Article:
Krammer, MSS orcid.org/0000-0002-5773-9514, Strange, R and Lashitew, A (2018) The export performance of emerging economy firms: The influence of firm capabilities and institutional environments. International Business Review, 27 (1). pp. 218-230. ISSN 0969-5931

https://doi.org/10.1016/j.ibusrev.2017.07.003

THE EXPORT PERFORMANCE OF EMERGING ECONOMY FIRMS: THE INFLUENCE OF FIRM CAPABILITIES AND INSTITUTIONAL ENVIRONMENTS

Sorin M.S. Krammer
Centre for International Business
Leeds University Business School
University of Leeds
Maurice Keyworth Building
Leeds LS2 9JT, United Kingdom
Email: M.S.Krammer@leeds.ac.uk
Phone: +44 113 343 2513

Roger Strange
University of Sussex
School of Business, Management & Economics
Brighton BN1 9SL, United Kingdom
Email: R.N.Strange@sussex.ac.uk
Phone: +44 1273-873531

Addisu Lashitew
Rotterdam School of Management
Erasmus University
Burgemeester Oudlaan 50
3062 PA Rotterdam
E-mail: lashitew@rsm.nl
Phone : +31 10408-2513

THE EXPORT PERFORMANCE OF EMERGING ECONOMY FIRMS: THE INFLUENCE OF FIRM CAPABILITIES AND INSTITUTIONAL ENVIRONMENTS

Abstract

We advance a two-stage theoretical model which contends that the export performance of emerging economy firms (EEFs) will depend both upon their firm-specific capabilities and their home institutional environments. Specifically, we argue that EEFs will be more likely to export when facing more uncertainty at home from greater political instability, substantial informal competition, and high corruption. Furthermore, we hypothesize that firms' export intensities will be contingent upon specialized internal capabilities such as a skilled workforce, top managerial experience, and access to external technologies. We test these hypotheses using a dataset of more than 16,000 firms from the four BRIC economies (i.e., Brazil, Russia, China and India). Our results confirm that political instability and informal competition have robust effects on the export propensity of EEFs, whilst export intensity is contingent upon the availability of skilled workers and access to external technologies via licensing.

Keywords: *Emerging economy firms; Export performance; Firm capabilities; Institutions; Heckman selection.*

INTRODUCTION

The world economy has undergone significant changes in recent decades in response to major market and trade liberalization initiatives in many countries, with increasing numbers of firms embracing international expansion through exports (Buckley & Strange, 2015). Given this surge, many scholarly investigations have examined exporting activities, focusing in particular on firms from developed economies and host-country characteristics (for reviews see Zou & Stan, 1998; Sousa, Martinez-Lopez, & Coelho, 2008; Bernard, Jensen, Redding, & Schott, 2007).

Although recent additions to this literature (Yi, Wang & Kafouros, 2013; Gaur, Kumar, & Singh, 2014; Agnihotra & Bhattacharya, 2015) have begun to focus on emerging economy firms (EEFs) and contextual factors, our knowledge in these areas remains limited. Specifically, prior theoretical rationales that apply to exporters from developed countries might be unsuited to examine EEF strategies and behaviours (Wright, Filatotchev, Hoskisson & Peng, 2005). Furthermore, prior export research tends to focus on various host-country characteristics, while paying less attention to features of the exporters' home countries (Sousa et al., 2008). Particularly in the emerging economy (EE) context, these characteristics may include critical factors (e.g., political instability, informal competitors, etc.) which are typically not considered in studies of firms from developed economies (McCann & Bahl, 2016; Hiatt & Sine, 2014; Gokalp, Lee & Peng, 2017). Finally, firm exporting is a complex activity, comprising multiple layers of decisions (e.g., whether, where, what, and how much) that are governed by different determinants (Bernard et al., 2011). While most studies focus solely on one of these aspects, it is important to understand the interplay between these distinct dimensions under different

institutional and capability configurations (Gao, Murray, Kotabe & Lu, 2010).

We seek to address these issues and enhance our understanding of EEF exports by employing elements from the institution-based view (IBV) and the resource-based view (RBV) of the firm (Estrin, Meyer, Wright, & Foliano, 2008). Our research questions are twofold: what institutional features in emerging economies affect EEFs' likelihood of becoming exporters (i.e., *export propensity*), and which firm capabilities determine their subsequent success (i.e., *export intensity*)? Among the many elements of the institutional environment and a wide array of firm capabilities, we focus on several prominent, but relatively unexplored, features in the extant literature. Accordingly, we develop six hypotheses, and test them empirically using data on more than 16,000 EEFs from the four BRIC economies (i.e. Brazil, Russia, India, and China). Together, these four economies account for nearly one fifth of world exports and their share has been steadily increasing over the last decades (WTO, 2015).

We contribute to the literature in two important ways. First, we advance our understanding of EEFs' export determinants by proposing a two-stage theoretical model that encompasses the two main dimensions of export performance, namely *propensity* and *intensity*. Compared to past research that addressed these questions in isolation, we adopt an integrative approach that allows us to study them in conjunction, while paying attention to their different determinants. We argue that weak home-country institutions provide a 'push' to EEFs to seek out overseas markets (Witt & Lewin, 2007; Cuervo-Cazurra, Narula & Un, 2015; Luiz, Stringfellow & Jefthas, 2017), thereby determining their export propensity. In this way, exporting presents a potential escape route for EEFs to avoid the "institutional misalignment" (Witt & Lewin, 2007: 582) between internal needs and domestic institutional constraints. However, such an escape motivation does not warrant success abroad, hence we do not expect

institutional variables to explain variations in the export intensities of EEFs. To understand the latter, we focus on EEF heterogeneity, and in particular on differing levels of key firm-specific capabilities. Thus, an EEF's relative export success vis-à-vis its competitors will ultimately depend on its existing capabilities and its ability to mobilize them effectively (Singh, 2009). Subsequently, our empirical analysis follows this theoretical reasoning and employs a two-stage Heckman procedure, in which we model export propensity (i.e. whether or not firms export) as *inter alia* function of the home-country institutions, and then model export intensity (i.e. the value of the export/sales ratio) as *inter alia* function of firm key capabilities.

Second, we contribute by developing IBV (Peng, Wang, & Jiang, 2008) and RBV (Barney, 1991) explanations that are specific to emerging markets (EEs). Both institutional environments (Gaur et al., 2014) and internal capabilities (Yiu, Lau, & Bruton, 2007; Wang, Cao, Zhou & Ning, 2013) of EEFs are very different from those of developed economy firms, thus presenting the former with unique challenges. To explore these idiosyncrasies we focus on three key institutional aspects (i.e., informal competition, corruption, and political instability) and their effect on export propensity (Arráiz, Henriquez, & Stucchi, 2013; Schneider & Enste, 2000; Lee & Weng, 2013). Moreover, given EEFs' challenges in terms of securing traditional resources (Gaur et al., 2014), we examine how the workers' skill level (Ganotakis & Love, 2012), access to external technologies (Yassar & Paul, 2007) and top management experience (Sapienza et al., 2006) affect their export intensity. In these ways, we are able to augment existing literature by showcasing the joint importance of institutional contingencies and firm capabilities for export performance.

THEORY AND HYPOTHESES

Determinants of Export Performance

There are several extensive reviews on determinants of export performance (see, for instance, Chetty & Hamilton, 1993; Zou & Stan, 1998; Sousa et al., 2008; Bernard et al., 2011). Overall, these studies highlight several core findings in this literature. First, competitive conditions affect firms' export opportunities. Thus, industrial sectors with low value-to-weight ratios are less suitable for exports being more likely to have a monopolistic structure and anti-competitive conditions. Second, firm characteristics such as age or size are important for exports. Larger firms benefit from economies of scale and scope in terms of production, managerial talent, finance and marketing resources, while older firms acquire market knowledge and export capabilities to venture abroad (cf. Uppsala model of internationalization). However, the born-globals literature suggests that age is no longer a necessary precondition for successful overseas expansion. Finally, ownership structure is important. Previous studies suggest that foreign-owned firms are more likely to export than similar domestic firms, presumably because they are already linked in to the global networks and possess already of the necessary expertise to facilitate successful exports.

Although most early work on export performance has been confined almost exclusively to firms from developed economies (Zou & Stan, 1998; Sousa et al., 2008), there are several recent studies that focus explicitly on EEFs (see Table 1). Overall, these studies examine export performance via *export intensity* (i.e., sales from foreign markets as opposed to domestic ones) and emphasize the role of microeconomic characteristics, such as product features (Aulakh, Kotabe & Teegen, 2000; Filatotchev, Dyomina, Wright & Buck, 2001), financial capabilities (Ling-Yee & Ogunmokun, 2001), concentration (Zhao & Zou, 2002), technological capabilities

(Wang et al., 2013; He & Wei, 2013), ownership strategies (Yi et al., 2013), and managerial characteristics (Agnihotra & Bhattacharya, 2015). In turn, other studies have paid attention to the effect of country-level explanations, such as the existence of export promotion programs (Alvarez, 2004) or the relative distance of foreign subsidiaries vis-à-vis parent MNEs (Estrin et al., 2008; He, Brouthers & Filatotchev , 2013). Together, these studies provide multiple insights into what enables and respectively, inhibits, EEF's export performance.

However, despite these contributions, this body of work exhibits several important limitations. Specifically, many studies examine directly export intensity, without considering theoretically (in terms of potentially different explanations) and empirically (in terms of correction for self-selection into exporting) the fact that some firms will never export. Moreover, while theoretical platforms such as IBV or RBV are generally applicable to all firms' activities, EEs present a particular context in which both institutional features and firm capabilities and resources are not the "traditional" ones from a developed country context. To this end, the roles of institutional factors such as corruption, political instability or informal competition are yet to be examined in the context of exports. Finally most studies in this stream of literature employ a single-country context that limits severely the generalization of their findings.

*** *Table 1 about here* ***

Hypothesis Development

We theorize the determinants of export performance along the aforementioned two dimensions by combining elements from IBV and RBV (see Figure 1). In the first stage of our export model we draw upon institutional theory and consider the determinants of export propensity. According to IBV, firm behaviour and strategy both at home and abroad is an

ultimate result of institutional configurations (Peng et al., 2008). Well-developed institutions create a favourable business environment with low transaction costs and high competitive pressures which favour efficiency and innovativeness (Hoskisson et al., 2000). In contrast, EEs are often plagued by low-quality and unpredictable institutional landscapes that affect differently firms and their export strategies (Gao et al., 2010).

***** *Figure 1 about here* *****

Pointedly, the institutional environments in EEs typically differ in many ways from those in more developed economies including *inter alia* more unstable political environments, pervasive government influence, non-transparent regulatory infrastructures, under-developed capital and labour markets, and greater informality (Marquis & Raynard, 2015; Rottig, 2016). The combined effects of these institutional deficiencies means that doing business in many emerging economies is often beset by opportunistic behaviour, capricious government policies, inflated transaction costs, and higher levels of uncertainty (Gao et al., 2010). Under these conditions, even efficient and well-run EEFs may find it difficult to expand and/or maximise the returns on their resources within the confines of their home economies (Cuervo-Cazurra et al., 2015; Luiz et al., 2017). Exporting potentially provides an escape route from these constraints, and further allows EEFs to capitalise on their factor-cost advantages compared to firms located in developed economies. Moreover, exporting allows successful firms not only to access wider markets, but also to diversify their revenue streams and reduce unsystematic risk, to benefit from experiential learning in overseas markets, and to realise economies of scale and scope (Li, 2007).

We identify three attributes of the institutional environments within the EEFs home countries that merit consideration in relation to EEFs' *export propensity* (i.e. the decision to start

exporting or not): political instability, competition from the informal sector, and the level of corruption. Our focus on these factors is motivated by the broader literature in comparative institutional theory that characterizes emerging countries as beset by inefficient regulatory and political institutions that fail to ensure market access and provide level playfield (Schneider et al., 2010; Shleifer & Vishny, 1993). As we argue below, these specific institutional features of EEs are particularly relevant for the exporting decisions of EEFs since they introduce uncertainties in their domestic markets, providing a 'push' mechanism to seek-out foreign markets.

Political instability has several adverse effects upon business activities in an economy (Arráiz et al., 2013). First, political instability creates general uncertainty, and leads to firms losing confidence, reducing investment, and retrenching their activities (Alesina & Perotti, 1996). Suppliers of capital will be less willing to invest or lend to firms, shareholders may liquidate their equity holdings, banks may call in loans, and the cost of capital will generally rise (Svensson, 1998). Uncertainty will also affect consumers who are likely to lower their consumption and hence reduce domestic demand across a range of products (De Boef & Kellstedt, 2004). The typical outcome of instability is lower domestic growth (Guillaumont, Jeanneney, & Brun, 1999), which in turn means that exporting will become, at the margin, a more attractive proposition. *In extremis*, political instability may give rise to political and/or civil violence, which further exacerbates uncertainty and leads to even greater operational difficulties (Hiatt & Sine, 2014). Second, business activities in many countries, in advanced economies but *a fortiori* in many emerging economies where political accountability is not strong, are often circumscribed by political patronage (Gomez, 2002; Gomez & Jomo, 1999; Wank, 1995). Patronage is particularly strong in countries with traditions of strong central governments, and

often determines access to finance, operation licenses, raw materials, subsidies, or procurement contracts (Kristinsson, 1996). Successful firms adapt to such circumstances in stable political environments, and find ways to acquire the necessary patronage to carry out their business activities effectively (Fraser, Zhang & Derashid, 2006). But political instability undermines the certainties provided by political patronage, and previous helpful links may overnight become toxic associations (Alesina & Perotti, 1996). In such circumstances, firms may choose to eschew the difficulties and expense of building up new political contacts in favour of venturing into more transparent markets overseas. Subsequently, our first hypothesis is:

H1: There will be a positive relationship between political instability in their home countries and the export propensity of EEFs.

Many emerging economies have large informal sectors, broadly defined as economic activities that are not recorded in the official GDP statistics (London & Hart, 2004). The size of these informal sectors can be significant even in advanced economies, but are typically more substantial in emerging and developing economies. For instance, the estimated size of informal sectors in Brazil, Russia, India and China is relatively large, at around 39.0%, 43.8%, 22.2% and 12.7% respectively of GDP during the 2000s (Schneider, Buehn & Montenegro, 2010). While the literature points out consistently to the size disparity of the informal sector in emerging versus developed economies, little is known about its competitive effects on EEF strategies and performance. However, recent findings confirm that informal competition affects important aspects of EEF activities, such as new product development, HR development practices or tax avoidance strategies (Iriyama, Kishore & Talukdar, 2016; McCann & Bahl, 2016; Gokalp et al., 2017). Now, notwithstanding the fact that a sizeable informal sector may generate positive

benefits for EEs in terms of employment, welfare, and the provision of local services, the competitive effect on "formal" (i.e., officially registered) EEFs is likely to be negative and considerable (Schneider & Enste, 2000). First, a large informal sector means a smaller number of firms on which tax revenues can be levied: this in turn either means reduced spending on infrastructure and other public goods to the detriment of all firms and other actors within the economy, or to even higher taxes being levied on EEFs in the formal sector (Gerxhani, 2004). Second, the existence of a sizeable informal sector makes macroeconomic policy less effective (Mara, 2011), restricting the domestic prospects of formal EEFs and impeding economic growth in these markets (Gonzalez & Lamanna, 2007). Third, business activities within the informal sector are typically conducted outside the official law, with informal social contracts being used as binding arrangements (London & Hart, 2004). As such, firms in the formal sector may find it difficult to protect their proprietary knowledge and technology though enforceable legal mechanisms (McCann & Bahl, 2016). Given these discriminatory conditions, many firms in the formal sector will choose to look for more level playing fields in overseas markets in the presence of strong informal competition. Thus, our second hypothesis is:

H2: There will be a positive relationship between the degree of competition from the informal sectors in their home countries and the export propensity of EEFs.

Corruption is defined as the abuse of entrusted public power for private gain (Schleifer & Vishny, 1993) and involves the payment by firms of bribes and/or other favours to officials in order to solicit preferential access to resources, finance, or information (Svensson, 2003). In this study we focus on bribery as a form of petty corruption involving usually small payments to low-ranked governmental officials (Rose-Ackerman, 1999). While the general consensus in the

macro-economic literature ("sanding hypothesis") is that corruption hampers all economic activities through increased transaction costs, greater uncertainty, and less transparency in markets (Cuervo-Cazurra, 2016), other studies ("greasing hypothesis") suggest that bribery may actually improve firms' competitive position (Martin, Cullen, Johnson & Parboteeah, 2007). For instance, in environments plagued by heavy bureaucracy, bribes may eliminate bureaucratic bottlenecks, or confer access to public resources that were otherwise confined to those with political affiliations, thereby providing unaffiliated firms a faster alternative to achieve their goals (Méon & Weill, 2010; Krammer, 2012).

Given the prevalence and relative institutionalization of corruption in EEs, we argue that home-country corruption will positively affect EEFs' decision to export for a several reasons. First, even if corruption would "sand" firm performance at home by eroding its profits and resources through bribe demand, the EEF may still use exports strategically to evade, at least partially, these additional costs of operating at home (Ang & Cummings, 1997). Most the activities associated with domestic sales (e.g., acquisition of land, building permits, product regulations, or labour hiring) involve dealing with governmental officials (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002), which give them numerous opportunities to misuse their authority for private gain (Martin et al., 2007). The cost of coping with excessive and arbitrary corruption in the home market may encourage EEFs to seek out for other corruption-free markets (Lee, Yin, Lee, Weng & Peng, 2015). Consequently, EEFs that are successful in their home markets may choose exports as a preferred alternative to doing business at home (Olney, 2016).

Second, if we adhere to the "efficient grease" perspective, bribes may help EEFs to access both domestic resources and foreign markets at a lower cost than the existing institutional arrangements. In many EEs, "dual price" practices discriminate between bribing and non-bribing

firms (Rose-Ackerman, 1999), and allow the former to achieve significant cost advantages by acquiring resources below market prices (Hsieh & Moretti, 2006). To the extent that bribing firms use already their resources efficiently, these additional cost savings can be leveraged into competitive advantages to compete successfully in international markets (Gao et al., 2010). Similarly, accessing foreign markets via exports requires firms to comply with certain regulatory provisions regarding transport arrangements, assembling of export documentation, duties payment, inspections and clearance (Djankov, Freund, & Pham, 2010). While these regulations are quite precise and thus more predictable, bribes often secure a normal or faster than normal completion of these operations (Hors, 2001). Hence, corruption may enable EEFs making these payments to potentially secure more advantageous positions as a result of pre-existing internationalization and ownership advantages which allows them to compete successfully in foreign markets (Lee et al., 2015).

Finally, the benefits of accessing domestic resources and foreign markets at lower costs may be further enhanced due to economies of scale (Fisman & Gatti, 2006). By paying bribes repeatedly and forging long-standing relationships with corrupt officials for accessing a wider range of resources at a lower cost, EEFs may regard bribes as a fixed cost investment which reduces its average cost, as the firm increases sales through exporting to different markets and reduces the efficiency of these operations (Lee & Weng, 2003). Conversely, non-bribing EEFs looking to export may face more bureaucratic barriers, inability to access certain resources and delays in their approvals for export operations (Bertrand, Djankov, Hanna & Mullainathan, 2007; Sequeira & Djankov, 2014). These losses in terms of access to resources and loss of time to reach foreign markets will put these firms at a competitive disadvantage, thus reducing their chances to export in foreign markets (Shleifer & Vishny, 1993).

The above discussion suggests that petty corruption will have positive effects on EEFs propensity to export, regardless of our view (i.e., greasing or sanding) on corruption. Hence, our third hypothesis is:

H3: There will be a positive relationship between the extent of corruption in their home countries and the export propensity of EEFs.

The first three hypotheses have drawn upon IBV arguments to relate different home-country institutions to the export propensity of EEFs. However, the RBV (Barney, 1991) suggests that success in overseas markets (as measured here by export intensity) will crucially depend upon how well firms are able to develop distinctive resources and capabilities, and this is particularly true for EEFs (Yiu et al., 2007; Gaur et al., 2014). In particular, firm-specific capabilities will be required to transform home-country resources (e.g. cheap labor, monopolistic advantages) into sustainable and inimitable competitive advantages in overseas markets (Lu, Zhou & Li., 2010). Thus, from the RBV perspective, we advance three additional hypotheses that relate important firm-specific capabilities to the export intensity of EEFs: the skill level of the workforce, access to external technologies, and the experience of top management.

There are several mechanisms through which the skill level of the workforce will impact the success (i.e., intensity) of EEF exports. First, educational attainment (i.e., general, business, or technical) provides EEF employees with valuable skills, which are particularly useful for the intensity of export activities (Ganotakis & Love, 2012). Problem-solving and cognitive skills from high levels of general education for employees can help EEFs in better exploiting the new opportunities arising in foreign markets (Cooper, Gimeno-Gascon & Woo, 1994). Furthermore, business education of employees will result into tailored management, operational and marketing

strategies which account for idiosyncrasies of foreign markets (Samiee & Walters, 2000) and increase the effectiveness of export operations (Knight & Cavusgil, 2004). Finally, any skills from technological education will spur more innovation and new products (Gourlay, Seaton, & Suppakitjarak, 2005; Krammer, 2016), which will result in higher exports (Kundu & Katz, 2003).

In addition, skilled employees are more likely to increase the quality and diversity of existing products, thus affecting positively EEF's export intensity (Morgan, Kaleka & Katsikeas, 2004; Lages, Silva, & Styles, 2009). Quality is equated to meeting specifications and "doing it right the first time", resulting in fewer defects and more efficient processes. Key to the generation of product quality are the skills of the workforce and whether or not these skills fit the purpose (Hummels, Munch, Skipper & Xiang, 2012). Better product quality in turn leads, on the one hand, to lower manufacturing and service costs and, on the other hand, to a better reputation and increased sales particularly in overseas markets (Gervais, 2015). Both these factors will confer EEFs with comparative advantage for exports. Likewise, adoption of a differentiation market-based strategy for exports by offering tailored products to foreign markets will increase EEF's success abroad (Knight & Cavusgil, 2004). A skilled workforce allows EEFs to take advantage of economies of scope by redirecting excess resources (e.g., know-how, production) towards expanding sales abroad (Montgomery, 1994). Subsequently, such international diversification will reduce significantly EEF's vulnerability in the face of adverse shocks that commonly affect emerging markets (Witt & Lewin, 2007). In sum, the skill level of EEF's employees will facilitate the development of suitable operational, managerial and product strategies, effectively increasing the intensity of its exports. Thus, our fourth hypothesis is:

H4: There will be a positive relationship between the skill level of the workforce and

the export intensity of EEFs.

The RBV emphasises that the development and exploitation of valuable firm-specific technological capabilities is vital for firms wishing to generate sustainable competitive advantages (Grant, 1991). One option is for EEFs to develop such capabilities internally through their own R&D efforts, but such efforts typically require not only an initial base of significant and appropriate technological capabilities but also considerable investments of both finance and human capital (Yassar & Paul, 2007; Krammer, 2009). Furthermore, such internal efforts are often fraught with uncertainty, and may take years to come to fruition (Teece, 1986). Many firms thus turn to external sources to complement and enhance their internal technological capabilities, and thus facilitate the development of more advanced products and processes (Krammer, 2016). External knowledge sourcing may be effected through various channels (Chung & Yeaple, 2008), and this enables firms to access state-of-the-art technology more quickly and with greater assurance (Chatterji & Manuel, 1993). In turn, accessing external technology has positive impacts on multiple dimensions of firm performance, including innovation, growth, and financial success (Denicolai, Zucchella & Strange, 2014; Krammer, 2014; Tsai & Wang, 2008).

These considerations are all the more important for EEFs, whose competitive advantages in global markets have historically been due more to home country factor-cost advantages than to their firm-specific technological prowess. This has been particularly true for EEFs that are exporting to advanced economy markets, as their products are often viewed as lacking in sophistication (Wright et al., 2005). In this way, access to new technologies yields immediate and tangible benefits for EEFs in terms of development of new products geared for export markets (Wang et al., 2013; Wang & Li-Ying, 2014; Athreye & Kapur, 2015). The advantages of

externally accessing and harnessing sophisticated capabilities resides in the wider range of production capabilities available, and the higher quality of these products, all of which will allow EEFs to reach advanced export markets and more sophisticated clients in export markets (Bhaduri & Ray, 2004; Rodriguez & Rodriguez, 2005). Consequently, our fifth hypothesis is:

H5: There will be a positive relationship between the access to external technologies and the export intensity of EEFs.

The lack of knowledge about global markets is often cited as one of the main barriers to successful exporting. In addition to having a good quality product, export success requires managers to poses also specific knowledge and experience regarding entering, operating, and adapting to the particularities of overseas markets, from production processes to relationships with suppliers and targeting of consumers (Koh, 1991; Das, 1994; Lages & Montgomery, 2005). Much of this knowledge is industry-specific, involving transposition and adaptation of existing (domestic) capabilities and resources to the characteristics and needs of foreign markets (Sapienza et al., 2006; Lengler, Sousa & Marques, 2013).

Now much of the requisite knowledge will reside with the top management team, and will have been accrued through own experiences of foreign markets (Sousa et al., 2008). These experiences enhance their abilities to perceive opportunities, threats and risks in foreign markets, and to devise effective solutions and strategies (Lages & Montgomery, 2005). We would thus expect managers with more years of industry experience to be more perceptive in selecting suitable export markets, more adept at formulating an appropriate marketing mix for each market, and more skilled at managing the firm personnel effectively to create and sustain competitive advantage (Yiu et al., 2007). Such experienced managers would be valuable in any

firm, but their scarcity in many emerging economies will make them especially valuable for EEFs seeking to establish themselves in overseas markets (Bloom, Genakos, Sadun & Van Reenen, 2012). Hence, we propose that:

H6: There will be a positive relationship between the experience of top management and the export intensity of EEFs.

METHOD

Data Source and Sample

For our analysis, we use firm-level data for Brazil, Russia, India and China from the World Bank's Enterprise Surveys (WBES) database. The WBES collects firm-level data worldwide that covers information about the countries' business environments, firm performance and growth. The major advantage of WBES is that the data are collected systematically using standardized surveys and stratified sampling techniques to ensure representative coverage for a given country. Our analysis is based on the harmonized 2015 release of WBES, which includes surveys undertaken within a few years of difference, the earliest being in Brazil (2009), followed by Russia and China (2012), and India (2014). After cleaning the dataset by removing firms with missing data, we are left with a total sample of 16,748 firms: 1,183 of these firms were from Brazil; 2,496 from Russia; 9,160 from India and 3,943 from China.

Dependent Variables

Table 2 summarizes the operationalization of the variables in our analysis. We have two dependent variables corresponding to the two stages of our theoretical model. Following our

theoretical bearings we make a distinction between two important outcomes: whether or not the firm exports (EXPRO- *Export propensity*), and how much it exports (EXINT- *Export intensity*), given that the underlying factors driving these two outcomes are not necessarily the same (Estrin et al., 2008).

**** Table 2 about here ****

Independent Variables

There are three variables related to the institutional environments in the home countries of the EEFs. The first institutional variable (POL) measures *political instability* based on managers' responses to the question: "To what extent is political instability an obstacle to the current operations of this establishment?" The second institutional variable (INF) captures the extent to which *competition from the informal* sector affects business operations ("To what extent are the practices of competitors in the informal sector an obstacle to the current operations of this establishment?"). For both INF and POL The responses have five possible values ranging from no obstacle (0), to minor, to moderate, to major, and to very severe obstacle (4). Our third institutional variable (CORR) captures the extent of *corruption* based on the value of bribes paid by the firm ("On average, what percentage of total annual sales, or estimated total annual value, do establishments like this pay in informal payments or gifts to public officials to get things done?").

The effects of institutions are likely to vary within countries, industries and regions within which the EEFs operate. To address this, we convert our firm-specific responses for political instability, informal sector competition, and corruption into region-industry averages for these 100 regions using 2-digit ISIC codes. The WBES identifies 100 administrative regions

within the BRIC economies: 25 in China; 15 in Brazil; 23 in India; and 37 in Russia. This conversion has two important advantages: it addressed explicitly the large administrative heterogeneity within these countries (Xu & Shenkar, 2002; Busenitz, Gomez & Spencer, 2000; Yi et al., 2013) and reduces the problems of reverse causation and measurement error (Fisman & Svensson, 2007) – see below the subsection on common method variance for further discussion.

Our second set of independent variables includes three firm-specific capabilities of the EEFs. For the *skill level of the workforce* (SKILL) we use the percentage of skilled workers in total production (i.e. non-managerial) worker force. Skilled workers are defined as those with specialized technical knowledge, whether it is acquired at work through apprenticeship and on-the-job training, or by obtaining a college, university or technical diploma. The second variable (MAN) captures *managerial capabilities* using the experience of the top manager based on the question: "How many years of experience does the top manager have working in this industry?" Finally, we measure *external technological capabilities* (TECH) using a dummy variable that indicates if the establishment at present uses technology licensed from a foreign-owned company.

Control Variables

To account for firm heterogeneity, we control for a number of variables that were deemed as important by the export literature. Specifically, we include *firm size* (SIZE), as the number of permanent employees, given that larger firms tend to internationalize faster and to a greater degree than smaller firms (Bernard et al., 2007). We also include *firm age*, computed as the logarithm of the number of years since the EEF was established (AGE). While the effect of age is still debated, most studies in this area recommend it as a good predictor for exports (Yiu et al.,

2007; Bigsten & Gebreeyesus, 2009). The third control (FOREIGN) measures *foreign ownership* (i.e., the percentage of firm owned by private foreign individuals, companies or organizations), as foreign-own companies are known to have better technologies and market linkages which can improve export performance (Singh, 2009). Similarly, we control for *public ownership* (PUBLIC), i.e., percentage of ownership by the government/state, given the importance of state-own firms in emerging economies (Bai & Wang, 1998). Finally, we control for the *quality of workforce* (WORK), measured using EEF managers' subjective ratings (in a scale of 0 to 4) on the extent to which lack of educated workforce posed an obstacle to establishment operations.

Descriptive Statistics

Table 3 presents descriptive results for the variables described above, for the whole sample and for sub-samples from each of the four countries. The average value of EXPRO indicates that 16% the firms in our dataset are exporters. The proportion of exporters ranges from 9% in Russia to 24% in China. We also conduct group mean comparisons using one-way analysis of variance (ANOVA) to test if the average values of EXPRO differ significantly across countries. The result of this test reveals that EXPRO differs significantly across firms in BRIC countries. The average export intensity (EXINT) is 6.4%; with firms from Russia (2.5%) and China (10.4%) respectively register the lowest and highest levels of export sales. These results are in line with the previous literature (e.g. Singh, 2009; Bernard et al., 2011). However, if we exclude non-exporting firms and focus on the truncated sample, the average export intensity is much higher at 39%. India and China have the highest ratios (46% and 44% respectively), followed by Russia (26%) and Brazil (19%). Again, group mean comparisons using one-way ANOVA indicates significant differences of EXINT (and all independent variables) across the BRIC countries (see

footnote 3 of Table 3).

**** Table 3 about here ****

Table 3 suggests that competition from the informal sector (INF) and political instability (POL) are considered relatively less important in China than in the other BRIC countries. Moreover, corruption (CORR) is considered less of a problem in China than in the other BRIC countries, with payments for informal gifts constituting only 0.22% of total sales revenue on average, compared to 1% of sales in Brazil and Russia. This is not unique to our data, since China also fares relatively better among the BRIC countries in institutional rankings by other indicators. According to the World Bank's Governance Indicators, China is the best ranked in terms of corruption control among the BRIC (being at the 47th percentile of the sample in 2014), and second best in political stability following Brazil.

Turning to the control variables, the average firm age is 19 years old, and this ranges from young Russian and Chinese firms (with average ages of 14 and 16 years, respectively), to the relatively older Brazilian firms (28 years of age on average). The highest level of foreign ownership (FOREIGN) is observed in Brazil (4.7%), whereas those from India have the lowest level (0.5%). Public ownership (PUBLIC) is the highest in China (3%) and the lowest in Brazil (0.04%). The low level of public ownership, especially in China, is the result of the sampling design of the WBES dataset, which excludes wholly state-owned enterprises. In terms of firm size (SIZE), the average firm has 124 permanent workers, Chinese firms being the largest ones (233 workers) whereas Russian firms are the smallest (66 workers). Table 4 presents the pairwise correlation coefficients among these variables, which follow pretty much our expectations.

**** Table 4 about here ****

Empirical Strategy

We use a Heckman two-stage estimation procedure to deal with potential sample selection bias (Hult et al., 2008). The first stage involves probit estimation to model *export propensity* (where the dependent variable is EXPRO, equalling 1 if a firm is an exporter, and 0 otherwise). The probit estimation incorporates the three institutional variables (POL, INF, CORR), the control variables, and the country and industry dummies. The model is estimated using the full sample of 17,201 observations. The second stage uses linear regression to model *export intensity* only among the exporting firms (where the dependent variable is EXINT, namely what percentage of firm's sale come from exports). This estimation incorporates the three firm-specific resource variables (SKILL, MAN, and TECH), the control variables, the country and industry dummies, and the Inverse Mills Ratio (IMR) which is obtained from the first-stage regression. The IMR is calculated from the truncated mean of the first-stage probit estimation, which in turn is obtained from the generalized residuals for the EEFs reporting non-zero exports. It corrects for the fact that the sample of exporting EEFs is not random (Bernard et al., 2007), as the linear estimation for EXINT only includes the truncated sample of exporting firms. The estimated coefficient of the IMR is a function of the correlation between the error terms of the two models. Hence, if significant, it indicates the existence of a sample selection bias and the direction of this correlation. Thus, the regression models to be estimated are:

$$EXPRO_{ijc} = \alpha_0 + \alpha_1(POL_{ijc}) + \alpha_2(INF_{ijc}) + \alpha_3(CORR_{ijc}) + \gamma_1(X_{ijc}) + \gamma_2(D_j) + \gamma_3(D_c) + \varepsilon^1_{ijc} \quad (1)$$

$$EXINT_{ijc} = \beta_0 + \beta_1(SKILL_{ijc}) + \beta_2(TECH_{ijc}) + \beta_3(MAN_{ijc}) + \beta_4\,(IMR_i) + \delta_1(X_{ijc}) + \delta_2(D_j) + \delta_3(D_c) + \varepsilon^2_{ijc} \quad (2)$$

In these equations *i* refers to the firm, *j* the industry it operates in and the *c* denotes one of the four BRIC countries. *X* is the vector of control variables (SIZE, AGE, FOREIGN, PUBLIC, WORK) and γ_1 and δ_1 are the corresponding vectors of coefficients of the control variables in each regression. D_j and D_c are vectors of industry and country dummies that capture heterogeneities across countries and industries (Riedl, 2010). Controlling for country effects is important since, as indicated earlier, group mean comparisons reveal significant differences of all variables across the BRIC countries. Finally, ε^1 and ε^2 denote the error terms in each regression, which are uncorrelated once the Inverse Mills Ratio (IMR) is introduced in the second regression. The estimations were conducted jointly using the ***heckman*** routine in Stata 14.

Common Method Variance

One of the main issues when using survey data for statistical analysis is common method variance (CMV). This holds especially true when the independent and dependent variables are drawn from the same source, potentially leading to spurious correlations that arise from the way the data constructs are measured. We believe that CMV is not a serious issue in our analysis for several reasons. First, CMV may be mitigated at the survey design stage by appropriate s ordering of the questions and by guaranteeing respondents' anonymity at the reporting stage (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). The World Bank Enterprise Surveys do not include any personal information that could identify the respondents, and this strongly reduces the likelihood that managers presented socially desirable answers. Second, both our dependent variables (EXPRO and EXINT) are not perceptual measures, but are based on accounting data, which are checked for consistency by the interviewers themselves. CMV is less likely to appear when objective rather than perceptual data are used. Third, we have constructed region-industry

averages for our three institutional variables, rather than relying on individual firm-specific responses from surveys, which may suffer from measurement errors, particularly in the case of sensitive questions like corruption (Fisman & Svensson, 2007). Thus, averaging over large numbers of firms will significantly reduce any potential bias from using firm responses (Podsakoff et al., 2003).

RESULTS

Baseline Results

We begin by presenting the results from the probit estimation of the first stage of our model of export performance. The dependent variable is *export propensity* (EXPRO), and the independent variables include the three hypothesised variables related to the institutional environments in the EEFs' home countries. The results are reported in Table 5 (Models 1-5).

**** Table 5 about here ****

Model 1 includes only the control variables. The three institutional variables are included separately in models 2-4, and then all three are included in model 5. SIZE and AGE have statistically significant impacts on export probability, indicating that larger and older EEFs are more likely to engage in exporting. Foreign-owned EEFs are also more likely to engage in exporting, which is in line with the literature (Bernard et al., 2007), while partial public ownership (PUBLIC) has a significant negative effect, potentially because it introduces soft-budget constraints that reduce the incentive to engage in exporting (Bai & Wang, 1998). Our measure of the quality of the workforce (WORK) is insignificant.

Political instability (POL) appears with positive and significant coefficients both when it

is included separately (model 2) and with all other institutional variables (model 5). This shows that a higher degree of political instability in the home market of EEFs is associated with higher export propensity, confirming our first hypothesis. Political instability is often more intense in emerging economies than in developed countries and this poses a constraint to competitive EEFs. This in turn drives firms to seek out for alternative markets through which they can expand and diversify their market reach (Guillaumont et al., 1999). Similarly, the variable capturing the extent of *competition from the informal sector* (INF) has positive and significant coefficients in models 3 and 5. This lends support for our second hypothesis, suggesting that EEFs that face pressure from informal competitors are more likely to turn to overseas markets. Finally, the *level of corruption* in the domestic institutional environment (CORR) appears insignificant in models 4 and 5, suggesting that corruption is not a significant determinant of the export decisions of EEFs. Thus we find strong support for hypotheses H1 and H2, but not for H3.

We next consider the results from the linear regression estimation of the second stage of our model of export performance (Models 6-10). The dependent variable is *export intensity* (EXINT), and the independent variables include the three hypothesised variables related to the firm-specific capabilities and the Inverse Mills Ratio (IMR) imputed from the export propensity model. The results are reported in Table 6. The Wald tests at the bottom of the Table strongly reject the null hypothesis that all coefficients in the regression models are zero, thereby confirming the goodness of fit of the models. The coefficients of the IMR variable are highly statistically significant ($p < 0.01$) in all models, confirming that the error terms of the first and second stage regressions are correlated with each other supporting our choice of the Heckman procedure. The appropriateness of our proposed two-stage model of export performance can further be assessed by comparing the coefficients of the control variables on export propensity

and export intensity. Firm size (SIZE), firm age (AGE), and foreign ownership (FOREIGN) all had positive and very significant effects on *export propensity*, whilst public ownership (PUBLIC) had a very significant negative effect. These results suggest that larger, older, private, and foreign-owned firms are more likely to be exporters than smaller, younger, publicly-owned and domestic firms. However, neither foreign ownership nor public ownership has significant effects upon *export intensity*, whilst both firm size and firm age have very significant negative effects. These results suggest that the most successful EEFs in export markets are smaller and younger firms, presumably because they are more entrepreneurial and less encumbered by past experiences operating in command economies. These results also highlight the usefulness of estimating separate models for explaining the two measures of export performance (EXPRO & EXPINT) since they may not be necessarily affected by the same factors or in the same way.

*** *Table 6 about here* ***

We now consider the effects of our hypothesized firm capabilities. The significant coefficient for SKILL shows that EEFs with *skilled workforces* are able to export a higher share of their total sales. This confirms the value of a qualified and well-skilled workforce as a strategic resource that can advance firm competitiveness (Wagner, 2007). Moreover, the positive and significant effect TECH on export intensity confirms the value of *external technological capabilities* to produce goods of sufficient quality to compete in international markets (Bhaduri & Ray, 2004). However, the insignificant coefficient for MAN fails to give support to the importance of *managerial experience* for export performance. This may be because the export intensity of many EEFs still depends upon home country factor cost advantages, hence substantial managerial experience is not a particularly important capability. Alternatively, it may be because more experienced managers are likely to be employed in older firms (the correlation

between MAN and AGE is a significant 0.39, Table 4), hence the hypothesized beneficial effects of top management experience may be offset by the negative effects of firm age as noted above. Thus we find strong support for hypotheses H4 and H5, but not for H6.

Robustness Tests

We also conduct additional tests using alternative measures of POL, INF and CORR to ascertain the robustness of the first stage results. We were able to construct alternative measures using a question in the WBES dataset about the features of the business environment that could adversely affect performance. Fifteen specific factors had been identified from previous surveys that explored important constraints for business performance, including *political instability*, *competition from informal firms*, and *corruption* but also a range of other factors including financial access, electricity, access to land, transportation, taxation, customs etc. Managers were asked to select "the biggest problem" their firms were facing among the presented 15 constraints.

The data shows that corruption was selected as the "biggest problem" by 13% of the firms, whilst 10% of the firms cited competition from informal firms, and 3% cited political instability. For our robustness analysis, we construct three alternative measures (POL_Alt, INF_Alt and CORR_Alt) by calculating the percentages of firms in each industry-region that indicated, respectively, political instability, informal competition and corruption as their most important constraints. Each of these alternative constructs was significantly correlated ($p<0.01$) with their baseline counterparts, suggesting internal consistency among our constructs although they were measured in a very different way. The results of this analysis (Table 7) confirm our baseline results that political instability (Model 11 and 14) and informal competition (Model 12) have significant positive effect on export propensity. Interestingly the alternative measure of

corruption (CORR_Alt) is positive and significant in Models 13 and 14, providing partial evidence for our third hypothesis, which predicts a positive effect of corruption on export propensity.

*** *Table 7 about here* ***

DISCUSSION AND CONCLUSIONS

We have examined the export performance of EEFs by focusing on the combined effects of institutional elements and firm-specific capabilities to explain the two key dimensions of export performance (i.e., propensity and intensity). Our hypotheses have been underpinned by arguments drawn from institutional theory and from the resource-based view of the firm, and we have found strong empirical support for four of our six hypotheses (and weaker support for a fifth). We find that EEFs are more likely to become exporters if they perceive more political instability and greater informal competition in their home regions, while the intensity of their exporting activities are significantly related to internal capabilities such as the skill level of their workforce and access to external technologies. These findings resonate with calls in the literature (e.g. Hoskisson et al., 2000) to focus on the relationship between firms' assets and the changing nature of their home countries' institutional infrastructures.

Our study advances both theoretically and empirically the existing literature on EEF exports. In terms of theory, we examine the effects of both institutional factors and firm capabilities in determining two distinct, yet intertwined, dimensions of exports (i.e., propensity and intensity). Subsequently, we develop formal explanations for these dimensions of exports by combining IBV and RBV explanations that cater to the particularities of EEF capabilities and

their institutional contexts. Given the inherent link between these dimensions, we are able to better explain how and why certain EEFs are more successful in terms of exports than other. Furthermore, in terms of empirics, we match our theoretical conjectures with the appropriate empirical tools and measures (i.e., Heckman selection model, sub-national measures of institutions) and we employ a unique comparative context (more than 16,000 firms from the four biggest emerging economies, i.e., Brazil, Russia, India and China) to test our theoretical conjectures. In this way we provide a more comprehensive analysis of EEF export performance and distinguish from the bulk of prior studies that have commonly focused on one or a couple of countries as a testing ground for theory. This allows us to go beyond country and industry contingencies and examine more generally EEF behaviour across several heterogeneous EE environments (Estrin et al., 2008).

Implications for Theory

Our study bears two important theoretical implications. First, the decision to export and the actual export performance of firms are deeply intertwined and this relationship should be reflected in our conceptualization of these activities. In response, we advance a two-stage theoretical model for the export performance of EEFs by hypothesizing different determinants of *export propensity* and of *export intensity*. While most studies focus solely on one of these aspects, we argue that it is important to understand the interplay between these export dimensions (Gao et al., 2010). As such, we posit that while export intensity is contingent on firm-specific capabilities, home-country institutions will exert an indirect influence by affecting firm probability to enter exporting in the first place (Figure 1). In doing so we uphold the joint importance of RBV and IBV and support previous calls in the literature to employ and combine

theoretical elements for a better understanding of EEFs' strategies (Filatotchev et al., 2001; Gaur et al., 2014).

Second, we offer several novel IBV and RBV explanations for EEF exports. We contend that institutional features in home countries (i.e., informal competition, the extent of corruption, and the degree of political instability) produce an "institutional misalignment" between the firms' needs and their institutional settings (Witt & Lewin, 2007). This misalignment provides EEFs with a motivation to seek out exporting opportunities, and to switch their focus from domestic to foreign operations (Gonzalez & Lamanna, 2007; Lee & Weng, 2013; Hiatt & Sine, 2014). These institutional arguments explain why EEFs may opt for internationalization via exports, and augment prior insights on how firms escape from institutional pressures in their home markets (Witt & Lewin, 2007; Boisot & Mayer, 2008). Complementary to this, we argue that EEFs are confronted with different challenges in terms of export capabilities than the traditional ones that apply to firms from developed countries (Gaur et al., 2014). Therefore, we develop theoretical arguments for the role of several firm capabilities (i.e., level of skills by workers, acquisition of external technologies, and the experience of top-management) that are particularly salient for EEFs in terms of achieving greater exporting success. In this way we contribute to the resource-based explanations of exports by reinforcing the relevance of EEF-specific capabilities for their success abroad (Yi et al., 2013).

Implications for Practice

The implications for firms' managers are relatively straightforward. Successful export performance depends upon having a skilled workforce and externally sourced technological capabilities though, apparently, managerial capabilities are not that important in the context of

EEs. As noted above, this may reflect the empirical reality that more experienced managers tend to be employed by older firms, and older firms tend to have lower export intensities. Or it may be because many EEFs export labour-intensive products through intermediaries and so the managerial skills required are neither sophisticated nor needing to be internalised within the exporting firms. As more EEFs produce increasingly more sophisticated goods for export in the future, then it is likely that they will need to concomitantly develop the requisite managerial skills.

The implications for policy-makers are less obvious. Export propensity is positively related to political instability, the informal sector competition and (to a lesser extent) the existence of a corrupt home-country environment. While these contingencies may encourage EEFs to seek out alternative markets overseas, it may have devastating effects on the performance of domestic firms, thereby resulting in overall negative effects on these economies as a whole. The policy recommendations must surely be for governments to seek to improve the institutional environments at home so that the best firms are able to prosper both at home and overseas.

Limitations and Future Research

While providing some original insights into the drivers of EEF export performance, this study also has several limitations, which provide interesting avenues for future research. First, the sample of EEFs is drawn from the four large BRIC economies. Certainly all four BRIC economies are emerging economies, but are they typical of all EEs? Or does their size (and other key features such as their political systems) mean that they are atypical cases? We would thus suggest that our analysis be replicated using a sample of firms from both small and large EEs.

Second, we have focused on three institutional features (corruption, political instability and informal competition), which are both salient and relatively unexplored in prior EEF literature. While our theoretical arguments and our subsequent empirical findings justify this choice, there are other institutional features (e.g., political networks, financial development, bureaucratic reforms, etc.) that future studies may consider as base for theoretical development and empirical advancement of the EEF export literature. Third, the cross-sectional nature of our dataset prevents us from controlling for other time-variant variables that may affect firms' export behaviour but are not captured in these surveys. As more rounds of Enterprise Surveys are developed, future studies may want to employ panel techniques to control for this unobserved heterogeneity. Finally, a more comprehensive assessment of the causal links between export performance, firm capabilities and home country institutional environments would also require the analysis of longitudinal (i.e., panel) data to capture any dynamic effects of this relationship. Such analysis would hopefully throw more light upon how, and in which ways, institutional features either facilitate or hamper firm performance, and thus clarify the policy conundrum identified in the practical implications.

REFERENCES

Agnihotri, A. & Bhattacharya, S. (2015). 'Determinants of export intensity in emerging economies: an upper echelon perspective.' *Journal of World Business*, 50(4): 687-695.

Alesina, A., & Perotti, R. (1996). 'Income distribution, political instability, and investment.' *European Economic Review*, *40*(6): 1203-1228.

Alvarez, R.E. (2004). 'Sources of export success in small and medium-sized enterprises: The impact of public programs.' *International Business Review*, 13(3): 383-402.

Ang, S., & Cummings, L. L. (1997). 'Strategic response to institutional influences on information systems outsourcing.' *Organization Science*, *8*(3): 235-256.

Arráiz, I., Henríquez, F., & Stucchi, R. (2013). Supplier development programs and firm performance: Evidence from Chile. *Small Business Economics*, 41(1), 277-293.

Asiedu, E., & Freeman, J. (2009). 'The effect of corruption on investment growth: Evidence from firms in Latin America, Sub-Saharan Africa, and transition countries.' *Review of Development Economics*, *13*(2): 200-214.

Athreye, S. & Kapur, S. (2015). 'Capital and technology flows: Changing technology acquisition strategies in developing countries.' In D. Archibugi & A. Filippetti (eds), *The Handbook of Global Science, Technology, and Innovation*, pp.191-211. Chichester: John Wiley.

Aulakh, P.S., Kotabe, M. & Teegen, H. (2000). 'Export strategies and performance of firms from emerging economies: Evidence from Brazil, Chile and Mexico.' *Academy of Management Journal*, 43(3): 342-361.

Bai, C.E. & Wang, Y. (1998). 'Bureaucratic control and the soft budget constraint.' *Journal of Comparative Economics*, 26(1): 41-61.

Barney, J. (1991). 'Firm resources and sustained competitive advantage.' *Journal of Management*, 17(1): 99-120.

Bernard, A.B., Jensen, J.B., Redding, S J. & Schott, P.K. (2007). 'Firms in international trade.' *Journal of Economic Perspectives*, 21(3): 105-130.

Bertrand, M., Djankov, S., Hanna, R., & Mullainathan, S. (2007). 'Obtaining a Driver's License in India: An Experimental Approach to Studying Corruption.' *The Quarterly Journal of Economics,* 122(4): 1639–1676.

Bhaduri, S. & Ray, A.S. (2004). 'Exporting through technological capability: Econometric evidence from India's pharmaceutical and electrical/electronics firms.' *Oxford Development Studies,* 32(1): 87-100.

Bigsten, A. & Gebreeyesus, M. (2009). 'Firm productivity and exports: Evidence from Ethiopian manufacturing.' *The Journal of Development Studies*, 45(10): 1594-1614.

Bloom, N., Genakos, C., Sadun, R. & Van Reenen, J. (2012). 'Management practices across firms and countries.' *Academy of Management Perspectives*, 26(1): 12-33.

Boisot, M. & Meyer, M.W. (2008). 'Which way through the open door? Reflections on the internationalization of Chinese firms.' *Management and Organization Review*, 4(3): 349-

365.
Buckley, P.J. & Strange, R. (2015). 'The governance of the global factory: location and control of world economic activity.' *Academy of Management Perspectives*, 29(2): 237-249.
Busenitz, L.W., Gomez, C. & Spencer, J.W. (2000). 'Country institutional profiles: Unlocking entrepreneurial phenomena.' *Academy of Management Journal*, 43(5): 994-1003.
Chatterji, D. & Manuel, T.A. (1993). 'Benefiting from external sources of technology.' *Research Technology Management*, 36(6):21-26.
Cheng, H.L. & Yu, C.M.J. (2008). 'Institutional pressures and initiation of internationalization: Evidence from Taiwanese small and medium-sized enterprises.' *International Business Review*, 17(3): 331-348.
Chetty, S.K. & Hamilton, R.T. (1993). 'Firm-level determinants of export performance: A meta-analysis.' *International Marketing Review*, 10(3): 26-35.
Chung, W. & Yeaple, S. (2008). 'International knowledge sourcing: Evidence from US firms expanding abroad.' *Strategic Management Journal*, 29: 1207-1224.
Cooper, A.C., Gimeno-Gascon, F.J. & Woo, C.Y. (1994). 'Initial human and financial capital predictors of new venture performance.' *Journal of Business Venturing*, 9(5): 371- 395.
Cuervo-Cazurra, A. (2016). 'Corruption in international business.' *Journal of World Business*, 51(1): 35-49.
Cuervo-Cazurra, A., Narula R. & Un, C.A. (2015). 'Internationalization motives: Sell more, buy better, upgrade and escape.' *Multinational Business Review*, 23(1): 25-35.
Das, M. (1994). 'Successful and unsuccessful exporters from developing countries: Some preliminary findings.' *European Journal of Marketing*, 28(12): 19-33.
Denicolai, S., Zucchella, A. & Strange, R. (2014). 'Knowledge assets and firm international performance.' *International Business Review*, 23(1): 55-62.
De Boef, S. & Kellstedt, P.M. (2004). 'The political (and economic) origins of consumer confidence.' *American Journal of Political Science,* 48(4): 633-649.
Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). 'The regulation of entry.' *The Quarterly Journal of Economics*, 117(1): 1-37.
Djankov, S., Freund, C., & Pham, C. S. (2010). Trading on time. *The Review of Economics and Statistics*, 92(1), 166-173.
Estrin, S., Meyer, K.E., Wright, M. & Foliano, F. (2008) 'Export propensity and intensity of subsidiaries in emerging economies.' *International Business Review*, 17(5): 574–586.
Filatotchev, I., Dyomina, N., Wright, M. & Buck, T. (2001). 'Effects of post-privatization governance and strategies on export intensity in the former Soviet Union.' *Journal of International Business Studies*, 32(4): 853-871.
Filatotchev, I., Stephan, J. & Jindra, B. (2008). 'Ownership structure, strategic controls, and export intensity of foreign-invested firms in transition economies.' *Journal of International Business Studies*, 39(7): 1133-1148.
Fisman, R.J. & Gatti, R. (2006). 'Bargaining for bribes: The role of institutions.' CEPR

Discussion Paper No. 5712.
Fisman, R., & Svensson, J. (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics*, 83(1), 63-75.
Fraser, D. R., Zhang, H., & Derashid, C. (2006). 'Capital structure and political patronage: The case of Malaysia.' *Journal of Banking & Finance*, *30*(4): 1291-1308.
Gao, G.Y., Murray, J.Y., Kotabe, M. & Lu, J. (2010). 'A "strategy tripod" perspective on export behaviors: Evidence from domestic and foreign firms based in an emerging economy.' *Journal of International Business Studies*, 41(3): 377-396.
Ganotakis, P. & Love, J.H. (2012). 'Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team.' *Journal of International Business Studies*, 43(8): 693-718.
Garvin, D.A. (1984). 'What does "product quality" really mean?' *Sloan Management Review*, 26(1): 25-43.
Gaur, A. S., Kumar, V., & Singh, D. (2014). 'Institutions, resources, and internationalization of emerging economy firms.' *Journal of World Business*, 49(1), 12-20.
Gervais, A. (2015). 'Product quality and firm heterogeneity in international trade.' *Canadian Journal of Economics/Revue Canadienne d'économique*, 48(3): 1152-1174.
Gerxhani, K. (2004). The informal sector in developed and less developed countries: A literature survey. *Public Choice*, 120(3-4), 267-300.
Gokalp, O.N., Lee, S.H., & Peng, M.W. (2017). 'Competition and corporate tax evasion: An institution-based view.' *Journal of World Business 52: 258-269*.
Gomez, E.T. (ed) (2002). *Political business in East Asia*. London & New York: Routledge.
Gomez, E.T & Jomo, K.S. (1999). *Malaysia's political economy: Politics, patronage, and profits*. Cambridge: Cambridge University Press.
Gonzalez, A., & Lamanna, F. (2007). *Who fears competition from informal firms*? Policy Research Working Paper, 4316 World Bank.
Gourlay, A., Seaton, J. & Suppakitjarak, J. (2005). 'The determinants of export behaviour in UK service firms.' *Service Industries Journal*, 25(7): 879-889.
Grant, R.M. (1991). 'The resource-based theory of competitive advantage: implications for strategy formulation.' *California Management Review*, Spring: 114-135.
Guillaumont, P., Jeanneney, S. G., & Brun, J. F. (1999). 'How instability lowers African growth.' *Journal of African Economies*, 8(1), 87-107.
He, X., Brouthers, K.D. & Filatotchev, I. (2013). 'Resource-based and institutional perspectives on export channel selection and performance.' *Journal of Management*, 39(1): 27-47.
He, X. & Wei, Y. (2013). 'Export market location decision and performance: the role of external networks and absorptive capacity.' *International Marketing Review*, 30(6), 559-590.
Hiatt, S.R. & Sine, W.D. (2014). 'Clear and present danger: planning and new venture survival amid political and civil violence.' *Strategic Management Journal*, 35(5): 773-785.
Hors, I. (2001). 'Fighting corruption in customs administration: What can we learn from recent

experiences?' OECD Development Centre Working Papers, No. 175.
Hoskisson, R.L., Eden, L. Lau, C.M. & Wright, M. (2000). 'Strategy in emerging economies.' *Academy of Management Journal*, 43(3): 249-267.
Hsieh, C. T., & Moretti, E. (2006). 'Did Iraq cheat the United Nations? Under-pricing, bribes, and the oil for food program.' *The Quarterly Journal of Economics*, *121*(4): 1211-1248.
Hult, G.T.M., Ketchen, D.J., Griffith, D.A., Chabowski, B.R., Hamman, M.K., Dykes, B.J., Pollitte, W.A., & Cavusgil, S.T. (2008). 'An assessment of the measurement of performance in international business research.' *Journal of International Business Studies*, 39(6): 1064-1080.
Hummels, D., Munch, J.R., Skipper, L. & Xiang, C. (2012). 'Offshoring, transition, and training: Evidence from Danish matched worker-firm data.' *American Economic Review*, 102(3): 424-428.
Iriyama, A., Kishore, R., & Talukdar, D. (2016). 'Playing dirty or building capability? Corruption and HR training as competitive actions to threats from informal and foreign firm rivals.' *Strategic Management Journal*, 37(10): 2152–2173
Koh, A.C. (1991). 'Relationships among organisational characteristics, marketing strategy and export performance.' *International Marketing Review*, 8(3): 46-60.
Knight, G.A. & Cavusgil, S.T. (2004). 'Innovation, organization capabilities, and the born-global firm.' *Journal of International Business Studies*, 35(2): 124 – 141.
Krammer, S.M.S. (2009). 'Drivers of national innovation in transition: Evidence from a panel of Eastern European countries.' *Research Policy*, 38(5): 845-860.
Krammer, S.M.S. (2012). 'Greasing the wheels of change: The impact of corruption, arbitrariness, and institutions on firm new product innovations.' Available at: http://dx.doi.org/10.2139/ssrn.2486087.
Krammer, S.M.S. (2014). 'Assessing the relative importance of multiple channels for embodied and disembodied technological spillovers.' *Technological Forecasting and Social Change*, 81: 272-286.
Krammer, S.M.S. (2016). 'The role of diversification profiles and dyadic characteristics in the formation of technological alliances: Differences between exploitation and exploration in a low-tech industry'. *Research Policy*, 45(2), 517-532.
Kristinsson, G. H. (1996). 'Parties, states and patronage.' *West European Politics*, *19*(3), 433-457.
Kundu, S.K. & Katz, J.A. (2003). 'Born-international SMEs: BI-level impacts of resources and intentions.' *Small Business Economics*, 20(1): 25-47.
Lages, L.F. & Montgomery, D.B. (2005). 'The relationship between export assistance and performance improvement in Portuguese export ventures: An empirical test of the mediating role of pricing strategy adaptation.' *European Journal of Marketing*, 39(7/8): 755-784.
Lages, L.F., Silva, G. & Styles, C. (2009). 'Relationship capabilities, quality, and innovation as

determinants of export performance.' *Journal of International Marketing*, 17(4): 47-70.
Lengler, J.F., Sousa, C.M. & Marques, C. (2013). 'Exploring the linear and quadratic effects of customer and competitor orientation on export performance.' *International Marketing Review*, 30(5): 440-468.
Lee, S. H., & Weng, D. H. (2013). Does bribery in the home country promote or dampen firm exports? *Strategic Management Journal*, *34*(12), 1472-1487.
Lee, M., Yin, X., Lee, S., Weng, D. H., & Peng, M. (2015). 'The impact of home country institutions on new venture export: examining new ventures in transition economies.' *International Entrepreneurship and Management Journal*, *11*(4): 823-848.
Ling-yee, L. & Ogunmokun, G.O. (2001). 'The influence of interfirm relational capabilities on export advantage and performance: An empirical analysis.' *International Business Review*, 10(4): 399-420.
London, T., & Hart, S. L. (2004). Reinventing strategies for emerging markets: Beyond the transnational model. *Journal of International Business Studies*, *35*(5), 350-370.
Lu, Y, Zhou, L., Bruton, G. & Li, W. (2010). 'Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy.' *Journal of International Business Studies*, 41(3): 419-436.
Luiz, J., Stringfellow, D. & Jefthas, A. (2017). 'Institutional complementarity and substitution as an internationalization strategy: The emergence of an African multinational giant.' *Global Strategy Journal*, 7(1): 83-103.
Mara, E-R. (2011). 'Causes and consequences of the underground economy.' MPRA paper 36438.
Marquis, C. & Raynard, M. (2015). 'Institutional strategies in emerging economies.' *Academy of Management Annals*, 9(1): 291-335.
Martin, K. D., Cullen, J. B., Johnson, J. L., & Parboteeah, K. P. (2007). 'Deciding to bribe: A cross-level analysis of firm and home country influences on bribery activity.' *Academy of Management Journal*, *50*(6): 1401-1422.
McCann, B. T., & Bahl, M. (2016). The influence of competition from informal firms on new product development. *Strategic Management Journal*. DOI: 10.1002/smj.2585
Méon, P.G. & Weill, L. (2010). 'Is corruption an efficient grease?' *World Development*, 38(3): 244-259.
Montgomery, C.A. (1994). 'Corporate diversification.' *Journal of Economic Perspectives*, 8(3): 163-178.
Morgan, N.A., Kaleka, A. & Katsikeas, C.A. (2004). 'Antecedents of export venture performance: a theoretical model and empirical assessment.' *Journal of Marketing*, 68(1): 90-108.
Olney, W. W. (2016). 'Impact of corruption on firm-level export decisions.' *Economic Inquiry*, 54(2): 1105-1127.
Peng, M. W., Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international

business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920-936.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). 'Common method biases in behavioral research: A critical review of the literature and recommended remedies.' *Journal of Applied Psychology*, 88(5), 879.

Riedl, A. (2010). 'Location factors of FDI and the growing services economy: Evidence for transition countries.' *Economics of Transition*, 18(4):741–761.

Rodríguez, J.L. & Rodríguez, R.M.G. (2005). 'Technology and export behaviour: A resource based view approach.' *International Business Review*, 14: 539–557.

Rose-Ackerman, S. (1999). 'Political corruption and democracy.' *Connecticut Journal of International Law*, 14(2): 363.

Rottig, D. (2016). 'Institutions and emerging economies: Effects and implications for multinational corporations.' *International Journal of Emerging Economies*, 11(1): 2-17.

Samiee, S. & Walters, P. (2000). 'Determinants of structured export knowledge acquisition. *International Business Review*, 8(3): 373-397.

Sapienza, H.J., Autio, E., George, G. & Zahra, S.A. (2006). 'A capabilities perspective on the effects of early internationalization on firm survival and growth.' *Academy of Management Review*, 31(4): 914-933.

Sequeira, S., & Djankov, S. (2014). 'Corruption and firm behavior: Evidence from African ports.' *Journal of International Economics*, *94*(2): 277-294.

Shleifer, A., & Vishny, R. W. (1993). 'Corruption.' *The Quarterly Journal of Economics*, *108*(3): 599-617.

Schneider, F. & Enste, D.K. (2000). 'Shadow economies: Size, causes, and consequences.' *Journal of Economic Literature*, 38(1): 77–114.

Schneider, F., Buehn, A. & Montenegro, C.E. (2010). 'New estimates for the shadow economies all over the world.' *International Economic Journal*, 24(4): 443-461.

Singh, D.A. (2009). 'Export performance of emerging market firms.' *International Business Review*, 18(4), 321-330.

Sousa, C.D.A., Martínez-López, F.J. & Coelho, F. (2008). 'The determinants of export performance: a review of the research in the literature between 1998 and 2005.' *International Journal of Management Reviews*, 10(4): 343-374.

Svensson, J. (1998). 'Investment, property rights and political instability: Theory and evidence.' *European Economic Review*, *42*(7): 1317-1341.

Svensson, J. (2003). 'Who must pay bribes and how much? Evidence from a cross section of firms.' *The Quarterly Journal of Economics*, *118*(1): 207-230.

Teece, D.J. (1986). 'Profiting from technological innovation: implications for integration, collaboration, licensing and public policy.' *Research Policy*, 15(6): 285-305.

Tsai, K-H. & Wang, J-C. (2009). 'External technology sourcing and innovation performance in LMT sectors: an analysis based on the Taiwanese Technological Innovation Survey.'

Research Policy, 38: 518-526.

Ufere, N., Perelli, S., Boland, R., & Carlsson, B. (2012). 'Merchants of corruption: How entrepreneurs manufacture and supply bribes. *World Development*, *40*(12): 2440-2453.

Wagner, J. (2007). Exports and productivity: a survey of the evidence from firm-level data.' *The World Economy*, 30(1): 60-82.

Wang, Y., Cao, W., Zhou, Z. & Ning, L. (2013). 'Does external technology acquisition determine export performance? Evidence from Chinese manufacturing firms.' *International Business Review*, 22(6): 1079-1091.

Wang, Y. & Li-Ying, J. (2014). 'When does inward technology licensing facilitate firms' NPD performance? A contingency perspective.' *Technovation*, 34(1): 44-53.

Wank, D.L. (1995). 'Bureaucratic patronage and private business: changing networks of power in urban China.' In A.G. Walder (ed), *The waning of the communist state: Economic origins of political decline in China and Hungary*, pp.153-183. Berkeley CA: University of California Press.

Witt, M.A. & Lewin, A.Y. (2007). 'Outward foreign direct investment as escape response to home country institutional constraints.' *Journal of International Business Studies*, 38(4): 579-594.

World Trade Organization (2015). 'International Trade Statistics.' Available at: https://www.wto.org/english/res_e/statis_e/its2015_e/its2015_e.pdf.

Wright, M., Filatotchev, I., Hoskisson, R.E. & Peng, M.W. (2005). 'Strategy research in emerging economies: Challenging the conventional wisdom.' *Journal of Management Studies*, 42(1): 1-33.

Xu, D. & Shenkar, O. (2002). 'Institutional distance and the multinational enterprise.' *Academy of Management Review*, 27(4): 608-618.

Yasar, M. & Paul, C.J.M. (2007). 'International linkages and productivity at the plant level: Foreign direct investment, exports, imports and licensing.' *Journal of International Economics*, 71(2): 373-388.

Yi, J., Wang, C. & Kafouros, M. (2013). 'The effects of innovative capabilities on exporting: Do institutional factors matter?' *International Business Review*, 22(2): 392-406.

Yiu, D.W., Lau, C-M. & Bruton, G.D. (2007). 'International venturing by emerging economy firms: The effects of firm capabilities, home country networks, and corporate entrepreneurship.' *Journal of International Business Studies*, 38(4): 519-540.

Zhao, H. & Zou, S. (2002). 'The impact of industry concentration and firm location on export propensity and intensity: An empirical analysis of Chinese manufacturing firms.' *Journal of International Marketing*, 10(1): 52-71.

Zou, S. & Stan, S. (1998). 'The determinants of export performance: A review of the empirical literature between 1987 and 1997.' *International Marketing Review*, 15(5): 333-356.

Table 1: Previous Studies of the Export Performance of Emerging Economy Firms (EEFs)

Study	Dataset	Dependent Variable	Significant Determinants
Aulakh et al. (2000)	Firms from Brazil, Chile & Mexico	Subjective measure of export performance	Cost leadership Product differentiation Marketing standardization
Filatotchev et al. (2001)	152 firms from Russia, Ukraine & Belarus	Export intensity	Product development Foreign partners Unrelated acquisitions
Ling-yee & Ogunmokun (2001)	111 Chinese firms	Subjective export performance	Marketing planning capability Export financing capability Relationship cooperation Changes in relational intensity
Zhao & Zou (2002)	1049 Chinese firms	Export propensity and export intensity	Industry concentration Geographic location
Alvarez (2004)	295 Chilean SMEs	Export intensity	Efforts in international business (through export committees) Process innovation Utilization of export promotion programs
Estrin et al. (2008)	494 MNE subsidiaries from Egypt, South Africa, India, Vietnam, Poland & Hungary	Export propensity and export intensity	Distance from parent MNE Size of parent MNEs Acquisition of subsidiaries Host country institutions
Filatotchev, Stephan & Jindra(2008)	434 FIEs from Poland, Hungary, Slovenia, Slovakia & Estonia	Export intensity	Majority foreign ownership Foreign control over marketing Foreign control over strategic management
Singh (2009)	3542 Indian manufacturing firms, 1990-2005	Export intensity	Firm size, R&D intensity, Advertising intensity, Business group affiliation, Industry effects
Gao et al. (2010)	18644 Chinese firms, 2001-2005	Export propensity and export intensity	Cost leadership, Differentiation, free market institutions, intermediary institutions, and industry export orientation
He et al. (2013)	285 Chinese manufacturing firms, 2008	Export channel choice (Subjective indicator)	Market orientation capabilities institutional distance between home and target country
He & Wei (2013)	196 Chinese manufacturing firms	A subjective composite indicator of export performance	External networks; Propensity of exporting to distant markets; Absorptive capacity (moderator)
Lengler et al. (2013)	197 Brazilian firms	Export sales and export profit	Customer orientation Competitor orientation
Wang et al. (2013)	141 Chinese manufacturing firms, 2000-2003	Export intensity and export volume	External technology acquisition
Yi et al. (2013)	359,874 Chinese manufacturing firms, 2005-2007	Export intensity	Foreign ownership, business group affiliation, and the degree of marketization as moderators of the link between innovation and exporting
Agnihotra & Bhattacharya (2015)	450 Indian manufacturing firms, 2002-2012	Export intensity	Top management team characteristics including—educational level, functional heterogeneity, international exposure, age, and length of tenure with their current firm.

Table 2: Description of the Variables and their Expected Impact on Export Performance

Variable	Description	Expected impact on export performance
EXPRO	Dummy variable, whose value = 1 if the EEF reports a positive amount of exports, and = 0 otherwise	NA*
EXINT	Continuous variable ranging between 0 and 100, measuring exports as a percentage of total sales	NA*
POL	Industry-region level measure of political instability, based on averages of subjective assessments by the EEF managers, on a five point scale (ranging from 0 to 4)	+
INF	Industry-region level measure of competition from the informal sector, based on averages of subjective assessments by the EEF managers, on a five point scale (ranging from 0 to 4)	+
CORR	The extent of corruption, measured by the amount of informal payments as a percentage of total annual sales paid by firms "to get things done"	+/-
SKILL	The percentage of skilled workers in total production (i.e. non-managerial) work force. Skilled workers are those who have "special knowledge", either acquired at work, or obtained through attendance of a college, university or technical school.	+
MAN	The years of industry experience of the top manager working in the EEF (expressed in logs).	+
TECH	Dummy variable, whose value = 1 if the establishment uses technology licensed from a foreign-owned company, and = 0 otherwise	+
SIZE	The size of the firm, measured by the number of permanent employees (expressed in logs)	+
AGE	The number of years since the firm was established (expressed in logs)	+/-
FOREIGN	The percentage share of equity ownership by "private foreign individuals, companies or organizations"	+
PUBLIC	The percentage share of ownership by the state or government.	+/-
WORK	Subjective assessments by the EEF managers of the obstacles posed by inadequately-educated workforces, on a five point scale (ranging from 0 to 4)	-

Note: *- not applicable (these are dependent variables in our selection model)

Table 3: Descriptive Statistics

Variable	All BRICs		Brazil	Russia	India	China
	Mean	St. Dev.	Mean	Mean	Mean	Mean
EXPRO	0.16	0.36	0.20	0.09	0.16	0.24
EXINT	6.35	20.03	3.66	2.48	7.26	10.42
POL	1.13	0.77	2.38	1.30	1.13	0.27
INF	1.08	0.69	2.22	0.92	1.07	0.87
CORR	0.50	1.51	1.03	0.98	0.30	0.22
SKILL	51.01	23.53	52.55	57.21	53.33	35.26
TECH	0.11	0.32	0.15	0.08	0.10	0.24
MAN	14.68	9.46	22.43	14.28	13.40	16.40
SIZE	124.02	551.94	181.06	65.71	112.52	232.77
AGE	18.95	13.29	27.79	14.45	20.61	15.73
FOREIGN	1.62	11.44	4.82	1.94	0.50	3.71
PUBLIC	0.65	6.92	0.04	0.46	0.13	3.16
WORK	1.18	1.23	2.95	1.32	1.00	0.76
No. of observations	16,748		1,183	2,496	9,160	3,943

Notes: (1) See Table 2 for detailed definitions of the variables.
(2) The figures presented in this Table for SIZE and AGE are in the original units (numbers of employees, and years respectively), whilst the logs of these figures are used in the regression analyses.
(3) We test the equality of means of all reported variables across countries. Group mean comparisons using one-way ANOVA indicate that the means of all reported variables differ significantly across countries ($p < 0.01$). Since the test results are homogenous, they are not reported to conserve space.

Table 4: The Correlation Matrix

	EXPRO	EXINT	POL	INF	CORR	SKILL	TECH	MAN	SIZE	AGE	FOREIGN	PUBLIC	WORK
EXPRO	1.00												
EXINT	0.73 (0.00)	1.00											
POL	0.05 (0.00)	0.01 (0.06)	1.00										
INF	0.03 (0.00)	0.01 (0.13)	0.45 (0.00)	1.00									
CORR	-0.02 (0.00)	-0.04 (0.00)	0.13 (0.00)	0.11 (0.00)	1.00								
SKILL	-0.02 (0.08)	0.01 (0.24)	0.27 (0.00)	0.10 (0.00)	0.05 (0.00)	1.00							
TECH	0.14 (0.00)	0.12 (0.00)	-0.05 (0.00)	-0.04 (0.00)	-0.02 (0.01)	-0.05 (0.00)	1.00						
MAN	0.13 (0.00)	0.05 (0.00)	0.14 (0.00)	0.12 (0.00)	0.03 (0.00)	0.01 (0.31)	0.01 (0.19)	1.00					
SIZE	0.14 (0.00)	0.10 (0.00)	-0.04 (0.00)	-0.02 (0.00)	-0.02 (0.01)	-0.01 (0.46)	0.11 (0.00)	0.07 (0.00)	1.00				
AGE	0.14 (0.00)	0.05 (0.00)	0.15 (0.00)	0.14 (0.00)	-0.02 (0.00)	0.06 (0.00)	0.01 (0.44)	0.39 (0.00)	0.13 (0.00)	1.00			
FOREIGN	0.14 (0.00)	0.10 (0.00)	0.00 (0.56)	0.00 (0.95)	-0.01 (0.32)	-0.02 (0.03)	0.16 (0.00)	0.03 (0.00)	0.06 (0.00)	0.01 (0.48)	1.00		
PUBLIC	-0.01 (0.07)	-0.01 (0.15)	-0.07 (0.00)	-0.06 (0.00)	-0.02 (0.03)	0.02 (0.04)	-0.01 (0.20)	0.01 (0.12)	0.09 (0.00)	0.03 (0.00)	-0.01 (0.32)	1.00	
WORK	0.03 (0.00)	-0.02 (0.01)	0.42 (0.00)	0.34 (0).00	0.09 (0.00)	0.12 (0.00)	0.00 (0.61)	0.13 (0.00)	-0.01 (0.50)	0.10 (0.00)	0.03 (0.00)	-0.01 (0.18)	1.00

Notes: (1) The correlations refer to the data on the 17,201 firms used in the regressions reported in Table 5.
(2) The log values of SIZE and AGE are used to calculate the correlations
(3) The figures in brackets are p-values.

Table 5: The Determinants of Export Propensity

	Dependent variable: Export propensity (EXPRO)				
	Model 1	Model 2	Model 3	Model 4	Model 5
SIZE	0.306***	0.307***	0.310***	0.306***	0.309***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
AGE	0.199***	0.192***	0.194***	0.199***	0.189***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
FOREIGN	0.011***	0.011***	0.011***	0.011***	0.011***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
PUBLIC	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
WORK	0.015	-0.012	0.006	0.015	-0.015
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
POL		0.212***			0.199***
		(0.022)			(0.023)
INF			0.107***		0.057**
			(0.022)		(0.023)
COR				-0.001	-0.010
				(0.009)	(0.010)
Constant	-2.514***	-2.950***	-2.737***	-2.513***	-3.032***
	(0.109)	(0.118)	(0.118)	(0.109)	(0.124)
CFE	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes
No. of observations	16,748	16,748	16,748	16,748	16,748
Log-likelihood	-6,058	-6,013	-6,047	-6,058	-6,009
Pseudo R-Squared	0.167	0.174	0.169	0.167	0.174

Notes: (1) Standard errors are given in parentheses. The asterisks indicate significance at the following levels: *** p<0.01, ** p<0.05, * p<0.1.
(2) CFE and IFE refer to country and industry (2-digit ISIC) fixed effects.

Table 6: The Determinants of Export Intensity

	Dependent variable: Export intensity (EXINT)				
	Model 6	Model 7	Model 8	Model 9	Model 10
SIZE	-5.734***	-6.275***	-6.244***	-5.549***	-6.675***
	(-1.439)	(-1.653)	(-1.489)	(-1.434)	(-1.687)
AGE	-8.315***	-8.350***	-8.035***	-8.268***	-8.122***
	(-1.385)	(-1.456)	(-1.406)	(-1.420)	(-1.517)
FOREIGN	-0.062	-0.059	-0.074	-0.055	-0.086
	(-0.054)	(-0.055)	(-0.053)	(-0.054)	(-0.056)
PUBLIC	0.226*	0.137	0.241*	0.218*	0.146
	(-0.133)	(-0.164)	(-0.139)	(-0.132)	(-0.164)
WORK	-0.341	-0.767	-0.346	-0.206	-0.614
	(-0.572)	(-0.631)	(-0.593)	(-0.571)	(-0.641)
SKILL		0.067**			0.067**
		(-0.029)			(-0.029)
TECH			3.440**		3.474**
			(-1.621)		(-1.670)
MAN				-0.042	-0.092
				(-0.065)	(-0.070)
IMR	-24.287***	-23.906***	-23.426***	-23.065***	-24.958***
	(-6.115)	(-6.275)	(-6.002)	(-6.083)	(-6.414)
Constant	107.824***	108.921***	108.436***	106.315***	112.798***
	(-16.854)	(-18.538)	(-16.885)	(-16.767)	(-18.926)
CFE	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes
No of obs.	16,748	16,295	16,473	16,723	16,257
Uncensored obs.	2,627	2,174	2,352	2,602	2,136
Wald chi2	744.82	638.43	648.77	764.84	635.49
Sig(Wald chi2)	0.00	0.00	0.00	0.00	0.00

Notes: (1) The model is estimated using Stata's heckman command using the two-stage estimator. The row with "uncensored observations" indicates number of firms with positive export values for which the second stage is estimated.
(2) Standard errors are given in parentheses. The asterisks indicate significance at the following levels: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
(3) CFE and IFE refer to country fixed effects and respectively, industry (2-digit ISIC) fixed effects.

Table 7: The Determinants of Export Propensity (Robustness Test)

	Dependent variable: Export propensity (EXPRO)			
	Model 11	Model 12	Model 13	Model 14
SIZE	0.307***	0.307***	0.304***	0.306***
	(0.010)	(0.010)	(0.010)	(0.010)
AGE	0.198***	0.199***	0.209***	0.207***
	(0.022)	(0.022)	(0.022)	(0.022)
FOREIGN	0.011***	0.011***	0.011***	0.011***
	(0.001)	(0.001)	(0.001)	(0.001)
PUBLIC	-0.011***	-0.011***	-0.011***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
WORK	0.013	0.016	0.013	0.014
	(0.012)	(0.012)	(0.012)	(0.012)
POL_Alt	0.457**			0.551***
	(0.199)			(0.200)
INF_Alt		0.132		0.200**
		(0.095)		(0.095)
CORR_Alt			0.545***	0.584***
			(0.098)	(0.099)
Constant	-2.522***	-2.536***	-2.535***	-2.580***
	(0.109)	(0.110)	(0.109)	(0.110)
CFE	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes
No. of observations	16,748	16,748	16,748	16,748
Log-likelihood	-6,056	-6,057	-6,043	-6,038
Pseudo R-Squared	0.168	0.167	0.169	0.170

Notes: (1) Standard errors are given in parentheses. The asterisks indicate significance at the following levels: *** p<0.01, ** p<0.05, * p<0.1.
(2) CFE and IFE refer to country fixed effects and respectively, industry (2-digit ISIC) fixed effects.

Figure 1. Conceptual framework