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Sui Sui and Zhihao Yu and Matthias Baum

Management Studies Department, Ted Rogers School of  
Management, Ryerson University, Department of Economics,  
Carleton University, University of Giessen

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**Prevalence and Longitudinal Trends of Early Internationalisation  
Patterns among Canadian SMEs**

*Sui Sui*, Global Management Studies Department, Ted Rogers School of  
Management, Ryerson University, Toronto, Canada

*Zhihao Yu*, Department of Economics, Carleton University, Ottawa, Canada

*Matthias Baum*, University of Giessen, Giessen, Germany

## Prevalence and Longitudinal Trends of Early Internationalisation Patterns among Canadian SMEs

### Abstract

**Purpose:** Recently, studies call for a more nuanced perspective on different internationalization patterns pursued by early internationalizers. These studies argue that most Born Global firms turn out to be Born Regional and that the proportion of true Born Global firms would be overestimated. Moreover, literature claims that the proportion of Born Global firms increases over time due to macroeconomic trends. We investigate these assumptions by providing a dynamic perspective on the prevalence of different types of internationalization patterns among Canadian small and medium-sized exporters (SMEs).

**Design/methodology/approach:** To empirically examine the ideas above, we constructed a unique large-scale longitudinal (1997–2004) dataset. A multinomial logit model is employed to estimate a firm's predicted probability, *ceteris paribus*, of choosing different internationalization patterns: Born Global, Born Regional, and Gradual Internationalization.

**Findings:** We find that Born Global firms indeed account for a smaller proportion than Born Regional firms (16% vs. 27%). However, we find evidence that Born Globals and Born Regionals are increasingly established over time and that macroeconomic factors seem to account for this development at least partially.

### Originality/value

Combining a rigorous empirical analysis with a unique large scale longitudinal dataset, we address two fundamental research questions in the international entrepreneurship (IE) literature a) which internationalization pattern prevails and b) if the Born Global pattern is increasingly established over time. We therewith theoretically contribute by comparing the predictive value of different internationalization frameworks international new venture (INV) framework, stage-models and regionalization hypothesis), toward which there is considerable current debate.

### Keywords

International New Ventures, Born Globals, Born Regionals, Longitudinal Study, Regional Strategy, Internationalization Process

### Article Classification

Research paper

## INTRODUCTION

Research on international entrepreneurship (IE) challenges traditional stage-models of internationalization (SMI) (e.g. Johanson and Vahlne, 1977) by stating that firms do not necessarily need to stretch international activities gradually, but that rapid and global expansion strategies increasingly exist (Coviello and Jones, 2004). With only a few exceptions, research in the field of IE consistently makes two basic assumptions. First, a considerable proportion of early internationalizers (firms that venture abroad at or close to their creation) would be Born Global firms that pursue an accelerated internationalization in multiple geographic regions (Knight and Cavusgil, 2004). Second, the proportion of firms choosing the Born Global internationalization pattern is increasing over time (Oviatt and McDougall, 1994; 1997) due to macro trends such as increased globalization and the widespread use of advanced information and communications technologies (Knight *et al.*, 2004; OECD, 1997). However, there is insufficient empirical evidence to support either assumption. In particular, the foundational statement that Born Global firms would increasingly appear on the landscape over time (Madsen and Servais, 1997) shows a remarkable gap between actual empirical proof and literary dissemination. In other words, almost every IE study preaches the increasing prevalence of entrepreneurially internationalizing firms (Jones *et al.*, 2011; Keupp and Gassmann, 2009), while there is virtually no sound empirical proof for this assessment beyond descriptive results (Rasmussen *et al.*, 2010).

A considerable body of empirical research made important contributions for understanding early internationalizers. However, as Jones *et al.* (2011) point out, most empirical studies on early internationalization suffer from lacking authoritative longitudinal data drawing from non-random cross-sectional databases (Keupp and Gassmann, 2009). Such surveying of a non-randomly selected, limited

number of firms, at only one point of time, is likely to induce selection biases and endangers the validity of empirical results (Antonakis *et al.*, 2010). Present results about the prevalence and development of different early internationalizer strategies thus stand on shaky ground (Anokhin and Wincent, 2012; Danis *et al.*, 2010).

This study tries to address the above mentioned issues by employing a unique longitudinal (1997–2004) dataset on the total population of Canadian exporting firms that is constructed upon administrative databases from Statistics Canada. In doing so, we are able to estimate the proportion of different early internationalizer patterns as well as their development over time in an authoritative manner. Therefore, this study is among the first to investigate internationalization behaviours of SMEs in a longitudinal way without having sample selection issues.

Our hypotheses are based on multiple theoretical frameworks. In the following passage we draw from the international new venture (INV) framework (Oviatt & McDougall, 1994), the regionalization hypothesis (Rugman and Verbeke, 2004) and SMI reasoning (Johanson and Vahlne, 1977; Johanson and Vahlne, 1990) in order to predict that a) only a small proportion of firms are actually “true” Born Globals while most early internationalizers instead pursue Born Regional or gradual patterns and b) that Born Globals increasingly appear over time. Thus, we not only empirically contribute to the IE and SME internationalization literature but also contribute in a theoretical vein, by showing that a combination of the mentioned approaches allows for a more precise and comprehensive understanding of SME internationalization patterns.

## **CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT**

By applying the regionalization hypothesis (Rugman and Verbeke, 2004) and SMI reasoning (Johanson and Vahlne, 1977, 1990) into the early internationalizer

context, we propose that three types of early internationalizers exist: Born Globals, Born Regionals, and Gradual Internationalizers. Born Globals venture into the international market outside their home region close to inception, and partially realize a significant proportion of sales in foreign markets (Kuivalainen *et al.*, 2007); Born Regionals also start international activities early and with significant international shares, but only start international activities in their home region (Lopez *et al.*, 2009); Gradual Internationalizers show a more reactive internationalization pattern. While internationalizing quite early, they only realize a small proportion of foreign sales abroad.

We further draw from these theoretical perspectives that indeed a significant proportion of the firms labelled as Born Globals by prior studies might actually operate only in a limited geographic area, and thus might more appropriately be called Born Regionals. Moreover, we propose that the greatest part of early internationalizers is Gradual Internationalizers, pursuing incremental internationalization. While our assumption is based on profound internationalization frameworks, authoritative empirical evidence regarding the proportion of SME internationalization strategies is largely missing so far.

According to regionalization hypothesis firms select foreign location activities according to the potential transaction costs resulting from this activity (Rugman and Verbeke, 2005). A firm chooses to operate in locations where it can best explore or exploit firm-specific advantages (FSAs) or country-specific advantages (CSAs). The possibility to profit from these advantages is dependent on the capabilities of a firm. However, a worldwide exploitation and management of these advantages seems to overburden the capabilities of most firms (Rugman and Verbeke, 2007). This is also reflected by the fact that only nine firms from the Fortune 500 could be classified as “global” while 320 could be classified as

home-region oriented (Rugman and Verbeke, 2004). The transfer of firm specific advantages to distant regions correlates with higher transaction costs than the transfer of such advantages to other countries within the home region. Accordingly, “the liability of intra-regional expansion appears to be much lower than the liability of inter-regional expansion” (Rugman and Verbeke, 2007: 201), which is why regionalization can be the first best solution of a firm’s internationalization process (Rugman and Oh, 2010).

In a similar vein, the SMI posits that firms internationalize gradually along an ‘establishment chain’ and to increasingly distant markets (Johanson and Vahlne, 1990). A firm following the ‘stage-model-route’ of internationalization will start internationalization in a psychic or culturally close foreign market with a low control entry mode, such as exporting (Johanson and Wiedersheim-Paul, 1975). Thus, firms start their international encounters in markets close to their home region, where they can exploit their already established knowledge base. Therewith, these firms are able to balance risks and opportunities of internationalization for further internationalization.

Transferred to the early internationalization phenomenon, the SMI perspective heralds that even early internationalizers expand their international activities gradually (Johanson and Vahlne, 2009). While most of the arguments from SMI match with the regionalization hypothesis, there is one difference: regionalization hypothesis allows for a spontaneous and large-scale internationalization (even though restricted to a geographical region), while SMI supports an incremental pattern, with only limited international sales in the first years of a firm’s existence. With regard to regionalization hypothesis, a large-scale regional internationalization is possible when firm specific advantages are suitable for multiple foreign environments. According to SMI, firms will “feel

their way” into international markets, and thus internationalizing SMEs will most likely be Gradual Internationalizers, following this rationale.

From our point of view, the most prevalent strategy type will be the Gradual Internationalizer, followed by the Born Regional, and then by Born Global. Gradual internationalization is the least resource and managerial capacity demanding internationalization pattern. Young SMEs have a comparatively low resource base. Stretching activities into multiple regions may overburden the capacities of most SMEs. Moreover, rapid commitment to foreign markets also increases the risk of failure (Mudambi and Zahra, 2007). As outlined above, these risks are further increased when a firm ventures into more distant geographic regions, making a born global strategy the most difficult. Thus, we assume that:

*Hypothesis 1: Among internationalizing SMEs the largest proportion are Gradual Internationalizers, followed by Born Regionals, realizing their international sales from their home region. The smallest proportion of internationalizing SMEs are Born Globals, realizing their international sales outside their home region.*

Previous studies showed that more recently established firms have a comparatively higher export intensity than older firms (Moen, 2002) and that Born Globals differ significantly from Non-Born Global firms with regards to firm age and age at internationalization (with Born Globals being significantly younger and earlier international than Non-Born Global firms) (Knight, 1997). These studies thus hint at an increasing proportion of Born Global and Born Regional firms compared to Gradual Internationalizers over time. However, previous results remain on a rather descriptive level (Rasmussen *et al.*, 2010) and do not provide an authoritative empirical evidence for this trend.



While we assume that most SMEs pursue a Gradual Internationalization pattern, we believe that the Born Regional and Born Global pattern are increasingly applied over time due to changes in the macroeconomic environment. The internationalization pattern of SMEs is not solely dependent on firm and founder characteristics (Tuppura *et al.*, 2008), but also on macroeconomic environmental factors such as institutional regulations (Meyer *et al.*, 2009). Macroeconomic changes, such as maturation of home markets, reduction of trade barriers resulting from free trade agreements such as NAFTA, shrinking transportation and communication costs, improvements in global telecommunications and transport networks and increasingly liberalized global trading regimes (Fan and Phan, 2007), alter the related costs of foreign market entry and operation. These changed conditions allow for a rapid internationalization, which is why many scholars use them as an explanation for the emergence of early internationalizers (e.g. Rialp *et al.*, 2005).

Besides propelling early internationalization in general, macroeconomic changes reduce psychic distance, and thus, foster the entry into more distal environments (Child *et al.*, 2009). Even though the geographic distance is time invariant, the psychic distance diminishes over time because of these macroeconomic distance-compressing factors (Child *et al.*, 2002). Psychic distance decreases the relative value of foreign market size (Ellis, 2008). Thus, even though large markets are economically attractive, firms will less likely venture into these markets if these markets are psychic distant. When psychic distance is reduced, geographically distant markets are more likely entered (Chetty and Campbell-Hunt, 2004). Other macroeconomic factors increasing the likelihood of Canadian firms choosing the Born Global pattern include: increased sizes (measured in GDP) of emerging countries, decreased political risks in some

countries, and increased number of new Canadian immigrants with social connections to different countries (Head and Ries, 1998).

Taken together, we propose that compared to the Gradual Internationalization pattern, macroeconomic changes not only reduce barriers to initial internationalization on a large scale fostering the creation of Born Regionals, but also reduce the psychic distance of geographic distant regions and thus propelling the Born Global pattern. Accordingly, we assume:

*Hypothesis 2: The probability of an SME to choose a Born Regional or Born Global pattern over a Gradual Internationalization pattern is increasing over time.*

## **METHODS**

### **Data**

Our dataset builds upon Statistics Canada's Exporter Register (ER), Business Register (BR), and Longitudinal Employment Analysis Program (LEAP). The main data source, ER, is a large-scale administrative database of all merchandise trade transactions by Canadian firms from 1993 to 2005. The data was obtained from two sources: the U.S. Customs documents and Canada Revenue Agency documents. ER allows us to track the first year in which a firm starts to export, its value of exports, the destinations and the products it exports in each year between 1993 and 2005. The second data source, BR, is a database that includes a complete, up to date, and unduplicated list on all active businesses in Canada that have a corporate income tax account, are an employer, or have a Goods and Services Tax account. BR database provides information on firms' annual revenue (1997-2005). The third data source, LEAP, uses three major inputs: the

administrative T4 data from the Canada Revenue Agency (CRA), information from Statistics Canada's Central Frame Database or Business Register, and the Survey of Employment, Payrolls and Hours (SEPH). LEAP provides us information on firms' annual employment and payroll for every employer in Canada for the years from 1997 to 2004. We linked ER, BR and LEAP panels and built the final dataset used in this study.

From all Canadian exporters in our sample, we selected firms with less than 500 employees for the purpose of investigating the internationalization process of SMEs. This study uses the founding condition to classify early internationalizers. Because information on firm founding conditions from the LEAP database is only available for the years between 1997 and 2004, firms that were established prior to 1997 and after 2004 were excluded. Finally, we excluded firms that only exported one year because of the occasional nature of their export behaviour. This leaves us a total of 6,079 internationalizing SMEs that match our operational definition of early internationalizers (firms that enter international markets within 8 years after inception; Zahra, 1996).

### **Dependent Variable**

Our dependent variable, the different *internationalization pattern* is categorized as follows: Born Global, Born Regional and Gradual Internationalizer. Following previous studies (Gabrielsson *et al.*, 2004; Kuivalainen *et al.*, 2007; Lopez *et al.*, 2009), a firm is classified as a true Born Global if it (1) started to export early after its foundation, (2) realized a significant share of its revenue from exporting, and (3) a significant share of its exports goes to the global market. A Canadian firm is classified as a Born Regional if it (1) started to export near its founding, (2) a significant share of its revenue is from exporting, and (3) a significant share of

its exports goes to the regional market. And, finally, the rest of the firms in the sample are classified Gradual Internationalizers.

Three variables were used as criteria to classify the internationalization pattern of the observed SMEs. The first variable, *export start-up age* (the age of a firm when it started to export), is a measure of internationalization speed. The second variable, foreign sales to total sales (the percentage of revenue that comes from exporting), is a measure of internationalization scale that takes into account a firm's intensity of commitment to foreign sales. The first two criteria have been commonly used to define Born Globals in the literature (e.g., Rennie, 1993; Knight and Cavusgil, 2005). A third variable, global sales to foreign sales (the percentage of exports that comes from the global/non-US market), is a measure of internationalization scope that takes into account the geographic range of a firm's foreign sales (Preece *et al.*, 1999).

### **Independent Variable: Year of SME foundation**

As we mentioned in the data section, Statistics Canada's BR database includes a complete and up to date list on all active businesses in Canada. Following previous studies (Huynh *et al.*, 2010), we construct the variable *BRBY* (BR birth year, the first year a firm appears in the BR database) to capture the year in which a firm was established.

### **Control Variables**

We're interested in examining the *ceteris paribus* probabilities of early internationalizers to choose different internationalization patterns. Multiple studies underpin the pivotal importance of firm-internal resources, capabilities and resulting competitive advantages (e.g. Autio *et al.*, 2000; Bloodgood *et al.*,

1996; Gassmann and Keupp, 2007) or industry specifics (McDougall and Oviatt, 1996) for internationalization behavior and success. We therefore control for firm-internal factors (i.e. firm size, labour productivity and product diversification) and for industry by applying a multinomial logit model. In doing so, we are able to estimate SMEs' *ceteris paribus* predicted probability of choosing different internationalization patterns subject to the year of firm establishment, rather than descriptively displaying the proportion of each internationalization pattern.

*Size* was measured as the number of employees, *Labour Productivity* was measured as revenue per employee, and *Product Diversification* was specified as the variety of products a firm exported (based on the count of its six-digit Harmonized Schedule codes). Furthermore, based on a firm's corresponding two-digit North American Industry Classification System (NAICS2) code, a set of dummy variables "Industry" is generated. There are 11 industry groups in this study. Based on a firm's corresponding two-digit province of location category variable, a set of dummy variables *Province* was generated. Table A1 in Appendix A presents the definitions, means, standard deviations, minimums and maximums associated with above variables.

## **ANALYSIS AND RESULTS**

We use clustering techniques to classify the internationalization patterns and to confirm our theory based three-class solution. More specifically, the k-means clustering is used to perform the cluster analysis because previous studies (e.g., Lopez *et al.*, 2009) showed that k-means clustering appears to be more robust than any hierarchical method when it comes to classify SMEs internationalization patterns. We found the cluster classification of firms is fairly consistent if we

separate firms by year established. Benefiting to the large size of the sample, no outlier is found after screening the data. In Table 1 we report the results of the k-means clustering procedure.

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Insert Table 1 about here.

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The group under cluster 1 in Table 1 consists of firms that exported within a short period of time since inception (1.25 years on average). The majority of revenue of these firms is from exporting (91% on average). On average, 30% exports of these firms are from the global market, which is the highest among three groups of firms. Firms under cluster 2 in Table 1 show rapid internationalization but less involvement in exporting, especially less involvement in the global market. Similar to firms in group 1, it took firms in group 2 on average 1.25 years to make their first export. The share of total sales from exporting is almost 48% for these firms. However, these firms have the lowest share of global sales to foreign sales (17% on average). It took firms under cluster 3 much longer to start exporting (4.17 years on average) than firms in the other groups. On average, 18% of total sales of cluster 3 firms are from exporting, which is significantly lower than firms in cluster 1 and cluster 2. The share of global sales to foreign sales is 26%, on average, for cluster 3 firms. Comparing the characteristics of firms that are grouped under different clusters, cluster 1 firms are classified as Born Globals; cluster 2 firms are classified as Born Regional; and cluster 3 firms are classified as Gradual Internationalizers.

As shown in Table 1, based upon the classification method explained above, we find the share of Born Global, Born Regional, and Gradual Internationalizer is 16%, 27% and 57%, respectively. Therefore, Hypothesis 1 is supported.

In Figure 1, based on the pooled data, we plot time trends of foreign sales to total sales and global sales to foreign sales. It suggests that Canadian exporters increased sales to the foreign market relative to the domestic market since their average percentage of foreign sales to total sales increased from 43.51% in 1997 to 53.85% in 2004. It also suggests that Canadian exporters increased their sales to the global market relative to the regional market since their average percentage of global sales to foreign sales increased from 23.51% in 1997 to 29.49% in 2004.

We used a multinomial logit model with a log-Weibull distribution to investigate the characteristics of firms that choose these three discrete internationalization patterns and to test Hypothesis 2. In order to interpret the estimation results more intuitively, we make use of the Relative Risk Ratio (RRR) to interpret the quantitative effect of the explanatory variables (Zhang and Yu, 1998). RRR can be interpreted in the following way: for a unit change in the independent variable by one the relative risk ratio of the outcome relative to the reference group is expected to change by a factor of the respective parameter estimate (given the variables in the model are held constant).

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Insert Table 2 about here.

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Table 2 reports the results from the multinomial logit model. It appears that compared with firms that were established in 1997, firms that were established between 2001 and 2004 have a statistically significant ( $p < .10$ ) higher probability of choosing the Born Global relative to the Gradual Internationalization pattern. Compared with firms that were established in 1997, those that were established in most years between 1998 and 2003 (except 1999) have a statistically significant higher probability of choosing the Born Regional relative to the Gradual Internationalization pattern ( $p < .05$ ). In general, the later a firm was established,

the higher the probability to choose the Born Regional relative to the Gradual Internationalization pattern. Accordingly, we conclude that there is an increasing trend among new firms to choose the Born Global relative to the Gradual Internationalization pattern between 2001 and 2004; there is an increasing trend among new firms to choose the Born Regional relative to the Gradual Internationalization pattern between 1997 and 2004.

In Figure 2 we plot a firm's predicted probability of choosing different internationalization patterns in different years setting the control variables at their mean values. It is shown that a firm's predicted probability of choosing the Gradual Internationalization pattern decreased from 67% in 1997 to 54% in 2004. Most internationalizing SMEs followed a gradual pattern to internationalization, and there are more Born Regionals than Born Globals, consistently in every year between 1997 and 2004. While the trend among early internationalizers to choose the Born Regional pattern increased between 1997 and 2004, the trend to choose the Born Global pattern only started to increase after 2001. Therefore, Hypothesis 2 is partially supported.

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Insert Figure 2 about here.

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The regression analysis (Table 2) also shows some interesting findings with regards to the control variables. We find that the larger the firm the less likely it is that it will choose the Born Global or a Born Regional over the Gradual Internationalization pattern. These results support the argument of Cavusgil *et al.* (2008) that compared to larger firms, smaller firms are more adaptable and have quicker response times to new ideas and technologies. Consequently, smaller firms are more likely to export intensively at the founding of the company by



adopting either the Born Global or Born Regional pattern during their internationalization process.

Moreover, the results suggest that productive firms are less likely to choose either the Born Global or Born Regional than the Gradual Internationalization pattern. It's possible that Born Global and Born Regional firms are unable to produce more revenue per employee because they have to allocate a good proportion of financial and human resources on foreign market research and development (Brouthers *et al.*, 2009; Roper and Love, 2002). Therefore due to increased liabilities of foreignness their productivity might be taxed (Rugman and Verbeke, 2007). Table 2 shows that firms that are exporting a greater variety of products are more likely to choose either the Born Global or Born Regional than the Gradual Internationalization pattern. This suggests that product diversification is a critical factor when it comes to a firm's ability to adopt the accelerated internationalization pattern. Accordingly, in line with the resource-based perspective, product diversification acts as a competitive advantage allowing for early and significant forays into foreign markets.

## **DISCUSSION AND IMPLICATIONS**

This is one of the first longitudinal studies to investigate the prevalence and longitudinal development of the early internationalization phenomenon. Based on multiple large-scale administrative databases from Statistics Canada, we constructed a unique longitudinal dataset that includes a representative and authoritative sample of Canadian SMEs. We conducted this study with an empirical and a theoretical objective: Empirically we did not observe support for two basic assumptions permeating IE studies: Firstly, a considerable proportion of early internationalizers would be Born Global. And, secondly, the proportion of

Born Globals and Born Regionals is increasing over time due to macro trends. From a theoretical standpoint, we had the objective of applying SMI, and regionalization hypothesis onto the early internationalization phenomenon.

While prior studies have made valuable contributions, most empirical IE studies lack longitudinal and representative data (Keupp and Gassmann, 2009). By employing an authoritative database, we are able to show the relative importance of different internationalization patterns pursued by SMEs. In such, we are additionally able to compare between partially conflicting tenets of the INV framework, SMI and regionalization hypothesis.

Our results show that only a small proportion of internationalizing SMEs follows a Born Global pattern (Kuivalainen *et al.*, 2007; Gabrielsson *et al.*, 2004; Lopez *et al.*, 2009). Most early internationalizers may be considered as Gradual Internationalizers, followed by Born Regionals. Accordingly, some of the previous findings considering Born Globals may be interpreted in a different light, since most firms under investigation in those studies appear to be actually Born Regionals or Gradual Internationalizers rather than Born Globals. We propose that further research is needed with regards to the question how these different patterns are stimulated and how their outcomes are.

### **Implications for Internationalization Theories**

This study further contributes to current IB and IE research by underpinning some central assumptions of the regionalization hypothesis (Rugman and Verbeke, 2003). We show the applicability to early internationalizing SMEs and not only to the MNE context. According to this theoretical avenue regionalization can be the first best solution of a firm's internationalization process which results in SMEs pursuing a Born Regional pattern. A firm enters foreign markets to exploit its

non-location-bound FSAs, which is restrained by liabilities of foreignness. Since liabilities of foreignness occur less intra-regionally than inter-regionally, a regional expansion may maximize a firm's performance and would thus create an optimal level of internationalization.

SMI argues for the gradual expansion of firms into foreign markets (Johanson and Vahlne, 1977). This study underlines SMI reasoning by showing that Gradual Internationalizers exist to a large extent. However, since we also find prove for accelerated internationalization on a large scale, we herald a combination of the INV framework and SMI for future studies. Even though firms start internationalization from the outset in a significant proportion, a significant ratio of SMEs performs internationalization rather incrementally and not spontaneous on a large scale. Therefore, many firms seem to "feel their way" into international environments, incrementally increasing foreign market commitment and building on experiential knowledge. This finding enriches the debate about international new ventures. For instance, Oviatt and McDougall state that "there is evidence that the traditional view of risk averse, incremental firm internationalization may be theoretically and empirically weak" (1997: 86). We think otherwise for this argument and are able to empirically show that gradual internationalization as forwarded by SMI and partially by regionalization hypothesis is a strong and widespread case. However, our findings remain in accordance with Oviatt and McDougall's (1994) verdict about the prevalence of Global-start ups, which resemble to the here observed Born-Global firms. Successfully operating a Global-Start up requires diverse managerial and organizational skills (Oviatt and McDougall, 1994). Thus, a Born Global strategy still involves significant resource commitment and working in a more hostile and demanding international environment. Despite of the afore-mentioned macroeconomic changes that

facilitate a Born Global internationalization path, a Born Global strategy is still the most difficult to pursue. This is also suggested by the results of Brothers *et al.* (2009), showing that international diversification strategies are negatively related to SME firm performance. Thus, while Born-Global firms increasingly appear on the landscape over time, Gradual Internationalizers still prevail among internationalizing SMEs.

### **Implications for research on macro-environmental influences on SME internationalization**

While our results do not concur with the assumption of Oviatt and McDougall that gradual internationalization would be empirically and theoretically weak, we find some underpinning for their argument that “changing market conditions may be challenging its relevance” (Oviatt and McDougall, 1997: 86). According to our analyses, the proportion of Born Globals and Born Regionals is increasing over time while the proportion of Gradual Internationalizers diminishes. Thereby, we are able to support prior statements from IE research, assuming that Born Globals increasingly appear on the landscape (Madsen and Servais, 1997). By controlling for several firm specific resources, we can trace these increasing trends back to macroeconomic factors such as changes in trade regulations. Thus, we contribute to institutional reasoning and show, that environmental factors contribute to the propensity of SMEs to start widespread international activities at an early age.

Institutional and environmental factors have been largely underrepresented in prior IE studies (Gassmann and Keupp, 2007; Rialp *et al.*, 2005). Our results imply that future studies should address this void. In particular changes in bi-lateral governmental relations (e.g. free trade regulations), differences between home and host market institutions (e.g. property right protection), and interaction

effects between cultural and institutional distance (e.g. if institutional similarities are more potent distant-compressing factors in more distal cultures) might be unveiled by future studies. Additionally, researchers could emphasize on differentiated effects of these factors between low-and high-technology firms. While high-technology firms may depend largely on property rights protection in foreign environments, low-technology firms may be less prone to this aspect.

### **Implications for policy makers and practitioners**

This study has implications for policy makers and practitioners. Regarding Canadian firms which we study here, some of the distance-compressing factors seem to result from Canada's foreign trade policy. Our findings on the increasing tendency among early internationalizers of exporting more intensively to the non-U.S. market since 2001 may be driven by the tighter Canada-U.S. border security following the 9/11 terrorist attacks (Sui and Yu, 2012). The increased border security does not only hamper individual border crossing (Ferris, 2010), but also seems to impact internationalization patterns of Canadian SMEs. The restrained entrance into the U.S. market, which is the biggest trading partner for Canadian firms, causes Canadian SMEs to venture into more distant environments which increases potential risk of failure and liabilities of foreignness. Therefore, our study underpins that the recently discussed changes (Ibbitson and Chase, 2011) in the border-security between Canada and the U.S. could stimulate international expansion and cross border trade.

These findings could also have implications to current developments in other regions of the world. For instance in Europe there is currently a debate on what would happen if some countries stepped out of the Euro-Zone. Even though these countries (such as Greece) only account for a small proportion of the

intra-Euro-Zone trade, the erosion of the Euro-Zone could force firms to start internationalization in more distal environments than otherwise would have targeted. If this is not in line with the strategic approach of these firms, this could hamper their international performance, because more diverse environments have to be managed (Brouthers *et al.*, 2009).

For managers we show that in particular diversified products may act as an enabling factor for early high-scale internationalization. Diversified products provide FSAs that might be exploited on an international scale and thus fostering internationalization. Moreover, we show that a gradual internationalization pattern less taxes labor productivity than other patterns. Thus, firms seem to profit from step-wise forays into international markets. In such a way firms are able to generate specific market knowledge, allowing them to avoid shortfalls and to more efficiently exploit market opportunities.

### **LIMITATIONS AND FUTURE RESEARCH**

We draw on a large longitudinal database in order to overcome shortfalls of prior studies on the occurrence or development of SMEs. Yet, even though this data provides a strong base for our analyses, we face limitations with regards to the inclusion of individual based variables. Prior research on entrepreneurially internationalizing firms has shown the strong influence of individual based factors such as prior international experience, strategic orientation or networking capabilities (Baum *et al.*, 2011). Unfortunately our data does not cover these factors and thus, we are not able to draw conclusions about their influence on the probability to pursue a specific internationalization pattern and the development of an early internationalizer. A veritable attempt to address this point was recently made by Kuivalainen, Saarenketo and Puumalainen (2012), who observe a sample

of 78 Finnish SME over time, their characteristics and their development. Such research should be fostered in future studies by combining individual survey-based and secondary data.

Our data is limited on Canadian SMEs. However, since prior studies are nearly completely lacking longitudinal representative secondary data on SMEs internationalization, we think that we still offer a very valuable contribution to the international business and IE field. Indeed only very few studies on IE have a cross-national context and even less cross-national empirical data (Jones *et al.*, 2011). This remains a fruitful avenue for future studies. Yet, Canadian firms are an interesting subject to observe (e.g. Baum *et al.*, 2000; Etemad and Wright, 2003; McNaughton, 2003) and the main tenets of our findings may also apply to SMEs from other large developed economies.

Future research could put a stronger emphasis on the internationalization strategy-performance relation. According to SMI a gradual internationalization would foster the greatest gains. While we did not focus on performance implications, our results at least indicate that Gradual Internationalizers seem to have the highest productivity (revenue to number of employees) among the different early internationalizer types. However this needs to be interpreted with caution: The significantly higher productivity from Gradual Internationalizers might be a function of the older firm age and other factors that were not captured by the data. Thus, future research could observe how different internationalization patterns affect long term international and overall performance and how changes in the internationalization pattern impact this relation.

Moreover, we advocate the use of qualitative or combined approaches in future studies. In-depth approaches allow for a nuanced understanding of specific situations. While limited in terms of external validity, case studies may provide

important detail knowledge about internationalization strategies and their changes. We shaped out that multiple internationalization patterns prevail and that external factors (among internal resources) such as changing environmental conditions over time spur the existence of born-global and born-regional firms. Thus, fast internationalization is triggered by environmental changes. Our findings are based on authoritative quantitative data that has been lacking so far in previous studies, limiting their predictive power. We addressed this issue. However, future, more qualitative based studies could further flesh out the nuances of international strategy change and how external environment and internal resources interact on internationalization strategy choices.



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## TABLES AND FIGURES

**Table 1. Cluster means for each variable**

	Cluster 1	Cluster 2	Cluster 3
	<b>BG</b>	<b>BR</b>	<b>GI</b>
<b>Number of firms</b>	972	1607	3500
<b>Percentage of firms</b>	0.16	0.27	0.57
<b>Export start-up age</b>	1.25	1.25	4.17
<b>Foreign sales to total sales</b>	0.91	0.49	0.18
<b>Global sales to foreign sales</b>	0.30	0.17	0.26

Note: BG=Born Global; BR=Born Regional; GI= Gradual Internationalizer

**Table 2: Regression Results from the Multinomial Logit Model**

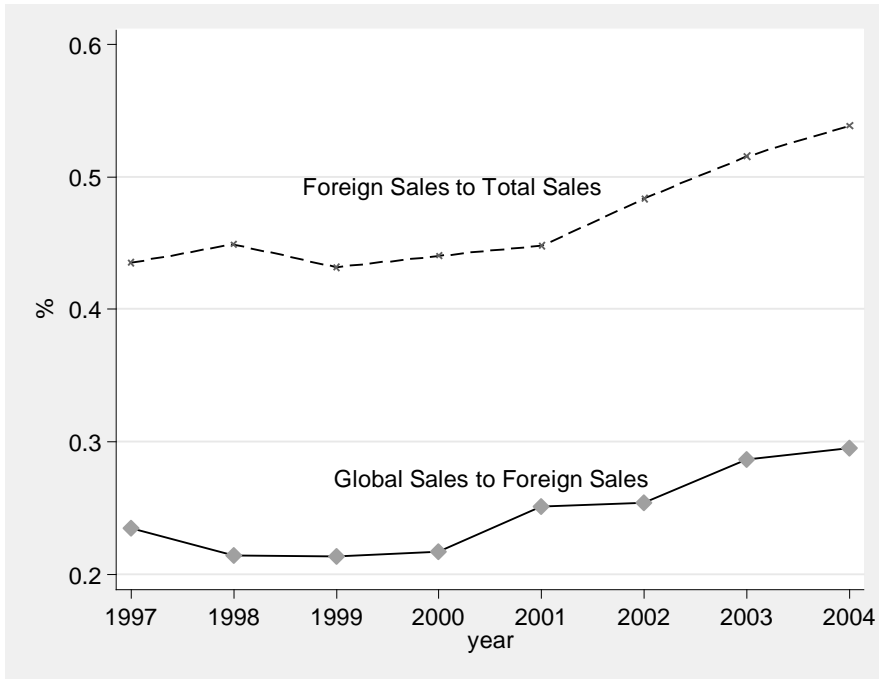
	<b>Born Global vs. Gradual Internationalization</b>		<b>Born Regional vs. Gradual Internationalization</b>	
	<b>RRR</b>	<b>p-value</b>	<b>RRR</b>	<b>p-value</b>
<b>Year start business (reference: 1997)</b>				
<b>1998</b>	<b>1.0712</b>	0.5250	<b>1.5265</b>	0.0000
<b>1999</b>	<b>0.9078</b>	0.3900	<b>1.1170</b>	0.2940
<b>2000</b>	<b>0.8613</b>	0.2280	<b>1.3271</b>	0.0120
<b>2001</b>	<b>1.2303</b>	0.0850	<b>1.4219</b>	0.0020
<b>2002</b>	<b>1.3155</b>	0.0440	<b>1.4948</b>	0.0020
<b>2003</b>	<b>1.4920</b>	0.0150	<b>1.5123</b>	0.0100
<b>2004</b>	<b>1.8287</b>	0.0090	<b>1.7542</b>	0.0140
<b>Control Variables</b>				
<b>Labour Productivity</b>	<b>0.8673</b>	0.0000	<b>0.6282</b>	0.0000
<b>Employees</b>	<b>0.8368</b>	0.0000	<b>0.6180</b>	0.0000
<b>Products</b>	<b>1.2047</b>	0.0000	<b>1.5888</b>	0.0000

Note: Number of observations=6,079;

Model fit: log likelihood = -5809.1884; pseudo R2 = 0.0837.

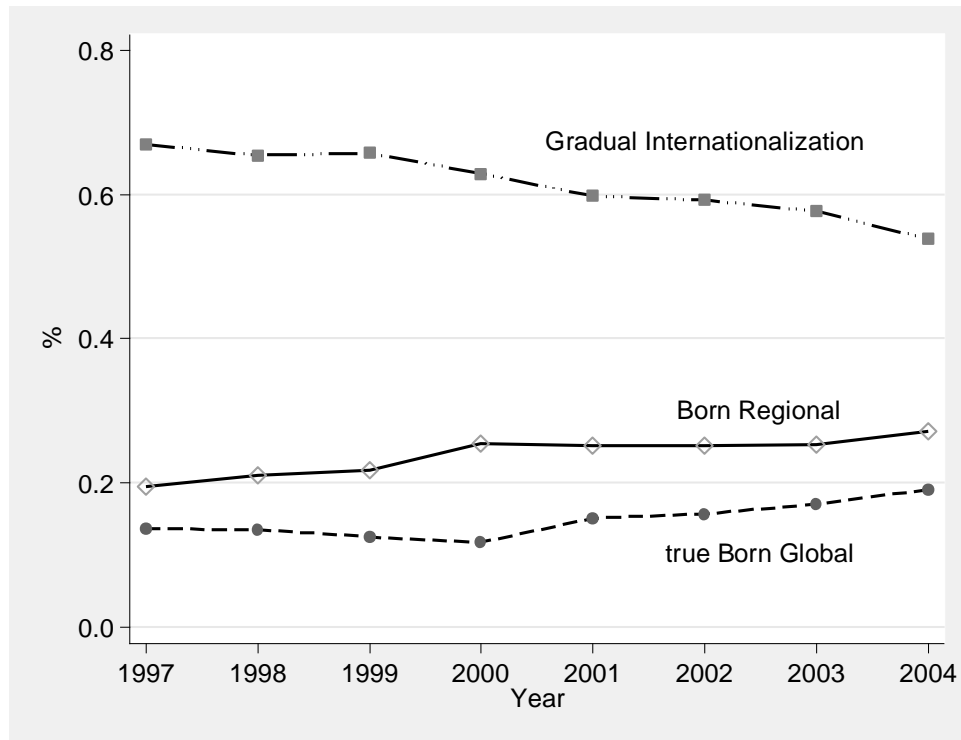
For sake of brevity the dummy coded variables "Industry" and "Province" are not displayed in this table. The authors will gladly report the results on these control variables upon request.

**Figure 1. Time trends of foreign sales to total sales and global sales to foreign sales**





**Figure 2. A firm's predicted probability of choosing different internationalization patterns**



## APPENDIX

### Appendix A: Variables of interest, definitions and descriptive statistics

Name	Definition	Mean	Std. Dev.	Min	Max
BRBY	The first year a firm appears in the BR database	1999.33	1.92	1997	2004
ERBY	The first year a firm appears in the ER database	2000.36	2.07	1997	2004
ExAge	Export start age, the age of s firm when it started to export	2.02	1.5	1	8
FSTS	Foreign sales to total sales	0.46	0.39	0	1
GSFS	Global sales to foreign sales	0.23	0.4	0	1
Employees	Number of employees a firm hired	12.29	30.14	1	450.42
Labor Productivity	Revenue/Employee, in thousands of CAD, deflated by annual industry price indexes, base year 2000	161.33	3429.46	1.35	2610
Products	Variety of products a firm exported	2.28	2.85	1	78

**Note:** N = 6,079