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KNOWLEDGE SPILLOVERS AND ENTREPRENEURS’ EXPORT ORIENTATION

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ABSTRACT

We draw upon the economics literature, and the literature on knowledge spillovers in particular, to examine to what extent a country’s level of foreign direct investment (both inward and outward) and international trade (export and import) influence the export orientation of its entrepreneurs. We also examine the relationship between entrepreneurs’ export orientation and a country’s overall level of entrepreneurial activity. We test our hypotheses using macro-level data on 34 countries over a four-year time period (2002-2005). We find that a country’s outward foreign direct investment as well as its export and import positively influence entrepreneurs’ export orientation. We also find that the extent to which a country’s entrepreneurs engage in export-oriented activities affects the subsequent emergence of new businesses within the country’s borders. We discuss our findings, and point to the study’s implications and limitations.

Keywords: knowledge spillovers, export orientation, country-level entrepreneurship

INTRODUCTION

There is increasing evidence that firms engage in international activities early on in their existence (Knight & Cavusgil, 1996; McDougall & Oviatt, 2000). The enhanced international opportunities for new firms have been linked to several factors such as an increasing economic integration, advancements in production, transportation and communication technologies, the availability of internationally-experienced executives, and countries’ specialization in knowledge-based activities (e.g., Autio et al., 2000; Dunning, 1993; Knight & Cavusgil, 1996; Oviatt & McDougall, 2005). Consequently, both the entrepreneurship and economics literatures have devoted an increasing amount of attention to the role and importance of entrepreneurs’ international activities.

On the one hand, the literature on international entrepreneurship has focused on the role of individual and firm-level drivers for early internationalization, such as the entrepreneur’s international experience or the firm’s entrepreneurial orientation (Autio et al., 2000; McDougall et al., 1994; Sapienza et al., 2005). Such an approach may overlook important macro-level determinants of a country’s international start-up activity. Consequently, this paper focuses on exploring the extent to which entrepreneurs’ international orientation is influenced by the characteristics of the economic environment in which they are embedded. We will focus on one particular aspect of entrepreneurs’ international orientation, i.e., the extent to which they engage in export activities. This focus is consistent with prior research that pointed to the importance of export for young entrepreneurial firms (e.g., Burpitt & Rondinelli, 2000; Campbell, 1996).

On the other hand, researchers in economics have emphasized the importance of international business activities for national economies (e.g. Acs et al., 2006; Blalock & Veloso, 2005; Girma et al., 2004; Blomström & Kokko, 1998; Glass & Saggi, 1998; Sjoholm, 1996). However, this literature has strongly focused on the importance of established corporations and large multinational enterprises (i.e., MNEs), and has paid less attention to the role of start-ups in international markets (Audretsch & Thurik, 2000). In this study we attempt to address this gap by examining how country characteristics influence the export behavior of one particular group of economic actors, i.e., individuals who set up a new business.
In short, we intend to contribute to the entrepreneurship and economic literatures by explaining why countries differ with respect to the export orientation of their entrepreneurs. Furthermore, in addition to studying macro-level antecedents of entrepreneurs’ export orientation, we will also focus on one potential, but important, consequence of such orientation. That is, to what extent does entrepreneurs’ export orientation in turn affect a country’s overall level of (early-stage) entrepreneurial activity? Prior research has pointed to the impact of increasing globalization on the emergence of new companies within countries’ borders. For instance, it has been argued that an increasing openness towards external markets provides various opportunities for a country’s economic actors to set up new companies given the various opportunities generated by and enhanced access to new technologies and business practices (Audretsch & Thurik, 2000). We will extend this literature by suggesting that one particular aspect of a country’s international character, i.e., the export orientation of its entrepreneurs, may to an important extent generate spillovers that result in the emergence of (more) new companies within the country’s borders. It has been argued that the study of spillovers resulting from entrepreneurship remains an under-investigated topic in the economics literature (Parker, 2005). We intend to address this gap by focusing on spillovers stemming from one particular type of entrepreneurship, i.e. export-oriented entrepreneurship.

This paper is structured as follows. In the theory and hypotheses sections, we rely on the economics literature on spillovers in arguing that the export orientation of countries’ entrepreneurs should be studied in relationship to the broader economic environment in which the entrepreneurs are embedded. First, we rely on prior research that speaks to the role of inward foreign direct investment (FDI) in shaping a country’s economic activities (Blomström & Kokko, 1998; Haddad & Harrison, 1993; Rivera-Batiz & Rivera-Batiz, 1991), and we extend this research by focusing on one particular type of economic activity, i.e., the exporting behavior of a country’s entrepreneurs. Second, we will argue that not only foreign firms that undertake inward FDI but also home-based firms may affect entrepreneurs’ export orientation (Blomström & Kokko, 1998). More specifically, we examine the role played by a country’s level of outward FDI as well as its overall level of international trade (i.e., export and import) in shaping entrepreneurs’ export decisions. Finally, we will argue that the export orientation of a country’s entrepreneurs may in turn result in spillovers that positively affect its overall level of (early-stage) entrepreneurial activity. In the remaining sections of the paper, we will detail our research methodology, present the empirical results, and discuss the study’s findings, implications and limitations.

THEORETICAL BACKGROUND

Economic theory and the role of spillovers

Our theoretical framework is based on economic literature that emphasizes the role of knowledge spillovers in the creation of economic growth. The term spillover pertains to the transfer of knowledge across economic agents. Many studies on the role of spillovers have focused on the importance of inward FDI in generating knowledge flows from foreign MNEs to a host country’s domestic firms (e.g., Feinberg & Majumdar, 2001; Fosfuri et al., 2001). A general assumption is that MNEs tend to possess superior knowledge when entering foreign markets, which allows them to successfully compete with local firms in foreign markets (Dunning, 1981; Hymer, 1976). However, since such knowledge-based assets are often intangible and therefore difficult to be (fully) internalized, they may spill over to domestic firms. An important focus in the literature has been on the presence of technology spillovers from foreign MNEs to domestic firms (e.g., Feinberg & Majumdar, 2001; Glass & Saggi, 1998). One particular type of spillover that may affect a country’s economic activities pertains to export spillovers. That is, domestic firms may be more inclined to engage in export activities if they are exposed to other economic actors’ international activities (Aitken et al., 1997; Greenaway et al., 2004).

Knowledge spillovers and entrepreneurs
We extend the literature on spillovers by focusing on what we believe is an under-explored type of spillover effect, i.e., spillovers that influence the export behavior of a country’s (early-stage) entrepreneur. Our focus on entrepreneurs is guided by the importance of new businesses for economic growth (e.g., Thurik & Wennekers, 2004; van Stel et al., 2005). In particular internationally oriented start-ups may be of great importance for achieving economic growth, since international expansion may provide start-ups with access to new technologies and potentially more profitable markets, which subsequently may increase a country’s overall prosperity (Cavusgil & Zou, 1994). Our reliance on the literature on spillovers to explain entrepreneurs’ export behavior is also influenced by the argument that smaller firms may benefit to a greater extent from knowledge spillovers compared to larger firms (Acs et al., 1994). More specifically, for less mature firms (and start-ups in particular) the spillovers received from external organizations may be a major input in their knowledge production function, whereas for more mature firms, external knowledge spillovers may be less important because those firms are more likely to also gain from internal knowledge spillovers, e.g., through the international experience embedded in the firms’ employees (Acs et al., 1994).

In essence, we will hypothesize that domestic entrepreneurs’ exposure to different sources of (international) knowledge spillovers may increase their export orientation. We consider four possible sources of knowledge spillovers for domestic entrepreneurs: inward FDI, outward FDI, export and import.

Channels for spillover effects

Traditionally, the literature on the role of inward FDI has pointed to four possible channels through which knowledge may spill over to a host country’s economic actors. First, market access spillovers can occur through commercial linkages between foreign MNEs and local suppliers, which may give local firms access to new technological capabilities as well as foreign customers’ preferences regarding issues such as product design and quality (Aitken et al., 1997; Barrell & Pain 1997; Blomström & Kokko, 1998). Second, a demonstration or imitation effect may take place when domestic firms copy foreign MNEs’ organizational practices, either through formal inter-firm collaboration or through more informal channels (Wang & Blomström, 1992). Third, a training effect may occur when local employees gain important skills while working for a foreign MNE, and subsequently transfer to other organizations (Fosfuri et al., 2001). Finally, foreign entrants may increase local competition, e.g., through the infusion of new technologies into the local market, and subsequently act as a catalyst for domestic firms to become more competitive (Barrell & Pain 1997; Cantwell, 1989; Chuang & Lin 1999; Glass & Saggi, 1998). We will argue that the channels mentioned above are to an important extent also relevant when considering sources of knowledge spillovers different from inward FDI – i.e., outward FDI, export and import – for explaining entrepreneurs’ export orientation.

HYPOTHESES

Inward FDI and entrepreneurs’ export orientation

We hypothesize that foreign MNEs (through inward FDI) may act as catalysts for domestic entrepreneurs’ involvement in export activities. First, commercial linkages with foreign MNEs, e.g. through suppliers or subcontractor relations, may provide domestic entrepreneurs with knowledge about new technological developments as well as foreign market conditions. Over time, this knowledge can work favorably in entrepreneurs’ decision to export themselves (Blomström & Kokko, 1998). Also, foreign MNEs may pave the way for entrepreneurs to enter the same export markets as they service themselves, either because MNEs have created adequate transport infrastructure or because they disseminate knowledge about specific foreign markets that can also be directly used by domestic entrepreneurs. Alternatively, in some cases, foreign MNEs may simply have overcapacity with respect to their distribution or marketing facilities, which may offer opportunities for domestic entrepreneurs.
Another mechanism through which inward FDI may enhance domestic entrepreneurs’ export orientation is entrepreneurs’ exposure to MNE practices either through formal alliances or informal exchanges such as joint memberships in trade associations (Greenaway et al., 2004). For instance, prior research has emphasized the role of imitation as an important mechanism through which knowledge on new product development spills over across economic actors (e.g., Wang & Blomström, 1992). We extend this rationale to the context of exporting, and suggest that such demonstration or imitation effects may also take place as domestic entrepreneurs use foreign MNEs’ behavior as a role model for their own decision making (Powell & DiMaggio, 1991).

Spillover effects from foreign MNEs may also take place through domestic entrepreneurs’ acquisition of human capital. Prior research has suggested that it is difficult for foreign MNEs to lock-in their human capital (Djankov & Hoekman, 1999; Dunning, 1981; Fosfuri et al., 2001). As foreign MNEs often demand a skilled labor force when entering a host country, they may organize training for their local employees, and employees’ subsequent move from MNEs to other firms may greatly contribute to the diffusion of knowledge within the host country (Gerschenberg, 1987). Similarly, we reason that the various skills with regard to internationalization while working for a foreign affiliate may spill over to domestic employees, who may then subsequently decide to set up their own business. There is indeed empirical evidence for the role of prior international experience in entrepreneurs’ decision to export (McDougall et al., 1994).

Finally, unless a foreign MNE is offered a monopoly status in its host country, inward FDI will most likely lead to increased local competition. For instance, it is widely recognized that foreign MNEs may infuse new technologies into their host countries, and that the technology adopted by their affiliates may spread to local firms and yield technological benefits (Barrell & Pain, 1997). Furthermore, foreign affiliates may replace inefficient firms in the host country (Narula & Marin, 2003). We reason that the increased competition resulting from inward FDI may provide local start-ups with the need and capabilities to successfully expand the geographical scope of their activities and engage in export activities.

Hypothesis 1: A country’s inward flow of foreign direct investment is positively related to the export orientation of its entrepreneurs.

Outward FDI, export, import and entrepreneurs’ export orientation

Although the literature has mostly focused on the spillover effects stemming from inward FDI, we argue that an additional spillover effect on entrepreneurs’ decision to engage in export activities can be explained by the level of a country’s outward FDI, export and import (Blomström & Kokko, 1998). In essence, the rationale for the spillover effects from outward FDI, export and import to domestic entrepreneurs is to a great extent parallel to the argumentation provided above for inward FDI (Blomström & Kokko, 1998; Greenaway et al., 2004). The spillovers obtained through commercial linkages, demonstration, training and competition effects may work in similar way for outward FDI, export and import. By including not only FDI, but also international trade, we extend prior research that has argued for a positive link between international trade and a country’s productivity based on the transfer of knowledge across country borders (Findlay, 1984; Grossman & Helpman, 1991; Sjoholm, 1996; Feinberg & Majumdar, 2001).

An additional spillover effect stemming from outward FDI and international trade, which is not directly applicable to inward FDI, is that home-based firms presence in foreign countries or trade relations may familiarize foreign customers with the firms home country’s way of doing business, which may create then a pull effect to the home country’s entrepreneurs to engage in export activities (Nagel, 2003).

Hypothesis 2: A country’s outward flow of FDI is positively related to the export orientation of its entrepreneurs.
Hypothesis 3a: A country’s overall level of export is positively related to the export orientation of its entrepreneurs.

Hypothesis 3b: A country’s overall level of import is positively related to the export orientation of its entrepreneurs.

Entrepreneurs’ export orientation and total entrepreneurial activity

Finally, we hypothesize that the export orientation of a country’s entrepreneurs may generate spillovers that impact other individuals in their decision to start a new business. The basis for why some countries are characterized by higher levels of entrepreneurial activity has been summarized and synthesized in an eclectic approach of entrepreneurship (Noorderhaven et al., 2004; Verheul et al., 2002) that identifies supply and demand factors. While supply side factors of entrepreneurship (e.g. skills and preferences) pertain to conditions conducive to the presence of individuals who can act upon opportunities for new business creation, demand side factors (e.g. a country’s industrial structure or its rate of economic growth) create the opportunities for such start-up activity.

We extend the above literature by arguing that the export orientation of a country’s entrepreneurs may be an important impetus for a country’s overall rate of (subsequent) entrepreneurial activity. First, the positive relationship between entrepreneurs’ export orientation and the subsequent emergence of new businesses may result from exporting entrepreneurs’ access to specific knowledge relating to foreign markets or technologies. This knowledge, in turn, may create opportunities for new business creation, either by employees leaving their current employer, or by the interactions that take place between the exporting entrepreneurs and other economic actors who are located in the same geographic area (Audretsch & Feldman, 1996). Furthermore, the spillover effect from export-oriented entrepreneurial activity to subsequent overall entrepreneurial activity can also be explained by the fact that export-oriented entrepreneurs may act as extra-ordinary role models for aspiring entrepreneurs (Davidsson & Honig, 2003). More specifically, and consistent with the premises underlying institutional theory, individual economic actors may have a tendency to imitate the behavior of highly visible and successful peers (i.e., export-oriented entrepreneurs) in that such imitation provides support and legitimacy in the market place (Powell & DiMaggio, 1991), and consequently, may become motivated to set up a new business themselves.

Hypothesis 5: The export orientation of a country’s entrepreneurs is positively related to its (subsequent) total level of entrepreneurial activity.

METHODOLOGY

Data and sample

We collected annual data on 34 countries covering the time period 2002-2005. The sample of countries was limited to those that had participated in the Global Entrepreneurship Monitor (GEM) in this period. Because not all countries participated in GEM in each single year, and because there were missing data for some of the independent variables, our analyses were based on an unbalanced panel dataset including 78 observations distributed over 34 countries.

Measures

Dependent variables
Total level of early-stage entrepreneurial activity (TEA) (2002-2005): the proportion of a country’s population between the ages of 18 and 64 who are either in the start-up phase or are managing/owning a business that is less than 42 months old. (Source: GEM).

Export orientation of a country’s entrepreneurs (2002-2005): the percentage of a country’s (early-stage) entrepreneurs (as defined by the TEA) who are involved in substantial export activity (i.e. who stated that at least 26% of their customers are located in a foreign country). (Source: GEM).

Independent variables
Inward FDI (2001-2004): the percentage of a country’s inward flow of foreign capital relative to its gross fixed capital formation. (Source: UNCTAD, World Investment Report).
Outward FDI (2001-2004): the percentage of a country’s outward flow of capital relative to its gross fixed capital formation. (Source: UNCTAD, World Investment Report).
Export (2001-2004): the percentage of a country’s exports of goods and services relative to its gross domestic product. (Source: World Development Indicators database, World Bank).
Import (2001-2004): the percentage of a country’s imports of goods and services relative to its gross domestic product. (Source: World Development Indicators database, World Bank).

Control variables
In order to control for alternative explanations for the variation of our dependent variables across countries, we included several control variables in our models. Consistent with the eclectic framework of entrepreneurship (Noorderhaven et al., 2004; Verheul et al., 2002), we classified these controls into (1) demand side factors reflecting the presence of entrepreneurial opportunities through market demand, and (2) supply side factors, reflecting the skills and preferences of a country’s population vis-a-vis entrepreneurship.

(1) Demand side factors
Employment share in agriculture (2000) reflects a country’s economic structure, which may have an effect on the level and nature of a country’s entrepreneurial activity (Verheul et al., 2002). (Source: World Competitiveness Yearbook).
Poor country dummy (2000) reflects the extent to which a country’s overall prosperity may influence its start-up activities (Verheul et al., 2002), and was coded as ‘1’ when the per capita income in 2000 exceeded $15,000 US in Purchasing Power Parity, and as ‘0’ otherwise. (Source: World Competitiveness Yearbook).
FDI and technology transfer (2001) assesses (on a seven-point Likert scale) the extent to which inward FDI is an important source of new technology for the host country, and reflects an alternative role of FDI in addition to the hypothesized ‘export spillover’ effect. (Source: Global Competitiveness Report).
Company-university cooperation (2001) assesses (on a seven-point Likert scale) the technology transfer between companies and universities, and reflects an additional source of technological resources for entrepreneurs. (Source: World Competitiveness Yearbook).

(2) Supply side factors
Ease of access to loans (2001) (measured on a seven-point Likert scale) reflects the extent to which (potential) entrepreneurs have easy access to financial resources to support their activities. (Source: Global Competitiveness Report).
Tertiary education (1997) assesses a country’s gross tertiary enrollment rate. (Source: Global Competitiveness Report).
Working hours (2000) assesses the average working hours per year, and reflects the potential supply of (growth-oriented) entrepreneurs within a country. In countries where the practice of working long
hours is more common, there may be a higher supply of entrepreneurs because entrepreneurs, on average, also make long working days. (Source: World Competitiveness Yearbook).

The eight controls described above were used for the estimation of the export orientation of a country’s entrepreneurs as well as a country’s total level of entrepreneurial activity. Furthermore, for the estimation of the former variable, we also included two additional control variables:


*Time required to meet export regulations (2002)* reflects a specific constraint pertaining to entrepreneurs’ decision to engage in export-oriented activities, and was measured as the number of days needed to meet all procedural requirements for exporting a ‘standardized cargo of goods.’ (Source: World Bank Doing Business database).

**ANALYSIS**

Hypotheses were tested by means of regression analysis. We would like to note that in order to avoid reverse causality in our analyses, we used a one-year time lag for the four ‘internationalization variables’ (i.e., inward FDI, outward FDI, export, and import) when estimating entrepreneurs’ export orientation, and, similarly, we used a one-year time lag for entrepreneurs’ export orientation when estimating a country’s total level of entrepreneurial activity. Furthermore, most control variables (except for economic growth and log of GDP) were included as time-invariant variables in the analysis as these variables were assumed to change only slowly over time.

First, we included our control variables in a model estimating the export orientation of a country’s entrepreneurs. In order to avoid omitted variable bias, we first included all relevant control variables (Table 1, Model I). Next, we applied a ‘general-to-specific’ modeling procedure, in which the control variables with the smallest t-statistic were removed in subsequent model re-estimations, until a set of significant control variables significant at p < .10 were retained (Table 1, Model II).

Once we had selected an ‘optimal’ set of controls, we tested Hypotheses 1 to 4 by including the four independent variables in four separate models estimating entrepreneurs’ export orientation (Table 1, Models III to VI). The hypotheses were tested by using likelihood ratio tests.

In order to test Hypothesis 5, we estimated the effect of entrepreneurs’ export orientation on a country’s total level of entrepreneurial activity after taking into account the effect of several control variables. In order to select an appropriate set of control variables, we again used the ‘general-to-specific’ modeling procedure as described above. The results of this procedure are presented by Models I and II in Table 2. Hypothesis 5 was tested in Models III and IV in Table 2.

**RESULTS**

We found that entrepreneurs’ export orientation is positively influenced by a country’s outward FDI (p < .05; Hypothesis 2 supported), level of export (p < .01; Hypothesis 3 strongly supported), and level of import (p < .01; Hypothesis 4 strongly supported) (Table I, models III to IV). No support was found for a relationship between a country’s inward FDI and entrepreneurs’ export orientation (i.e., Hypothesis 1 not supported).

From Table 2 (Model III) we found that entrepreneurs’ export orientation is (marginally) positively related to a country’s total entrepreneurial activity (p < .10). When the two non-significant control variables in Model III (i.e., ease of access to loans, and working hours) were removed in Model IV, the
effect of entrepreneurs’ export orientation became stronger (p < .05). Overall, our findings support Hypothesis 5.

CONCLUSION & DISCUSSION

We examined the role played by a country’s foreign direct investment and international trade as sources of spillover effects for entrepreneurs’ export decisions, and subsequently as a means to spur a country’s total level of entrepreneurial activity. Overall, we found support for the presence of spillover effects from three different sources as our results suggest that a country’s outward FDI, export and import positively influence entrepreneurs’ export orientation. We found no spillover effect from inward FDI. Finally, we also found empirical support for the spillover effect from export-oriented entrepreneurship to a country’s overall level of entrepreneurial activity. As such, we showed that the economics literature, and the literature on spillovers in particular, is a useful lens in studying macro-level antecedents and outcomes of entrepreneurs’ involvement in international activities. We will now discuss our findings in more detail.

Contrary to our expectations we did not find evidence for a positive influence of a country’s inward FDI on the export orientation of its entrepreneurs. This finding is revealing in that the economics literature has pointed to the role of foreign MNEs in increasing domestic firms’ propensity to export (Aitken et al., 1997; Greenaway et al., 2004). One possible explanation for the lack of result may be that the channels for knowledge spillovers stemming from inward FDI may be more relevant for incumbent economic players compared to recently created firms. For instance, foreign MNEs may be more likely to establish commercial linkages with local players that have gained a certain reputation in the host country rather than with novices that lack legitimacy (Podolny, 1993). Alternatively, early-stage companies, compared to their more established counterparts, may have a limited capacity to absorb the knowledge provided by their linkages with foreign MNEs (Cohen & Levinthal, 1990), and therefore may be less likely to benefit from their co-operation with foreign MNEs.

Outward FDI was found to spur entrepreneurs’ involvement in export-oriented activities. One possible explanation for this positive spillover, as hypothesized, is that the presence of home-based MNEs in foreign markets may create a pull effect from foreign customers to the MNEs’ home market (Nagel, 2003), from which domestic entrepreneurs in turn may then benefit. Overall, our results are in line with prior empirical results on the positive spillover effects from outward FDI to domestic firms (Blomström & Kokko, 1998; Popovici, 2005).

Interestingly, we found that the spillover effects on entrepreneurs’ export orientation were strongest when resulting from international trade (export and import) rather than foreign direct investment. One reason for this finding may be that entrepreneurs’ decisions are to an important extent driven by the behavior of other ‘similar’ firms. That is, consistent with the premises underlying institutional theory (Powell & DiMaggio, 1991), economic actors may have an inclination to imitate the behavior and practices of others with whom they can more directly relate. While we had argued that the channels through which export spillovers occur may work in similar ways when stemming from foreign direct investment versus international trade, it may be that entrepreneurs consider foreign (and even home-based) MNEs as ‘more distant’ economic players, and that their decisions with respect to their involvement in export activities are more strongly driven by others’ ‘less complex’ international trade activities rather than ‘more complex’ FDI activities (Powell & DiMaggio, 1991).

In this regard, it is interesting that a country’s level of import was found to have the strongest spillover effect on entrepreneurs’ export orientation. Prior research has found that, at the firm level, there is a close connection between firms’ import and export activities, as both activities are often combined (Fletcher, 2001) and import may be an important determinant of export activity (Lefebvre & Lefebvre, 2002). An explanation for this connection is that the hurdle to engage in exporting may become significantly lower when a company has already established business contacts in foreign countries through import. Our
findings suggest that such connection may also exist at the country-level, and may actually spillover across firms. More specifically, the knowledge gained by the import activities undertaken by a country’s incumbent economic players may in important ways spill over to other economic actors, including entrepreneurs with international ambitions.

Furthermore, we found that people may be more inclined to set up their own firm when they are exposed to export-oriented entrepreneurs. This result suggests that export-oriented entrepreneurs may act as (successful) role models and thus function as catalysts for others to start their own firm. Our study is one of the first, we believe, to examine the link between a country’s level and type of entrepreneurial activity.

Our study also holds some practical implications. First, our findings suggest that entrepreneurs whose ambitions are to become an important player in the international arena may benefit from locating themselves in areas where other international players are concentrated. Similarly, from a country perspective, governments that wish to encourage export activities among their entrepreneurs may benefit from creating geographical zones which are specifically reserved for exporting firms (Din, 1994). Our findings implicitly indicate that such zones may help reduce entrepreneurs’ costs of breaking into foreign markets. Second, governments have traditionally focused on stimulating export activity among their domestic firms and attracting inward FDI in order to generate economic growth (Ghauri & Oxelheim, 2003; Molnar, 2003). Also, when national instruments for promoting imports and outward FDI do exist, these instruments tend to be part of the development policy of only poorer or less developed countries (Hessels & Prince, 2005). The results of our study suggest, however, that, irrespective of a country’s level of development, home economies may benefit if their governments also focus on the promotion of import activity and outward FDI.

This study contains several limitations. First, we only focused on entrepreneurs export orientation and not on other international activities such as foreign licensing, franchising, or foreign direct investment. Second, our panel dataset covered a period of only four years. Clearly, future research would greatly benefit from longitudinal data. Third, a limitation of this study is that we did not empirically measure channels for knowledge spillovers. Future research should provide more insight into the different effects that are generated by various types of spillover channels. Fourth, as we focused on aggregate country-level spillover effects we may have omitted important industry-level effects. In fact, the literature on technology spillovers has traditionally focused on spillover effects that take place at the industry rather than country level (e.g., Bernstein & Nadiri, 1988; Cohen & Klepper, 1996). Furthermore, future research could also compare the effect of ‘horizontal’ spillovers (i.e., across industries) and ‘vertical’ spillovers (i.e., between suppliers and buyers) on entrepreneurs’ export decisions.

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NOTES

1. Throughout the paper we use the terms ‘entrepreneurs,’ ‘early-stage entrepreneurs,’ and ‘start-ups’ as synonyms, as they pertain to individuals’ involvement in new businesses during their emergence and early years of existence.
2. The reason for the inclusion of our independent variables in separate models is related to possible multicollinearity issues. For instance, the correlation coefficient between a country’s export and import was found to be 0.98.
3. Given the one-year time lag used between entrepreneurs’ export orientation and their country’s total level of entrepreneurial activity, the number of observations in Table 2 was reduced from N=78 to N=63.
4. Note that the dependent variable in Table 2 is different from the one used in Table 1.
5. The rationale for why ‘ease of access to loans’ and ‘working hours’ were omitted in Model IV is that the weak effect of ‘export orientation’ in Model III may have been caused by multi-collinearity.

REFERENCES


Table 1: Estimation of the export orientation of a country’s entrepreneurs (N=78)

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Dependent variable: Number of (early-stage) entrepreneurs stating that 26% or more of their customers are foreign, as % of total (early-stage) entrepreneurs. Estimation method is OLS.

Absolute heteroskedasticity consistent t-values are shown in parentheses.

# p < 0.10;  * p < 0.05;  ** p < 0.01.
Table 2: Estimation of a country’s total level of entrepreneurial activity (N=63)

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Dependent variable: Number of (early-stage) entrepreneurs as % of adult population (i.e., TEA index).

Absolute heteroskedasticity consistent t-values are shown in parentheses.

# p < 0.10;  * p < 0.05;  ** p < 0.01.