THE ROLE OF EMPLOYEE HUMAN CAPITAL IN THE ACCELERATED INTERNATIONALIZATION OF SMEs: EMPIRICAL EVIDENCE FROM BELGIUM

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THE ROLE OF EMPLOYEE HUMAN CAPITAL IN THE ACCELERATED INTERNATIONALIZATION OF SMES: EMPIRICAL EVIDENCE FROM BELGIUM

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ABSTRACT

In this paper, we explore the role of employee general and specific human capital for the accelerated internationalization of small and medium-sized companies (SMEs) in the context of Belgium, an innovation-driven economy. More specifically, we look at the effect of employee education (general human capital) and training (specific human capital) and suggest a threshold point, after which additional firm investments in human capital become less productive. We test our ideas using a unique dataset of all manufacturing SMEs in Belgium which internationalized between 1998 and 2005 and followed a strategy of accelerated internationalization (n = 2633). Findings indicate a significant curvilinear (inverted U) association between general human capital (education) and the company’s degree of internationalization, while specific human capital (training) is not significantly associated with the degree of internationalization. Theoretical and practitioner implications are discussed.

INTRODUCTION

In this paper, we explore the role of employee general and specific human capital for the accelerated internationalization of small and medium-sized companies (SMEs) in the context of Belgium, an innovation-driven economy. Work in international entrepreneurship has advanced a framework which seeks to explain why some new ventures are international from inception (McDougall, Shane and Oviatt 1994) or internationalize early and fast (Knight and Cavusgil 1997). Empirical research on “born-global” companies has found that these firms tend to be clustered in knowledge-intensive industries (Knight and Cavusgil, 1997; Autio, Sapienza, and Almeida 2000; Zahra, Ireland, and Hitt 2000) suggesting that technological competence encourages new ventures to pursue early and/or rapid international expansion. Less well-explored is early international expansion in manufacturing firms, yet recent empirical work based on data from diverse contexts such as the United States (Di Gregorio, Musteen, and Thomas 2009), China (Zhang, Tansuhaj, and McCullough 2009), or the Czech Republic (Musteen, Francis, and Datta 2010) suggests that some small manufacturing firms are also likely to be actively engaged in export activities.

Much of the research on accelerated internationalization focuses on the human capital of the entrepreneur or manager in decisions that impact export performance. Indeed, the managerial “alertness” to international opportunities was highlighted by Oviatt and McDougall (1994) as a critical factor affecting early internationalization. Other factors such as commitment (Dhanaraj and Beamish 2003); the international experience (Reuber and Fisher 1997) and entrepreneurial
orientation (De Clercq et al. 2005) of managers; strategy (Baird, Lyles, and Orris 1994); attitudes (Bijmolt and Zwart 1994), as well as more general human capital elements (Cavusgil 1993; Manolova, Brush, Edelman, and Greene 2002) have all been shown to be instrumental to the internationalization decision. While the role of the entrepreneur is clearly critical in SMEs, the impact of the human capital of the entire small firm is less well examined. This is surprising given that in resource-constrained SMEs, employees often have multiple boundary spanning roles and their collective human capital is considered an important source of competitive advantage (Horn, Nickels, Van Olffen, and Heijltjes 2010). Our study seeks to address this gap.

Specifically, we explore the limits of the positive effects of general (education) and specific (training) human capital with respect to small firm degree of internationalization. Small firms face significant challenges in the recruitment, staffing, and training of qualified employees, because of the lack of financial and managerial resources or legitimacy as an employer of choice (Williamson, 2000). In addition, employees may face unclear job responsibilities as they are required to perform multiple roles. Small, resource-constrained firms are also less likely to engage in formal employee training (Banks et al., 1987). Recruitment and training are two critical areas of importance for any SME as a well-educated and well-trained workforce may be the difference between a successful and less successful internationalization strategy. Because hiring and training are likely beneficial, but clearly costly, particularly for SMEs, we are interested in the dynamics of the relationship between human capital accumulation and degree of internationalization. Our main premise is that after an initial boost in the degree of internationalization, additional investments in general (education) and specific (training) human capital reach a threshold effect, after which they become less productive.

We test our hypotheses with data from a panel study of Belgian manufacturing SMEs over an eight-year period (1998-2005). Belgium provides an interesting setting in which to examine the role of human capital in internationalization in that it is an innovation-driven economy relying on high-quality human capital and that cross-border activity is often a necessity given the limited domestic market size, yet the labor market in the country is not very efficient. For example, the most recent Global Competitiveness Report (Schwab, 2011) ranks Belgium 6th in the quality of the educational system, but 131st in its hiring and firing practices (out of the 142 economies included in the report). Our findings indicate that for firms following a strategy of rapid international expansion, investments in education are likely to be less productive after reaching an optimum level. In addition, we find that in contrast to theory which suggests that investments in firm specific assets are likely to lead to competitive advantage, in rapidly internationalizing SMEs, employee training is not significant. This suggests that SMEs seeking to achieve accelerated internationalization are more likely to achieve it through hiring well-educated employees rather than through training.

Our study seeks to make three contributions to the literature on SME internationalization. First, we evaluate the link between general and specific human capital (operationalized as employee education and training) and degree of internationalization in firms following a rapid internationalization strategy. Next, we do so in the context of a nationally representative sample of Belgian manufacturing SMEs, allowing for possible generalizations to other medium-sized innovation-driven European Union economies such as the Netherlands or Denmark. From a broader perspective, our study contributes to the ongoing conversation about the importance of the firm’s resource base in supporting SME internationalization.
Our paper proceeds as follows. After a review of the theoretical perspectives that guide our study, we formulate and test two sets of hypotheses linking human capital to SME internationalization. Then, we test our hypotheses using panel data from 2,633 Belgian SMEs over an 8-year period (15,120 firm-year observations). We go on to discuss our findings and present future research suggestions and theoretical and practitioner implications.

**Theory and Hypotheses**

**Rapid Internationalization**

Recent work in international entrepreneurship has sought to explain why some new ventures are international from inception (McDougall *et al.* 1994) or internationalize early and fast (Knight and Cavusgil 1997). Oviatt and McDougall (1994) advanced a framework integrating international business, entrepreneurship, and strategic management theories. That framework describes four necessary and sufficient elements for the existence of international new ventures: (1) organizational formation through internalization of some transactions; (2) strong reliance on alternative governance structures to access resources; (3) establishment of foreign location advantages; and (4) control over unique resources. Several authors have observed that “born-global” companies tend to be clustered in several knowledge intensive industries (Autio *et al.* 2000; Zahra *et al.* 2000; Knight and Cavusgil 1997). Thus, international entrepreneurship researchers have established that technological competence encourages new ventures to pursue international expansion early on.

Related to this stream of research is recent work in international marketing which considers the patterns of internationalization (more specifically, product introductions) across international markets (Kalish, Mahajan and Muller 1995; Stremersch and Tellis 2004; Sleuwaegen and Onkelinx 2010). These authors argue that firms can choose to internationalize by following an accelerated internationalization or *sprinkler strategy*, in which they target multiple countries at once. This is contrast to a *waterfall strategy*, in which firms internationalize more slowly and target one market at a time. Despite the inherent higher risk of rapid internationalization, increasingly SMEs are choosing to internationalize by using a sprinkler strategy. By internationalizing in more than one market simultaneously, firms can maximize revenues by exploiting economies of scale in R&D and manufacturing. Moreover, a sprinkler strategy may pre-empt competitive moves in some countries, thus maximizing sales and market share. Entering markets early before competitors may result in substantial first mover advantages (Lieberman and Montgomery 1988). In addition, in some markets there may be strategic windows of opportunity (Abell 1978), and to be successful, firms must enter and establish a competitive position during those relatively brief periods of time before competition intensifies and entry becomes less viable. Empirically, Mascarenhas (1997) found that being the first to enter the market resulted in higher long-term international market share and survival. However, launching a new product requires substantial investment in manufacturing, inventory, advertising, distribution, and, pertinent to our study, human resources, as will be discussed next.

**Employee Human Capital**

The resource-base view of the firm suggests that the quality of a firm’s strategy cannot be judged independently of the firm resources upon which it is based (Barney and Zajac, 1994). One
such resource is human capital. Human capital refers to the stock of competences, knowledge, expertise and connections that a firm’s employees gain through education and experience (Becker, 1993). Investments in human capital are activities, such as schooling, on-the-job training, medical care, or acquiring information about the economic system, which influence future real income (Becker, 1962: 9; Schultz, 1961; Novos and Waldman, 1997). All of these investments improve the physical and mental abilities of people and thereby raise their real income prospects while yielding a return over a long period of time.

Starting with Becker’s (1962) seminal work on investments in human capital through on-the-job training, economists and strategists have theorized about the differential effects of investments in general and specific human capital. According Becker (1962:17) “general training increases the productivity of trainees by exactly the same amount in firms providing the training as in other firms”, while “specific training … has no effect on the productivity of trainees that would be useful in other firms”. In other words, generic human capital includes education, knowledge, and skills (acquired through formal education) that is applicable to different firms and contexts, while unit-specific human capital accrues through on-the-job training and experience in such a way that knowledge of a job, other employees, and customers becomes increasingly embedded and tacit, and of little value outside the firm (Grant, 1996; Barney and Wright, 1998; Ployhart, Van Iddekinge, and Mackenzie, 2011).

In this study, we track the investment in employee general and specific human capital in rapidly internationalizing SME’s. Our initial contention is that these investments are complementary and both of them are positively associated with the degree of internationalization. This is because the development of most skills requires both specialization and experience and can be obtained partly from education and partly from work experience (Becker 1962). Higher levels of knowledge and skills allow employees to engage in complex and non-routine tasks and perform them efficiently while conforming to high quality standards, thus increasing the value added by the firm. These are precisely the tasks inherent in innovation-driven economies such as Belgium, in which competition is knowledge-based and businesses compete by producing new and different goods using the most sophisticated production processes (Schwab, 2011). In addition, these are the same sets of skills that have been found in firms engaged in rapid internationalization (Autio et al. 2000; Zahra et al. 2000; Knight and Cavusgil 1997). Hence we hypothesize:

H1a: Investment in highly educated employees is positively associated with the degree of internationalization of rapidly internationalizing SMEs.

H1b: Investment in training of employees is positively associated with the degree of internationalization of rapidly internationalizing SMEs.

While we suggest that there is a positive relationship between investment in employees’ general and specific human capital and degree of internationalization, it seems unlikely that this positive relationship can continue indefinitely. This is due to the existence of a saturation point above which an increase in human capital does not translate into increased international activities. We draw on perspectives from strategic human capital theory and focus on the institutional and competitive context of firms operating in Belgium in particular, in order to develop this argument.

Strategic human capital theory posits that even if firms have access to a pool of valuable human capital, there are limits to their ability to deploy this capital to achieve strategic impact (Wright
Firms deploy employee human capital through human resource tools and practices designed to motivate employees to exhibit productive behavior. Although many strategic human capital theorists have advocated large investments in human capital in order to foster sustainable competitive advantage, accumulation of human capital also gives rise to numerous problems in its efficient deployment, stemming from increased overhead and administrative costs, complex workforce requirements, agency problems, causal ambiguity arising from individual emotions and collective proclivities, as well as lower organizational flexibility, especially in terms of demand for labor (Lepak and Snell 1999). Designing effective people management practices, such as compensation or performance evaluation, which are essential for the deployment of skills required for rapid internationalization, may be especially problematic for small firms (Hornsby and Kuratko 1990). This is because SMEs typically lack the formal administrative systems, managerial experience or sophistication of large corporations. We go on to argue that the negative effects of excessive human capital accumulation may be exacerbated by the institutional context of the labor market in Belgium.

Belgium is an innovation-driven economy (Schwab 2011) which depends critically on the creative potential of its workforce. The “creative class”, e.g., individuals who engage in expert thinking and complex communication at work, such as scientists, engineers, artists, cultural creatives, managers and professionals, account for 30% of the Belgian workforce, at par with Australia (30%) and ranked second in a sample of 39 countries, just below Ireland (34%) (Florida 2007). In other words, the Belgian workforce possesses high creative potential.

While possessing creative potential, the labor market in Belgium is relatively tightly regulated and offers some, but not great, flexibility (World Bank 2010; Schwab 2011). By virtue of the country’s institutional and cultural heritage, Belgian workers can typically expect that employment will last for a long period of time and will include generous salary and benefit packages. These agreements encourage employees to develop firm-specific skills which over time make employees less mobile and hence less marketable than in other employment settings (Wasmer 2002). In addition, when firms are faced with the need to terminate employees, it is a lengthy and expensive process. Depending on the reason for dismissal and the length of the overall service, employers must provide between one month and several years’ notice before termination, as well as pay a lengthy severance (World Bank 2010; Claeys and Engels 2010). Firms with a history of terminating employees are likely to be perceived as less desirable places to work and may have difficulty in attracting additional employees when market conditions change. This suggests that the decision to add human capital is not only expensive, but it is a long-term choice which can have lasting consequences. Therefore firms which are faced with the need to add additional human capital to meet the demands inherent in competing in the multiple markets (i.e., sprinkler strategy) must therefore make careful choices about their investments. This leads us to suggest:

**H2a:** There is a curvilinear relationship between investment in highly educated employees and the firm’s degree of internationalization.

Another way in which small firms can develop employee human capital needed for rapid internationalization is by investing in firm-specific skills through training their existing workforce. The importance of training in larger firms is well documented (Guzzo, Jette, and Katzell, 1985); however small, resource constrained firms are less likely to engage in formal employee training (Banks *et al.*, 1987). Challenges notwithstanding, a well-qualified workforce is essential for
enhanced productivity, and, up to a point, internal training may negate some of the liabilities inherent in hiring. However, as with education, training is likely to be effective up to a point after which additional employee training is less likely to have an impact on SME internationalization. Training people may be time consuming, and may take away crucial time from employees when the internationalization confronts them with increased complexity in their job. Hence we suggest:

\[ H2b: \text{There is a curvilinear relationship between investment in training of employees and the firm's degree of internationalization.} \]

**Methods**

**Context of the Study**

Belgium is an advanced economy with a 2009 per capita GDP of $36,800 (ranked 30th in the world) (World Factbook, 2011) and a founding member of the European Union. SMEs account for 69.25% of the country’s formal employment (Ayyagari, Beck, and Demirguc-Kunt, 2007), comparable to similar-sized advanced market economies in Europe, such as Denmark (78.40%) or the Netherlands (58.50%). According to the European Commission (2010), about 33% of the SMEs in Belgium recorded exports in 2006-2008, well above the average for the European Union (25%). Belgium is also far above the average for the European Union in terms of the share of SME revenue resulting from exports (15.2% as compared to 4.6%) and the share of SMEs gaining any income from subsidiaries and/or joint ventures abroad (12.7% as compared to 4.8%) (European Commission 2007).

**Sources of Data**

In collaboration with the National Bank of Belgium (NBB), we constructed a comprehensive dataset linking firm level trade data to annual accounts data. Foreign trade data are based on customs data for extra-EU trade and the Intrastat inquiry for intra-EU trade. These data contain the value and quantities (number of units or weight) of exported and imported goods. They are broken down by country of destination or origin and by type of good. Hence, the database contains detailed data on the value of each product type a firm exported to every single export destination\(^1\).

Annual accounts data are collected through the Central Balance Sheet Office of the NBB. These data comprise all items from the balance sheets, the income statements and the social balance sheets. Examples of data from these different sources are fixed assets, sales, and wages. Data were available for 1998-2005. Thus, all manufacturing SMEs incorporated in Belgium with at least 10 full time equivalent (FTE) employees (in at least one year between 1998 and 2005) were included in the dataset, to a total of 7,771 SMEs. SMEs were selected using the employment criterion of the Eurostat definition: firms with fewer than 250 FTE employees (European Commission 2009). However, consistent with the European Commission’s own research (e.g., European Commission, 2007, 2010), we did not impose any restrictions in terms of turnover or balance sheet total, since these thresholds are primarily applied in relation to state aid and community programs.

The oldest manufacturing SME in the dataset was established in 1926; 452 firms were created in 1998 or later. 207 firms were no longer active in 2009; 87 had already ceased activities by 2005. About half of this exit is the result of M&As; the other 50% are due to the cessation of activities. For the purpose of this study, we selected only those SMEs that started exporting between 1998
and 2005 and followed a strategy of accelerated internationalization, e.g., exported to at least five countries, including one outside the EU, within five years of their first export activity (Sleuwaegen and Onkelinx 2010), to a final usable sample of 2,633 SMEs.

**Measures**

**Dependent Variable**

*Degree of Internationalization:* To measure degree of internationalization, we use the number of countries to which a firm exports (Delios and Henisz, 2003; Kuivalainen *et al.*, 2007). This measure captures the complexity of internationalization. Each additional market a firm decides to enter exposes the firm to the competition in this foreign market. Furthermore, the firm will need to carry out market research, and adjust the product and packaging to local customer preferences and legal requirements. We chose this measure of internationalization over the more commonly used measure of export intensity (foreign sales/total sales), as some SMEs may export a large share of their total sales to a single buyer in a single country.

**Independent Variables**

*Education:* We used data from the social balance sheet to measure employee education. The education level captures the knowledge of the employees (Hitt *et al.* 2006). We calculated the weighted average education level of people hired (per FTE employee) by assigning a weight of 1 to primary education, 2 to secondary, 3 to tertiary non-university and 4 to university education.

*Training:* We calculated training cost per employee as the total spending on training divided by the number of FTE employees.

**Control Variables**

We followed Lu and Beamish (2006) and controlled for industry, firm-level, and year effects. We used 23 industry dummies for each subsector within manufacturing, based on 2-digit industry codes (nacebel2003 classification). To control for technology intensity, we followed the OECD (2003) methodology and classified industries into four categories: high technology, medium-high technology, medium-low technology and low technology. We thus created four dummy variables, based on 3-digit industry codes. Firm-level controls include size (number of FTE employees), age, number of export products, value of export relative to the industry mean, value of import relative to the industry mean, value of inward and outward FDI, and labor productivity (value added per employee). Finally, we included eight year dummies to control for year effects.

**Statistical Procedure**

We performed a hierarchical regression analysis to evaluate the relationship between human capital and export performance. The nature of the dependent variable called for a negative binomial panel data regression, thus we used the *xtnbreg* procedure in STATA 11.0, lagging the dependent variable by a year. In the first model, we entered only the control variables, whereas the linear and squared terms of the independent variables were entered in the second model. Our results are presented below in Table 1.
RESULTS

Hypotheses 1a and 1b predicted a linear relationship between employees’ general human capital (education) and between employees’ specific human capital (training) and the degree of internationalization. As the results in Table 1, Model 2 show, the linear term of education is positive and significant, whereas the linear term for training is not significant. Thus, Hypothesis 1a is fully supported, but Hypothesis 1b is not supported.

Hypotheses 2a and 2b stated a curvilinear (inverted U) relationship between employees’ general human capital (education) and between employees’ specific human capital (training) and the degree of internationalization. In Table 1, Model 2, the curvilinear relationship for education is significant; however, the squared term for training is not significant. Thus, Hypotheses 2a is supported but Hypothesis 2b is not supported.

Among the control variables in the fully subscribed model (Table 1, Model 2), both firm age and firm size are positive and significant. Outward foreign direct investment, the number of export products, and the export relative to the industry mean are also significantly and positively associated with the degree of internationalization. Somewhat surprisingly, labor productivity shows a negative association with the degree of internationalization. One can attribute this effect to the need for product customization which diminishes the ability to generate economies of scale and hence the value added per employee.

DISCUSSION

We started our exploration of the link between general and specific human capital and degree of internationalization on the premise that internationalization is an important strategic decision for small and medium sized enterprises (Skrt and Antoncic 2004). In addition, we followed recent research which has specifically focused on those firms which internationalize rapidly and drew insights from the literature on resources and internationalization strategies to examine the important role played by employee human capital. By examining the human capital of the employees, we shift our perspective away from the manager and to those individuals who, in the context of the SME, are directly involved in the overall direction setting, decision making, and strategy implementation of the firm, and hence are integral to the operations of the organization. In doing so, we add to the conversation around the importance of the firm’s resource base in supporting SME internationalization.

Theoretical Implications

General human capital enables SME internationalization. Consistent with prior work on general and specific human capital (Schultz, 1961; Becker, 1962), our findings indicate that firms which hire talented employees are, up to a point, more likely to have a greater degree of internationalization. SMEs following a strategy of accelerated internationalization do not have the time to organically develop organizational capabilities in internationalization (e.g., learn from doing) and need to strengthen the organizational capabilities by the individual experience and skills embodied in the human capital of the employees. For these types of firms, added human capital does translate into higher degree of internationalization (up to a point, as will be discussed
below). This finding supports prior work on the internationalization of new and small ventures, particularly in the context of early internationalizers, which has posited early internationalizers can compensate for the lack of organizational experience in internationalization through the individual experience and capabilities, embodied in the human capital of the firm (Autio et al. 2000). This also supports previous work by Bingham, Eisenhardt, and Furr (2007) who found that the process of internationalization is dependent on organizational cognition and heuristics which are embedded in the knowledge base, or human capital of the firm. We extend this line of work by suggesting this substitution effect may be in place not only in the context of new or “born global” ventures, but more broadly in the context of accelerated internationalizers, regardless of their age, be they newly established companies or older SMEs that had previously been focused on the domestic market and subsequently decided to rapidly expand internationally.

The limits of general human capital. While we find that in rapidly internationalizing SME’s, education is associated with the degree of internationalization, we also found that for firms pursuing a strategy of accelerated internationalization (sprinkler strategy), there is a threshold above which additional human capital endowments does not enhance internationalization. In fact, after an optimum level of human capital accumulation, further investments become unproductive, as they are negatively associated with the internationalization.

We attribute this complex relationship to the challenges SMEs face in developing the managerial tools and administrative systems to manage high levels of employee talent, as suggested by Hornsby and Kuratko (2003). In order to reduce the impediments to exporting, it is essential to match the firm’s strategic interest in international markets with the goals, competence, and motivations of key actors in the organization (Gomez-Mejia 1988), which requires the development of a more finely-tuned and elaborate human resource architecture beyond the administrative capabilities of resource-constrained small players.

This finding is important in that it provides a very different perspective on the human capital – internationalization relationship and may lead future researchers to examine other potentially adverse outcomes resulting from inappropriate levels of human capital. In addition, this finding raises a number of interesting questions for future investigation such as (1.) given the dynamic nature of internationalization, for SMEs pursuing a strategy of accelerated internationalization, what is the right level of human capital, and (2.) are there other resources besides human capital to which this threshold effect also applies. For example, it seems plausible that social capital may also have a threshold effect, given the effort required to maintain strong ties with other organizations (Adler and Kwon 2002). Limits to resource accumulation, or the “too much of a good thing” effects (Pierce and Aguinis 2011) have not been well addressed in the literature, thus suggesting an avenue ripe for future exploration.

Specific human capital. While we find interesting threshold effects when looking at the general human capital, or level of education, of rapidly internationalizing SME employees, our hypotheses were not supported when we examined the specific human capital, or levels of training, of these same employees. Some of this may be explained by the difficulties that small firms have in formally training their employees. In rapid internationalizing firms, training is expensive and requires a monetary commitment that cash strapped smaller firms may not be able to afford. In addition, training may take valuable time away from employees who, in rapidly internationalizing firms, are already busy in managing important day to day activities. Finally, while our measure of
training is robust, it is an aggregate measure in that we know the levels of overall training, but not
the specifics of the type of training in which the firm is engaged. A finer level of detail concerning
training may help to explain why our results were not significant.

In sum, the effect of human capital accumulation on the degree of internationalization of
rapidly internationalizing companies is complex and curvilinear. Human capital accumulation
may affect internationalization indirectly, in that it is contingent on other strategic considerations
and trade-offs small firms, particularly in the high technology sector, are faced with.

Normative Implications

In addition to enhancing our theoretical understanding of SME internationalization, our
findings have important practical and public policy implications. Our findings indicate that
some SMEs need rapid internationalization in order to survive, especially in high technology
environments, characterized by high research and development costs combined with short
product life cycles (Bell et al., 2003). These firms should internationalize following a sprinkler
strategy. The costs associated with this simultaneous entry in multiple international markets
calls for high levels of labor productivity which in turns begs for a workforce well-endowed with
general and specific human capital. This suggests that when looking at their hiring practices, small
firms pursing a rapid internationalization strategy are well advised to consider the education of
their potential employees as the quality of their human capital is likely to impact the degree of
internationalization of the small firm. For public policy makers, if countries are interested in
increasing their exports by pursuing a dominant position in knowledge-intensive industries, then
resources should be directed towards enhancing worker education as this is the road which leads
to internationalization.

Future Research Directions and Conclusions

The findings of this paper also provide a number of directions for future study. While using
a large longitudinal dataset provides us with the opportunity to study SME internationalization
over time, as with all secondary datasets, there are limitations. In particular, we were hampered in
our operationalization of human capital. Additional information about on- the-job training and
the specific international experience and internationalization-related skills of the SME employees
would have made the conclusions of our study more robust. Work on the role of human capital
strongly suggests that cognitive characteristics such as perceived capabilities (self-efficacy) also
need to be considered (Alvarez and Busenitz 2001) in assessing the value and uniqueness of a
firm’s human capital endowments.

In addition, the data, while extensive, are restricted to SME’s in Belgium, thus limiting our
ability to generalize to other contexts. While we are confident that within the European Union
there are a number of institutional contexts which face similar constraints to those found in
Belgium, (GEM 2008), we do not have the data to make a comparison. Future researchers could
expand this study to other institutional contexts, thus extending our knowledge of the impact of
human capital in SME internationalization.

Clearly, there is much more to learn in the area of SME internationalization. In this paper, we
have shed light on some of the issues between human capital and small firm internationalization.
In doing so, we have contributed to the conversation around general and specific human capital and internationalization. With our finding of threshold effects for general human capital, we are beginning a new and interesting dialogue around the optimal level of resources endowments; one to which we hope other scholars will contribute.

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NOTES

1. Throughout the paper, trade, import and export refer to trade of goods only. Firm-level data on trade of goods are available per product (4-digit CN4) and country. The dataset contains trade data from 1998 until 2005 for 1,279 products and 249 countries. Export dummies for the period 1993-1997 were added, indicating if firms had export activities before 1998. For firms importing or exporting outside the EU (Extrastat), customs data are collected for all transactions whose value is higher than 1,000 euro or whose weight is bigger than 1,000 Kg. Coverage of extra-EU trade in the dataset is more comprehensive than that of intra-EU trade, which has higher thresholds. For intra-EU trade, firms have to participate in the Intrastat inquiry if their import or export exceeds 250,000 euro per year. This threshold remained unchanged between 1998 and 2005. Between 1995 and 1997, the threshold was 104,115 euro per year. This lower threshold for intra-EU trade, combined with the low threshold for extra-EU trade, implies that the export dummies for 1993-1997 are a good proxy to check if firms had any export before 1998. As a result of the 2004 EU enlargement, trade to the eight new member states was no longer subject to the Extrastat declaration. Consequently, a number of SMEs exporting to or importing from these countries no longer had to report this trade as of 2005, if it did not exceed the threshold of 250,000 euro.

REFERENCES


### TABLE ONE
The Effect of Education and Training on Degree of Internationalization

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* p<0.1, ** p<0.05, *** p<0.01

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