resource (Autio, Sapienza, & Almeida, 2000; Oviatt & McDougall, 1994), creating a potential for performance improvement for internationally active SMEs (Preece, Miles, & Baetz, 1999). Performance improvement is based on the sales stabilisation hypothesis described above. Current research seems to validate the view that an increased scope of international operations contribute positively to firm performance (Khavul et al., 2010; Yip et al., 2000). Finance providers are more likely to grant adequate access to finance for firms intending to increase their internationalisation scope on the

expectation of an improvement in their performance. This argument supports a positive relationship between the two constructs.

Negative association between access to finance and exporting

The existence of significant costs related to entry into new markets, alluded to above, has been used as one of the explanations of exporters' difficulties in securing adequate access to finance (Feenstra et al., 2014). Indeed, Chaney (2016) argues that in the presence of fixed costs of entry, only firms with enough ex-ante liquidity will be able to export. Even though other firms might profitably export, they will not do so if they are short of sufficient liquidity. In addition, a negative association between exporting and access to finance is attributed to potentially more difficult enforceability of payments across borders and a greater time lag between production of goods being exported and the receipt of payment for them (Amiti & Weinstein, 2011).

Bearing in mind that the majority of the extant research supports a positive association between access to finance and exporting, and based on arguments supporting a positive association between exporting and access to finance, we hypothesize that:

Hypothesis 1: Greater access to finance increases the likelihood of a firm intending to enter new geographic markets.

Firm age as a moderator of the access to finance-internationalisation relationship

Extant international entrepreneurship research suggests a negative relationship between firm age and exporting intentions, namely that younger firms are more likely to expand the scope of their international operations. As firms age, their managerial routines become more established, often leading to the development of organisational rigidities (Kuivalainen et al., 2013; Sørensen & Stuart, 2000). These rigidities, which imply a lack of sufficient agility and flexibility in adapting to new overseas environments, may prevent older firms from fully exploiting new internationalisation opportunities. Younger firms, in contrast, enjoy 'learning advantages of

newness' (Autio et al., 2000; Oviatt & McDougall, 1994). This argument rests on the assumption that younger firms are relatively unencumbered by inertial forces and the need to compete for managerial attention that is inherent to larger firms (Autio et al., 2000).

Older firms may have also explored the most lucrative internationalisation opportunities and find that it becomes progressively harder and less profitable to enter additional foreign destinations. The latter behaviour is attributed to the fact that the learning benefit from entering new geographical destinations becomes marginally lower as more destinations are being entered (Love, Roper, & Zhou, 2016). Hence, the probability that older firms would enter new destinations is lower than for younger firms. Indeed, older firms' export intensity has been shown to be lower than that of younger ones (Love et al., 2016). The above considerations support a negative relationship between firm age and their intention to enter new geographical markets.

Younger firms, however, experience greater difficulties in securing adequate access to finance, in part due to more limited credit histories and shorter relationships with their lenders (Cole, 1998). In the context of differential access to finance across firms, we argue that younger firms that are able to secure adequate access to finance are more likely to intend to enter new geographical destinations than older firms. As previously argued, older firms would be more affected by organisational rigidities (Kuivalainen et al., 2013; Sørensen & Stuart, 2000) that stifle their adaptation to new markets (Zahra, 2005) and potentially fewer new and attractive destinations. For those firms to enter new markets, access to finance needs to be favourable.

Overall, a combination of the positive relationship between access to finance and the intention to enter new geographical destinations and the negative relationship between the latter and firm age suggest that firms are more likely to enter new destinations when their access to finance is good; and older firms are less likely to do so than younger ones. Therefore, the positive association between access to finance and the intention to enter new destinations will be stronger for younger firms.

Hypothesis 2: Age moderates the association between access to finance and intentions to enter new geographic markets. Specifically, the positive association between access to finance and intentions to enter new geographic markets will be stronger for younger firms.

DATA AND METHOD

Our study uses data collected from a telephone survey of top executives of middle market firms[1] in the UK, France, Germany and Italy in 2015. Over 1,000 firms per country were sampled in accordance with the country-specific definition of a middle market firm. A total of 4,066 responses were achieved.

When contacting the firms we sought to interview the CEO as they are generally deemed to be most knowledgeable about issues such as top management team processes and firm performance (Hmieleski, Cole, & Baron, 2012; Simsek, Veiga, Lubatkin, & Dino, 2005). In case of repeated difficulties to do so, the interviewers were instructed to request to speak to another director involved in the strategic management of the firm. This was done to alleviate concerns about informer reliability (Zhang & Li, 2010). Within our sample, 85% of the key informers were C-level executives of the firms, the remainder of the respondents being other directors or principals of the firm, involved in its strategic management.

Dependent variable

Our study aims to find out whether firms that intend to grow their international operations are more or less likely to face difficulties in accessing finance than

[1] The definitions for the mid-market are as follows for each country:

- Germany: €20m - €1bn in annual turnover
- UK: €20m - €1bn in annual turnover
- France: €10m - €500m in annual turnover
- Italy: €5m - €250m in annual turnover

other firms. Consequently, our dependent variable measures internationalization intentions and more specifically, intentions to enter new geographical markets.

Intention to enter new geographical markets

We asked the respondents to indicate whether their business was "*looking to enter new geographic markets, outside of its home country, in the next 5 years*". 51% of the 3,449 respondents indicated that they intended to enter new markets. This variable captures a firm's medium-term strategic intention to expand its internationalization scope. Only a very small number of firms who intended to enter new markets had no previous international activities (49 firms).

Independent variables

In order to ascertain convergent validity for our argument we examined two different operationalizations of firms' ability to access finance.

Access to Finance 1: This variable is a reverse-coded measure of the extent of financial challenges faced by the firms. We constructed the variable using the following set of questions: "Over the next year or so how much of a challenge to your company do you expect the following to be?"

	High degree of challenge	Moderate challenge	Little or no challenge
Access to finance, loans etc.	3	2	1
Ensuring that we get funds /finance at the lowest cost or most advantageous terms	3	2	1
Ensuring that we have sufficient funds to take advantage of opportunities that may arise	3	2	1
Having access to capital markets	3	2	1
Having access to short term lines of credit	3	2	1
Having predictable cash flow	3	2	1

The reliability of this measure as measured by its Cronbach alpha is 0.75.

Access to Finance 2: Respondents were asked the following question: "Has the growth of your business been constrained by its ability to access finance from banks and other traditional lenders in the last three years?" "Yes" was coded as 1 and "no" was coded as 0.

Although not explicitly linked to internationalisation, this question is nonetheless relevant as a measure of the impact of financing gaps affecting middle market firms. The UK Survey of SME Finances (UKSMEF) for 2004–2009 indicates that small business growth is constrained by a lack of working capital controlling for a wide range of other business/owner characteristics (Fraser, 2011). An affirmative answer to this question would imply that international growth is likely to be constrained as well. Data for 2,603 firms is available for this binary variable across the UK, Italy and France.

Control variables

A number of control variables have been used to account for firm variation in export intentions These variables relate to firms' demographic, industrial and market orientation characteristics, the challenges faced when exporting, past or expected performance, perceived economic outlook and their own growth expectations, among others. The control variables are:

- *Firm size* (in terms of the number of employees). This variable takes values between 1 and 11, representing brackets of firm employees from "1 to 5", coded as 1, to "over 10,000", coded as 11. Approximately 90% of the responding firms employed less than 5,000 employees. The median size band was 500-999 employees, to which just over 20% of respondents belonged. 72.8% of firms in the sample employed between 100 and 4,999 employees, with 17.5% of the firms in the sample employing less than 99 people.

- *Firm age* (coded by the decade in which a firm was founded). Firms founded between 1990-1999 and 2000-2009 account for the largest

proportion of firms (29% and 28%, respectively). Over 2/3rds of the firms were founded in the three decades between 1980 and 2009.

- *Broad industry category.* The respondents were asked to select one of twenty industry categories that accounted for the largest proportion of their revenues. For the purposes of the analysis, we created 3 dummy variables: manufacturing, high-tech services, and financial services. Manufacturing firms accounted for 23% of complete responses, high-tech services firms (Information and Communication as well as Professional, Scientific and Technical activities) accounted for 19.5% of complete responses and Financial Services firms – for another 11% of complete responses. The remainder of industry sectors are very diverse, with close to 20 industry groups accounting for less than half of the sample.

- *Country* (unless a regression partitions by country).

- *B2B or B2C orientation* (the omitted category relates to firms combining both B2B and B2C), which may have an impact on exporting intentions given greater or lesser complexity of exporting to consumers versus other businesses.
- Being a subsidiary of a larger or international firm.

- *Firm's economic outlook:* seeks to find the respondents' answer to the following set of questions which may have a bearing on firms' exporting decisions: "How confident are you about the future outlook of the following markets/ economies? Do you expect the following to grow, decline or remain at the same level as they were in 2014?

	Grow substantially (10+ %)	Grow 5% - 9%	Grow moderately 1%-4%	Remain the same	Decline moderately (1%-4%)	Decline (5%-9%)	Decline substantially (10+ %)	Don't know
Your national economy	7	6	5	4	3	2	1	98
European economy	7	6	5	4	3	2	1	98
The global economy	7	6	5	4	3	2	1	98

High values of this variable correspond to a positive economic outlook. The Cronbach's alpha reliability coefficient is 0.90. A more positive outlook is associated with a greater propensity to internationalize.

- Firm's *growth orientation* is a dummy variable created to refer to firms that have indicated that their business plans for the next year or so best reflected either of the following statements: "We want to expand organically i.e. by increasing sales of our products / services" or "We want to expand through merger / acquisition". 58% of respondents indicated that they intended to grow either organically or through mergers and acquisitions.

- *Innovation / R&D intensity*: This variable captures the firm's R&D investments as a percentage of its annual revenues over the past 12 months. Investments in R&D tend to enhance the development of new discoveries and to facilitate the flow of new information to the firm. As such, a relatively high level of such investments may indicate that the firm is systematically preparing to export.

- *Performance.* Performance has been linked to firms' exporting behavior. Most recently, it has been argued that firms with sufficient internal resources are more likely to export, regardless of their ability to access finance (Channey 2016).

Past performance is operationalized by creating a latent variable based on the following set of questions:

"On a scale from 1 to 7, where 7 means 'grow substantially' and 1 means 'decline substantially', please indicate whether in the past 12 months, did the following grow, remained unchanged or declined:

	Grow substantially (10+ %)	Grow 5% - 9%	Grow moderately 1%-4%	No change	Decline moderately (1%-4%)	Decline (5%-9%)	Decline substantially (10+ %)
Gross revenues	7	6	5	4	3	2	1
Domestic revenues	7	6	5	4	3	2	1
Operating profit	7	6	5	4	3	2	1
Total number of employees	7	6	5	4	3	2	1

The Cronbach's alpha coefficient of this variable is 0.85.

Expected performance poses the question: "*How do you expect your business to perform over the next 12 months? Do you expect gross revenues to increase, decrease or remain the same as the previous 12 months*?" 61% of respondents expected their growth revenues to increase, whilst only 7% expected them to decline. It is used as an alternative to the past performance measure robustness analyses.

RESULTS

Table 2 presents the means, standard deviations (SD), and correlations of the variables used in our analysis. The variance inflation factors (VIFs) for the variables have not exceeded 3.00. As these numbers are lower than 10, multicollinearity is unlikely to be a problem in this study (Belseley, Kuh, & Welsch, 1980).

Our results show that Access to Finance 1 and Access to Finance 2 are negatively correlated with the intention to enter new geographic markets.

The sign of the correlation coefficient is intriguing – greater challenges in accessing finance are correlated with intentions entering new geographical markets. Although cross-sectional correlation analysis does not enable us to establish the nature or the direction of this relationship, there is a possibility that firms tend to perceive greater difficulties of accessing finance when they approach finance providers to request funds for international expansion. The correlations also suggest that firms that intend to enter new geographical markets tend to be younger, engaged primarily in manufacturing and not exclusively focused on a B2C market.

We tested our hypotheses using a series of logistic regressions (See Table 3). Model 1 includes the control variables. Model 2 includes the Access to Finance 1 variable. On average for all firms we find a negative and statistically significant ($p<0.001$) relationship, suggesting that firms that have ready access to finance are less likely to enter new geographic markets. We confirm the sign of this average effect on the basis of Access to Finance 2 variable which also proves negative and statistically significant in the regression models (Model 4). To test Hypothesis 2 we add an interaction term (Models 3 and 5) relating to Access to Finance and the age of the firm. This proves strongly significant and positive suggesting a very different relationship between access to finance and firms' intention to enter new geographic markets depending on the age of the firm. For younger firms, where the age variable takes a lower value, the moderating effect of age is small, and the main access to finance result holds. The implication is that where younger firms have ready access to finance they are less likely to enter new geographic markets. For older firms, however, the moderating effect of age on access to finance is more important, and sufficiently large to reverse the average effect. Hence, for older firms ready access to finance means they are actually *more* likely to enter new geographic markets.

Figures 1 and 2 depict the interaction effects for the two alternative operationalisations of access to finance. We find that for older firms, the probability of entering new markets is higher when access to finance is easy. However, for younger firms, the likelihood of entering new markets is greater when access to finance is more constrained. (In the Figures 'younger' firms

are 1 standard deviation below the mean age and 'older' firms are 1 standard deviation above the mean age).

Additional analysis

We have also examined whether the impact of financial constraints on the intention to enter new markets differed across the different countries in our sample. To do so, we have partitioned the access to finance variable on a country basis. We included the four (three in case of Access to Finance 2) variables that corresponded to Access to Finance in each country in our "intention to enter new markets" regressions. We then tested whether the coefficients for each of these variables were equivalent. As the results of the chi-square tests reported below Table 4 show, we cannot reject the hypothesis of the equality of the coefficients. However, given that in the Model 6, the variables for Access to Finance 1 for Germany and the UK are statistically significant, whilst those for Italy and France others are not, we run per-country regressions with the intention to enter new markets as a dependent variable and access to finance as the independent variable. This analysis (Models 8-11) in Table 5 shows that Access to Finance 1 is indeed a significant factor associated with the intention to enter new markets in the UK and Germany, but not in France and Italy. Access to Finance 2 (i.e. whether or not access to finance have been a barrier to growth) is significant for all the countries for which this variable is available (France, Italy and the UK).

CONCLUSION

The bulk of the current body of literature on the relationship between exporting and access to finance shows that access to finance is important for export intentions of firms: exporting firms have greater access to finance than non-exporting firms. Our findings show the opposite sign, namely that adequate access to finance is associated with lower intentions of entering new geographic markets. It is possible that firms that decide to enter new markets subsequently discover that raising finance for their growth plans is not easy.

The negative relationship between access to finance and intentions to enter into new markets is moderated by firm age. Although older firms are less likely to intend to enter new markets, they appear to be more "convinced" to do so if access to finance is easier.

Our paper makes a number of contributions. First, we add to the literature on the relationship between access to finance and exporting intentions. We find an unexpected result with respect to the sign of the main effect that may hint at the fact that that firms only experience access to finance challenges when the set their sights on growing (internationally).

Second, we examine whether age moderates the association between access to finance and exporting intentions. We demonstrate that the negative effect between access to finance is prominent for younger firms. It may well be that once they decide to embark on international expansion, they realize that access to finance is a problem for them, considering their shorter track records and less developed relationships with lenders. Older firms tend to be less likely to intend to enter new destinations, but this likelihood is higher for such firms when access to finance is easier. Overall, this discrepancy in the impact of access to finance may reflect with the view that benefits and drawbacks of internationalisations are highly firm-specific. This strategy may be seen as an important source or revenue growth and diversification for older, more established firms and as a source of risk for younger firms.

Third, our work sheds light on executive decision making with regards to exporting. Our survey enables us to incorporate firm executives' perceptions of their access of finance difficulties. By using several alternative operationalizations of the access to finance, we are able to provide a robust picture of the relationships between these variables.

Finally, we also study a relatively unexplored, middle market segment of firms, which may differ from both SMEs and large firms.

Our study is not without limitations. Although we are able to draw on a large survey of middle market firms across the UK, Germany, Italy and France, the

data is cross-sectional. As such, we are unable to establish temporal precedence of exporting vs. access to finance status.

Although our paper is unable to disentangle the question of temporal precedence between firms' access to finance issues and their exporting behaviour, this relationship is far from clear, both empirically and theoretically, within the current literature. Greenaway et al. (2007) investigated financial health of UK exporters, as measured by their leverage and liquidity ratios. The authors find that those participating in export activity tend to enjoy better financial health than non-exporters, however they are unable to ascertain that financial health actually promotes exporting. Berman and Héricourt (2010) examined the relationship between access to finance and exporting in nine countries. They found that financial health does, in fact, promote entry into exporting but it does not influence exporting volumes, nor, for that matter, the probability of remaining an exporter. On the other hand, Guariglia and Mateut (2010), when analyzing the extent of financial constraints faced by domestically-focused and globally engaged financially constrained firms found that financial constraints restricted investments only in case of the former category of firms. On this basis, the authors concluded that exporting would alleviate firms' financial constraints. However, overall, the evidence on temporal precedence is still scarce and contradictory.

In addition, firm level research into access to finance – exporting relationship has tended to be endogenous to exporting behaviour (Foley & Manova, 2015). A firm might report little use of external finance and poor export performance either because it is too credit-constrained or because it faces low demand from overseas.

Overall, our paper uncovers some interesting and counter-intuitive finds, opening avenues for future research into mid-market firms' exporting intentions.

Table 1: The main results of the firm-level studies into the relationship between access to finance and exporting

Reference	Sample / data source	Financial vulnerability / health indicator	Internationalization						Impact on volumes, etc.
			P(exp)	P(start exp)	p (cont. exp)	P (stop exp)	Nr of new destinations	N of lost destinations	
Greenaway et al. (2007)	9,352 UK manuf firms, 1993-2003	Leverage ratio Liquidity ration		n.s. n.s.					
Engel, Procher, and Schmidt (2013a)	335,000 observations for French firms for 3 2-year intervals	Current liabilities / TA ratio Non-current liabilities / TA Cash flow			n.s. - n.s.	+ + -			
Stiebale (2011)		Leverage ratio Liquidity ration	n.s. n.s.						
Bellone et al. (2010)	25,000 manuf firms over the 1993 – 2005	Composite index of financial health	+	+					
Muûls (2015)	unbalanced panel of Belgian manuf firms, an avg of 14,686 firms per year over 1999 - 2007.	Credit scores	+				+		
Berman and Héricourt (2010)	9 developing countries, 2000-2005	TA /Total debt Cash flow ratio Ratio of tangible assets	+ + +	+ + +	0 0 +				
Manova, Wei, and Zhang (2015)	Virtually all Chinese exporters over 2003-2005	Belonging to a foreign multinational Belonging to a JV							+[2] +
Lancheros and Demirel (2012)		ST leverage ratio Long term leverage ratio	n.s. n.s.			n.s. n.s.			
Minetti and Zhu (2011)	4680 firms, Capitalia survey	Being rationed by the bank (data provider)							
Forlani (2010)	2554 Italian manufacturing firms measured twice, 4668 once Capitalia y	Cash at hand	+ (only financially constrained)				+		
Bernard and Wagner (2001)	3 waves of survey in 28 countries	Subjective measure of access to finance (on a scale of 1-4)	n.s. (many be driven by the fact that data is from transition economies)		n.s. Size and experience matter			n.s.	
Manole and Spatareanu (2010)	657 Czech exporters, 1725 firm year observations		+						

[2]This relationship has been interacted with sector's financial vulnerability (inventories to sales, R&D expenses / TA), which enhances the positive effect and by the ratio of tangible assets to TA, which diminishes the effect of IVs on DVs

Table 2: Summary statistics and correlation table

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DVs	1 Intention to export	0.511	0.500	1														
	2 Access to Finance 1	-0.005	0.413	0.142***	1													
	3 Access to Finance 2	0.332	0.471	0.216***	0.322***	1												
Controls	4 Firm Size (employees)	7.249	1.906	0.073***	0.021	-0.052***	1											
demographic	5 Firm Age	3.875	2.244	-0.097***	-0.168***	-0.159***	0.223***	1										
	6 Manufacturing	0.219	0.414	0.081***	-0.055***	-0.001	0.032**	0.208***	1									
	7 High tech services	0.195	0.396	0.027	-0.002	0.017	0.052***	-0.156***	-0.261***	1								
	8 Financial services	0.109	0.312	-0.033†	0.032**	0.006	-0.067***	-0.086***	-0.185***	-0.172***	1							
	9 Larger / Global firm	0.433	0.496	0.144***	0.083***	0.146***	0.213***	0.002	0.005	0.051***	0.0108	1						
	10 B2B orientation	0.440	0.497	0.012	-0.103***	-0.032	-0.034**	0.036**	0.126***	0.085***	-0.099***	0.002	1					
Controls	11 B2C orientation	0.199	0.400	-0.094***	-0.019	0.017	-0.016	-0.014	-0.129***	-0.076***	0.042***	0.045***	-0.443***	1				
	12 Past Performance	0.000	1.000	0.173***	0.056***	0.032	0.081***	-0.137***	-0.036**	0.037**	0.055***	0.109***	-0.049***	0.01	1			
	13 Economic outlook	-0.002	0.599	0.200***	0.124***	0.144***	0.063***	-0.092***	0.005	0.031**	0.037**	0.115***	0.025	-0.077***	0.359***	1		
	14 Growth intention	0.583	0.493	0.190***	-0.021	0.022	0.063***	-0.014	0.042***	0.026†	0.004	0.115***	-0.024	-0.008	0.278***	0.180***	1	
	15 R&D intensity	9.928	10.558	0.144***	0.109***	0.095***	0.103***	-0.055***	-0.025	0.122***	0.017	0.135***	0.009	-0.035**	0.066***	0.086***	0.036**	1

† p < 0.10, ** p<0.05, † p < 0.10,

Table 3: Probability of intending to enter new geographical destinations

DV = New destination intention	Model 1	Model 2	Model 3	Model 4	Model 5
	Controls	H1A	H2A	H1B	H2B
Firm Size	0.069**	0.065**	0.065**	0.093***	0.093***
	(-3.12)	(-2.93)	(-2.95)	(-3.49)	(-3.45)
Firm age	-0.086***	-0.075***	-0.086***	-0.071**	-0.034
	(-4.68)	(-4.04)	(-4.55)	(-3.07)	(-1.32)
Manufacturing	0.509***	0.514***	0.500***	0.508***	0.493***
	(-5.09)	(-5.13)	(-4.99)	(-4.05)	(-3.92)
High-tech services	-0.053	-0.036	-0.033	-0.15	-0.147
	(-0.51)	(-0.34)	(-0.32)	(-1.12)	(-1.10)
Financial services	-0.235	-0.235	-0.245	-0.271	-0.298
	(-1.84)	(-1.84)	(-1.92)	(-1.77)	(-1.93)
B2B orientation	-0.146	-0.111	-0.118	-0.144	-0.156
	(-1.69)	(-1.28)	(-1.35)	(-1.35)	(-1.46)
B2C orientation	-0.394***	-0.370***	-0.367***	-0.561***	-0.574***
	(-3.66)	(-3.42)	(-3.39)	(-4.05)	(-4.12)
A part of a larger / global firm	0.440***	0.418***	0.409***	0.416***	0.406**
	(-4.75)	(-4.50)	(-4.39)	(-3.37)	(-3.28)
Past performance excl int'l operations	0.238***	0.233***	0.234***	0.217***	0.205***
	(-5.51)	(-5.40)	(-5.41)	(-4.18)	(-3.92)
France	-0.425**	-0.407**	-0.411**	-0.320*	-0.320*
	(-3.26)	(-3.12)	(-3.14)	(-2.12)	(-2.11)
Germany	-1.001***	-0.953***	-0.949***	-	-
	(-8.54)	(-8.09)	(-8.04)	-	-
UK	-0.949***	-0.891***	-0.906***	-0.854***	-0.850***
	(-8.10)	(-7.52)	(-7.63)	(-6.65)	(-6.59)
Future econ outlook	0.393***	0.369***	0.358***	0.314***	0.309***
	(-5.64)	(-5.29)	(-5.10)	(-3.68)	(-3.61)
Growth intention	0.622***	0.637***	0.638***	0.666***	0.673***
	(-7.75)	(-7.91)	(-7.91)	(-6.65)	(-6.70)
R&D intentsity	0.019***	0.018***	0.018***	0.018***	0.018***
	(-4.96)	(-4.70)	(-4.82)	(-3.77)	(-3.76)
Access to Finance 1		-0.343***	-0.350***		
		(-3.63)	(-3.68)		
Access to finance 1 x age			0.123**		
			(-2.99)		
Access to Finance 2				-0.692***	-0.633***
				(-6.49)	(-5.82)
Access to finance 2 x age					0.161**
					(-3.12)
Constant	-0.154	-0.21	-0.181	0.041	0.475
	(-0.82)	(-1.12)	(-0.96)	(-2.76)	(-3.25)
N	3283	3283	3283	2190	2190
ll	-2025.031	-2018.439	-2013.949	-1314.395	-1309.493
df_m	15	16	17	15	16
chi2	497.52	510.71	519.69	396.91	406.72
p	0.000	0.000	0.000	0.000	0.000
r2_p	0.109	0.112	0.114	0.131	0.134

* p<0.1.
**p<0.05.
***p<0.01.

Figure 1: Interaction graph with Access to finance 1 as an independent variable and firm age as a moderator

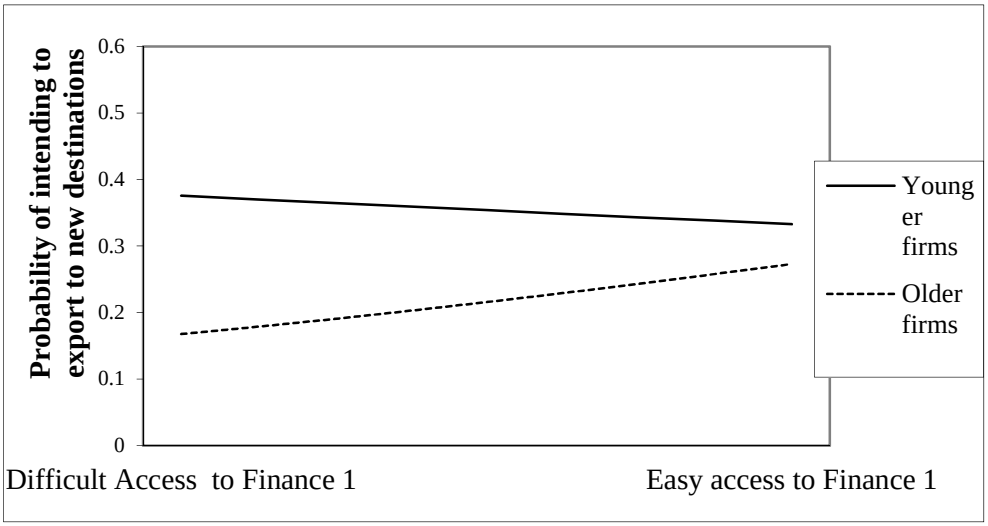
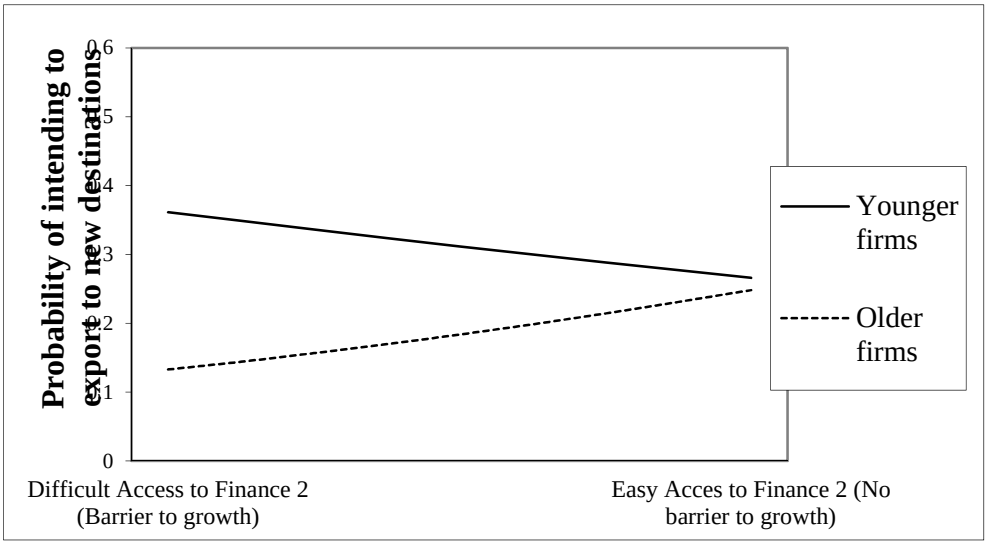


Figure 2: Interaction graph with Access to finance 2 as an independent variable and firm age as a moderator



REFERENCES

Amiti, M., & Weinstein, D. E. 2011. Exports and Financial Shocks. ***The Quarterly Journal of Economics***, 126(4): 1841-1877.

Autio, E., Sapienza, H. J., & Almeida, J. G. 2000. Effects of age at entry, knowledge intensity, and imitability on international growth. ***Academy of management journal***, 43(5): 909-924.

Bellone, F., Musso, P., Nesta, L., & Schiavo, S. 2010. Financial constraints and firm export behaviour. ***The World Economy***, 33(3): 347-373.

Belseley, D., Kuh, E., & Welsch, R. 1980. Regression diagnostics: identifying sources of influential observations and collinearity: New York: John Wiley & Sons.

Berman, N., & Héricourt, J. 2010. Financial factors and the margins of trade: Evidence from cross-country firm-level data. ***Journal of Development Economics***, 93(2): 206-217.

Bernard, A., Stabilito, A., & Yoo, J. D. 2010. Access to Finance and Exporting Behavior in Transition Countries: Kiel Institute for the World Economy.

Bernard, A. B., & Jensen, J. B. 1999. Exceptional exporter performance: cause, effect, or both? ***Journal of international economics***, 47(1): 1-25.

Bernard, A. B., & Wagner, J. 2001. Export entry and exit by German firms. ***Review of World Economics***, 137(1): 105-123.

Campa, J. M., & Shaver, J. M. 2002. Exporting and capital investment: On the strategic behavior of exporters. ***IESE research papers***, 469.

Chaney, T. 2016. Liquidity constrained exporters. ***Journal of Economic Dynamics and Control***.

Clerides, S. K., Lach, S., & Tybout, J. R. 1998. Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco. ***Quarterly journal of Economics***: 903-947.

Cole, R. A. 1998. The importance of relationships to the availability of credit. ***Journal of Banking & Finance***, 22(6): 959-977.

Delgado, M. A., Farinas, J. C., & Ruano, S. 2002. Firm productivity and export markets: a non-parametric approach. ***Journal of international Economics***, 57(2): 397-422.

Engel, D., Procher, V., & Schmidt, C. M. 2013a. Does firm heterogeneity affect foreign market entry and exit symmetrically? Empirical evidence for French firms. ***Journal of Economic Behavior & Organization***, 85: 35-47.

Engel, E., Fischer, R., & Galetovic, A. 2013b. The basic public finance of public–private partnerships. ***Journal of the European Economic Association***, 11(1): 83-111.

Eriksson, K., Johanson, J., Majkgård, A., & Sharma, D. D. 1997. Experiential knowledge and costs in the internationalization process. ***Journal of international business studies***, 28(2): 337-360.

Eriksson, K., Majkgård, A., & Sharma, D. D. 2000. Path dependence and knowledge development in the internationalization process. ***MIR: Management International Review***: 307-328.

Feenstra, R. C., Li, Z., & Yu, M. 2014. Exports and credit constraints under incomplete information: Theory and evidence from China. ***Review of Economics and Statistics***, 96(4): 729-744.

Foley, C. F., & Manova, K. 2015. International Trade, Multinational Activity, and Corporate Finance. ***Annual Review of Economics***, 7(1): 119-146.

Forlani, E. 2010. Liquidity Constraints and Firm's Export Activity: Centro Studi Luca d\'Agliano, University of Milano.

Fraser, S. 2011. Access to finance for creative industry businesses. : Research Report Prepared for the Department for Business, Innovation and Skills and Department for Culture, Media and Sport. .

Greenaway, D., Guariglia, A., & Kneller, R. 2007. Financial factors and exporting decisions. ***Journal of international economics***, 73(2): 377-395.

Guariglia, A., & Mateut, S. 2010. Inventory investment, global engagement, and financial constraints in the UK: evidence from micro data. ***Journal of Macroeconomics***, 32(1): 239-250.

Hilmersson, M. 2014. Small and medium-sized enterprise internationalisation strategy and performance in times of market turbulence. ***International Small Business Journal***, 32(4): 386-400.

Hirsch, S., & Lev, B. 1971. Sales stabilization through export diversification. ***The Review of Economics and Statistics***: 270-277.

Hmieleski, K. M., Cole, M. S., & Baron, R. A. 2012. Shared Authentic Leadership and New Venture Performance. ***Journal of Management***, 38(5): 1476-1499.

Jones, M. V., Coviello, N., & Tang, Y. K. 2011. International entrepreneurship research (1989–2009): a domain ontology and thematic analysis. ***Journal of business venturing***, 26(6): 632-659.

Khavul, S., Pérez-Nordtvedt, L., & Wood, E. 2010. Organizational entrainment and international new ventures from emerging markets. ***Journal of Business Venturing***, 25(1): 104-119.

Kuivalainen, O., Sundqvist, S., Saarenketo, S., McNaughton, R. B., D'Angelo, A., Majocchi, A., Zucchella, A., & Buck, T. 2013. Geographical pathways for SME internationalization: insights from an Italian sample. ***International Marketing Review***, 30(2): 80-105.

Lancheros, S., & Demirel, P. 2012. Does Finance Play a Role in Exporting for Service Firms? Evidence from India. ***World Economy***, 35(1): 44-60.

Leonidou, L. C., Katsikeas, C. S., Palihawadana, D., & Spyropoulou, S. 2007. An analytical review of the factors stimulating smaller firms to export: Implications for policy-makers. ***International Marketing Review***, 24(6): 735-770.

Love, J. H., Roper, S., & Zhou, Y. 2016. Experience, age and exporting performance in UK SMEs. ***International Business Review***, 25(4): 806-819.

Lu, J. W., & Beamish, P. W. 2004. International diversification and firm performance: The S-curve hypothesis. ***Academy of management journal***, 47(4): 598-609.

Majocchi, A., Bacchiocchi, E., & Mayrhofer, U. 2005. Firm size, business experience and export intensity in SMEs: A longitudinal approach to complex relationships. ***International Business Review***, 14(6): 719-738.

Manole, V., & Spatareanu, M. 2010. Exporting, capital investment and financial constraints. ***Review of World Economics***, 146(1): 23.

Manova, K., Wei, S.-J., & Zhang, Z. 2015. Firm exports and multinational activity under credit constraints. ***Review of Economics and Statistics***, 97(3): 574-588.

Melitz, M. J. 2003. The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. ***Econometrica***, 71(6): 1695-1725.

Minetti, R., & Zhu, S. C. 2011. Credit constraints and firm export: Microeconomic evidence from Italy. ***Journal of International Economics***, 83(2): 109-125.

Muûls, M. 2015. Exporters, importers and credit constraints. ***Journal of International Economics***, 95(2): 333-343.

Oviatt, B. M., & McDougall, P. P. 1994. Toward a theory of international new ventures. ***Journal of international business studies***, 25(1): 45-64.

Preece, S. B., Miles, G., & Baetz, M. C. 1999. Explaining the international intensity and global diversity of early-stage technology-based firms. ***Journal of Business Venturing***, 14(3): 259-281.

Roberts, M. J., & Tybout, J. R. 1997. ***What makes exports boom?***: World Bank Publications.

Simsek, Z., Veiga, J. F., Lubatkin, M. H., & Dino, R. N. 2005. MODELING THE MULTILEVEL DETERMINANTS OF TOP MANAGEMENT TEAM BEHAVIORAL INTEGRATION. ***Academy of Management Journal***, 48(1): 69-84.

Sørensen, J. B., & Stuart, T. E. 2000. Aging, obsolescence, and organizational innovation. ***Administrative science quarterly***, 45(1): 81-112.

Stiebale, J. 2011. Do Financial Constraints Matter for Foreign Market Entry? A Firm-level Examination. ***The World Economy***, 34(1): 123-153.

Yip, G. S., Biscarri, J. G., & Monti, J. A. 2000. The role of the internationalization process in the performance of newly internationalizing firms. ***Journal of international marketing***, 8(3): 10-35.

Zahra, S. A. 2005. A theory of international new ventures: a decade of research. ***Journal of International Business Studies***, 36(1): 20-28.

Zhang, Y., & Li, H. 2010. Innovation search of new ventures in a technology cluster: the role of ties with service intermediaries. ***Strategic Management Journal***, 31(1): 88-109.

Appendix 1: Additional Analysis

Table 4: Probability of intending to enter new geographical destinations, access to finance partitioned by country

DV = New destination intention	Model 6	Model 7
Firm Size	0.065**	0.093***
	(-2.96)	(-3.47)
Firm age	-0.075***	-0.071**
	(-4.04)	(-3.06)
Manufacturing	0.513***	0.506***
	(-5.11)	(-4.03)
High-tech services	-0.035	-0.152
	(-0.33)	(-1.14)
Financial services	-0.233	-0.283
	(-1.83)	(-1.84)
B2B	(-0.12)	(-0.14)
	(-1.33)	(-1.26)
B2C	-0.375***	-0.551***
	(-3.47)	(-3.96)
Global firm	0.413***	0.417***
	(-4.43)	(-3.36)
Past performance	0.235***	0.215***
	(-5.43)	(-4.13)
Qcountry==France	-0.408**	-0.549*
	(-3.07)	(-2.31)
Qcountry==Germany	-0.945***	-
	(-7.87)	-
Qcountry==UK	-0.882***	-0.819***
	(-7.32)	(-4.06)
Future econ outlook	0.366***	0.310***
	(-5.24)	(-3.62)
Growth intention	0.639***	0.671***
	(-7.93)	(-6.69)
R&D intensity	0.018***	0.018***
	(-4.75)	(-3.81)
Access to Finance 1, Germany	-0.433*	
	(-2.38)	
Access to Finance 1, Italy	-0.399	
	(-1.66)	
Access to Finance 1, UK	-0.401*	
	(-2.51)	
Access to Finance 1, France	-0.139	
	(-0.76)	
Access to Finance 2, Italy		-0.768***
		(-4.13)
Access to Finance 2, UK		-0.799***
		(-4.69)
Access to Finance 2, France		-0.457*
		(-2.31)
Constant	-0.217	0.075
	(-1.15)	-0.30
N	3283	2190
ll	-2017.60	-1313.41
df_m	19	17
chi2	512.39	398.88
p	0.000	0.000
r2_p	0.113	0.132

* p<0.1. **p<0.05. ***p<0.01.

The test of equivalence of coefficients indicates that the latter are not statistically significantly different from each other (prob > chi-square = 0.372 and 0.639, for the different variables of the access to finance.

Table 5 Probability of intending to enter new geographical destinations, access to finance 1, on a per-country regression basis

DV = New destination intention	Model 8	Model 9	Model 10	Model 11
	France	Germany	Italy	UK
Firm Size	0.027	0.084	0.109*	0.047
	(-0.66)	(-1.84)	(-2.19)	(-1.02)
Firm age	-0.071*	-0.070*	-0.045	-0.082*
	(-2.01)	(-1.99)	(-0.97)	(-2.17)
Manufacturing	0.250	0.605**	0.604*	0.594**
	(-1.26)	(-3.16)	(-2.36)	(-3.12)
High-tech services	-0.540*	0.178	-0.144	0.273
	(-2.35)	(-0.90)	(-0.65)	(-1.30)
Financial services	-0.124	0.004	-0.136	-0.431
	(-0.52)	(-0.02)	(-0.42)	(-1.80)
B2B	(0.16)	(-0.10)	(-0.33)	(-0.17)
	(-0.98)	(-0.56)	(-1.59)	(-0.97)
B2C	-0.651**	-0.106	-0.705**	-0.241
	(-2.65)	(-0.54)	(-2.79)	(-1.15)
Global firm	"-"	0.316*	0.188	0.590***
		(-1.98)	(-0.96)	(-3.73)
Past performance	0.128	0.320***	0.281**	0.309***
	(-1.67)	(-3.45)	(-2.81)	(-3.51)
Future economic outlook	0.263*	0.486***	0.304	0.388**
	(-1.99)	(-3.49)	(-1.86)	(-2.82)
Growth intention	0.555***	0.444**	1.263***	0.478**
	(-3.61)	(-2.80)	(-6.85)	(-2.92)
R&D intensity	0.025***	0.022**	-0.007	0.027***
	(-3.29)	(-2.7)	(-0.82)	(-3.52)
Access to Finance 1	-0.206	-0.413*	-0.464	-0.349*
	(-1.09)	(-2.22)	(-1.84)	(-2.06)
Constant	-0.399	-1.362***	-0.318	-1.084**
	(-1.18)	(-3.70)	(-0.78)	(-2.96)
N	819	882	711	871
ll	-528.50	-546.83	-379.20	-533.76
df_m	12	13	13	13
chi2	75.45	124.96	130.70	138.01
p	0.000	0.000	0.000	0.000
r2_p	0.067	0.103	0.147	0.114

* p<0.1.
**p<0.05.
***p<0.01.

Table 6 Probability of intending to enter new geographical destinations, access to finance 2, on a per-country regression basis

DV = New destination intention	Model 12	Model 13	Model 14
	France	Italy	UK
Firm Size	0.069	0.137*	0.075
	(-1.63)	(-2.56)	(-1.56)
Firm age	-0.059	-0.028	-0.084*
	(-1.58)	(-0.55)	(-2.14)
Manufacturing	0.217	0.870**	0.562**
	(-1.03)	(-3.07)	(-2.83)
High-tech services	-0.485*	-0.309	0.227
	(-2.03)	(-1.26)	(-1.02)
Financial services	0	-0.083	-0.521*
	(.)	(-0.24)	(-2.09)
B2B	0.127	-0.374	-0.131
	(-0.73)	(-1.67)	(-0.72)
B2C	-0.803**	-0.737**	-0.261
	(-3.06)	(-2.66)	(-1.20)
Global firm	0	0.253	0.537**
	(.)	(-1.17)	(-3.26)
Past performance	0.163*	0.292**	0.273**
	(-2.02)	(-2.74)	(-2.93)
Future economic outlook	0.223	0.244	0.402**
	(-1.61)	(-1.38)	(-2.79)
Growth intention	0.490**	1.350***	0.413*
	(-3.02)	(-6.64)	(-2.40)
R&D intensity	0.027***	-0.001	0.025**
	(-3.30)	(-0.15)	(-3.04)
Access to Finance 2	-0.467*	-0.843***	-0.732***
	(-2.35)	(-4.24)	(-4.17)
Constant	-0.368	-0.212	-0.69
	(-0.94)	(-0.48)	(-1.76)
N	739	638	813
ll	-474.55	-325.59	-489.99
df_m	12	13	13
chi2	72.3770	143.8610	145.2140
p	0.000	0.000	0.000
r2_p	0.071	0.181	0.129

* p<0.1.
**p<0.05.
***p<0.01.

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