

EXAMINING THE CHARACTERISTICS OF CANADIAN SME EXPORTERS

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This paper examines the profile of Canadian exporters and born global firms among a representative sample of Canadian SMEs. Drawing on international new firm and related theory, a series of study propositions are advanced. Logistic regression is used to examine the profile of exporters and non-exporters, born global and domestic new firms: Born global SMEs are characterized as innovative, growth-orientated, and likely to operate in the manufacturing sector. SMEs owned by recent immigrants are also more likely born global. These observations lend empirical support for the theory of the internationalization of new firms, where a small minority of “innovative” firms operating across sectors are capable of amassing significant resources (financial assets, equity, profit, employees) at or near inception. Results challenge empirical work that reports a minimum size threshold of internationalization and the concept of gradual, staged expansion of Canadian businesses.

INTRODUCTION

Canada is an exporter nation. The Department of Foreign Affairs and International Trade (DFAIT, 2006) reports that exports account for over 40% of Canada's gross domestic product and that Canada is the most trade intensive of the G-7 industrialized countries. International trade is also one of the fastest-growing areas of the Canadian economy and small and medium-sized enterprises (SMEs)

comprise the majority of the firms that sell goods and services abroad.¹ Given links between export growth and Canadian economic welfare, it is important to understand the characteristics of Canadian SME exporters (Henriques and Sadorsky, 1996; Lefebvre and Lefebvre, 2000; Awokuse, 2003; Baldwin and Gu, 2003). This importance stems from at least four roots.

First, the majority of entrepreneurship, international and new exporter studies are based on other nation (primarily American) samples. It is not clear if these findings are relevant to the Canadian context. As such, researchers call for more research on exporting and in particular, Born Global enterprises (Andersson and Wictor, 2003; Zakra, 2005).

Second, considerable public policy is rooted in the traditional understanding that internationalization of businesses results from a staged or incremental process. However, Harveston and colleagues (2001:1) note that “the emergence of unprecedented numbers of ‘Born Global’ firms is a relatively new phenomenon.” The fact that these firms are international at or near inception challenges entrenched beliefs that internationalization occurs incrementally and that firms expand from local starting points (McDougall et al., 1994). Born Global may “leapfrog” these stages of internationalization (Oviatt and McDougall, 1994). To the extent that our understanding about Canadian new SME exporters is predicated on potentially dated assumptions, trade policies, credit scoring, training and related export stimulation programs may be compromised.

Third, only one Canadian study was cited in the literature that considered industry effects on internationalization of “emerging firms” (Reuber and Fischer, 1998). These authors point out that the majority of early studies sample exclusively technology-based firms. The tendency to employ technology-based samples may reflect researcher preference or the challenges of obtaining large samples of Born Global firms. However, given the scarcity of BG studies, it is premature to make such assertions. Further studies, across and within sectors are required.

Finally, previous Canadian export studies are based on samples drawn from government registries and programs (Kirpalani and Macintosh, 1980; Beamish and Munro, 1986; Calof, 1995; Katsikeas, Deng and Wortzel, 1997; DFAIT, 2006; Orser et al., 2004; Halabisky et al., 2005), commercial and industry directories (Beamish et al., 1986, 1993; Reuber and Fischer, 1997, 1998; Baldwin and Gu, 2003; Bagghi-Sen, 1998), and memberships (CFIB, 1997). Limitations of these sample sources are evidenced in estimates about gross Canadian export activity. For example, The Canadian Federation of Independent Business (CFIB, 1997) estimate that 24 percent of SMEs sell to foreign markets, an estimate that includes tourism-related sales². Thompson Lightstone (1998) report that 15 percent of SMEs were involved in exporting activity (does not include tourism)³. More recently, Industry Canada has reported that approximately 2 percent of small businesses (firms with 1 to 99 employees) and 12 percent of medium-sized firms (100 to 499 employees) export (Halabisky et al., 2005)⁴.

¹ The observation that Canadian SME account for the majority of exporters is not, however, new: Calof (1985:14) reports that in 1985, most exporters are small firms. “... only 6 percent of all exporters are large businesses (over \$50 million per year in sales). Over 25 percent of all exporters have sales under \$1 million, and 48 percent have total sales between \$1 million and \$10 million.”

² Canadian Federation of Independent Business (1997) Market Development Survey Highlights, Toronto: <http://www.cfib.ca/research/reports/mrktdev.asp>.

³ Thompson Lightstone estimates were based on data drawn largely from commercial databases. As such, the samples may over-represent larger mature enterprises that are relatively more likely to include exporters. Similarly, CFIB membership reflects larger, more established firms.

⁴ Industry Canada estimates Canadian small businesses exported a total value of \$70 billion; medium-size firms contributed \$53 billion.

Dhanaraj and Beamish (2003:242) cite Gemunden (1991) who reported that over 700 variables have been associated with export propensity and performance. Given the plethora of potential explanations, it is not surprising that there is little convergence in literature about the attributes of export-oriented SMEs. To address this challenge, Dhanaraj and Beamish (2003) call for parsimonious, theory-based research that examines the interrelationships among managerial/organizational, entrepreneurial and technological resources. This paper responds with the development of a theoretical model of exporting and discussion about the potential implications for Canadian exporters and non-exporters and Born Global (BG) ventures⁵. Export propensity, intensity and industry structures are also examined^{6,7}. To test the model, the study draws on the comprehensive database of the 2004 SME Financing Data Initiative (Statistics Canada, Survey on Financing of Small and Medium Enterprises, 2004)^{8,9}.

Given the inconsistencies in findings, further research is required to inform academics, policy makers and other stakeholders about the profile of Canadian exporters. The current study adds to the literature by developing and empirically examining a parsimonious model of export. The work then compares founder, organization and industry environment factors among exporters and non-exporters, born global and new domestic firms, employing a large and representative sample of Canadian SMEs.

To accomplish this objective, the paper is organized as follows. First, a summary of pertinent literature and the research propositions related to the literature are presented. This is followed by a description of the research methodology and preliminary empirical findings. The paper closes with a discussion about next steps in the research and the implications for future research.

PREVIOUS RESEARCH: INTERNATIONALIZATION OF SMES

Many factors motivate the decision to export, including *internal* stimuli (e.g., excess capacity, intention to extend seasonal sales, unique organizational resources, products, services or technological advantage) and *external* stimuli such as responding to unsolicited orders, need to offset saturated or declining markets, opportunity to diversify risk across markets, and to capitalize on export stimulation measures (Miesenbock, 1988; Baggchi-Sen, 1999; Pope, 2002; SBA, 2004). The increasing homogenization of markets, international nature of human capital, speed, efficiency and decreasing cost of communication and transportation act as catalysts to enable even the smallest of firms to engage in exporting. As such, established and larger firms no longer have the same level of competitive advantage than they once enjoyed (Oviatt and McDougall, 2005).

However, the exporting of goods and services also reflects *internal* challenges (e.g., out-of-pocket costs of market entry and hence, drain on cash flow, lack of knowledge about customs, duties, border information) and *external* non-tariff barriers such as differences in culture, product and technical

⁵ “Born global” is defined as a firm that is less than three years of age and that reports export sales account for at least 25 percent of revenue. This definition is consistent with that presented by Rasmussen (1992), Knight and Cavusgil (1996) and Andersson and Victor (2003).

⁶ “Export propensity” is defined as the proportion of businesses whose owners reported that the business sold or exported its products or services outside Canada.

⁷ “Export intensity” is defined as the ratio of revenue from exports to total sales revenue.

⁸ There are four categories of international trade: goods or services that cross the Canadian border, including transportation and travel; customers who cross the border into Canada such as tourists; firms that establish a commercial presence abroad; and revenue generated when Canadian personnel cross the border to do business abroad. For the purpose of this study, “SME exporters” are defined as businesses with fewer than 500 employees and less than \$50 million in annual revenues that sold any of its goods or services outside of Canada during 2004. SME excludes non-profit and government organizations, schools, hospitals, subsidiaries, co-operatives, and financing and leasing companies.

⁹ See <http://strategis.ic.gc.ca/epic/internet/insbrp-rppe.nsf/en/rd00528e.html>

standards, and language (Beamish et al. 1986; Ernst & Young, 1996; DFAIT, 1998; Orser et al., 2004; Miesenbock, 1988; SBA, 2004).

To explain the internationalization of SMEs and potential difference among exporters and non-exporters and BGs and domestic new ventures, a number of theories have been advanced, including: the product cycle theory,¹⁰ oligopolistic reaction theory,¹¹ monopolistic advantage theory,¹² internationalization new venture theory; staged theory, and resource exchange theory. Given reasonable criticisms of the first three theories (as summarized in the footnotes) only the latter three theories are reviewed in the following section. The implications of each of these theories on the export model also follow.

Internationalization theory of new ventures

McDougall and colleagues (1994:483) argue that international new ventures [and by inference, BG firms] are characterized by unique entrepreneurial capacities. Oviatt and McDougall (2005: 29) describe the four "... necessary and sufficient elements for the existence of international new ventures. (1) organizational formation through internalization of some transactions; (2) strong reliance on governance structures to access resources; (3) establishment of foreign location advantages, and (4) control over unique resources." As such founders of BG are expected to bring to the enterprise extensive international networks, knowledge and outlooks that allow the management team to see and exploit opportunities that are unseen by others. Such firms "...avoid path-dependence on domestic competencies that the firm may not be able to shift out of, due to inertial forces." (McDougall et al., 1994: 483).

Within this same theoretical perspective, Autio et al., (2000: 910) suggest that new firm internationalization theory must focus not just on the *incremental* accumulation of knowledge [as noted in the staged or process theory], but the intrinsic value of the *rate* of knowledge intensity and the imitability of core technology on *subsequent* firm growth. Hence, the internationalization new firm theory framework asserts "entrepreneurial knowledge and vision are *the keys* to aggressive international opportunity seeking". This theory serves to explain findings that younger firms are more active in exporting, have increased export volume, and report more favourable attitudes about exporting than older firms (Ursic and Czinkota, 1984). The theory also explains an earlier Canadian study that found "world marketers" (defined as a firm that "adapts products, segments markets, and markets to the world) were the youngest firms, had the least years of export experience, yet demonstrated high export expectations (Cooper and Kleinschmidt, 1985).

From this theoretical domain therefore, it is expected that early exporters (BGs) differ significantly in export intensity compared to the population of domestic-based and other SMEs exporters.

¹⁰ Product cycle theory suggests "...firms internationalize in an attempt to protect their existing markets of mature products." However, because INVs [international new ventures] do not have pre-existing markets, this theory is unable to explain the existence of firms that are global at inception (Bloodgood et al., 1996: 63).

¹¹ Oligopolistic reaction theory posits that firms that become multinationals will try to reduce their risk by imitating competing firms' entrance into foreign markets. As such, the attempt to match the actions of other members of an oligopoly (McDougall et al., 1994). The theory does not, however explain the formation of BGs that are the first in an industry to operate internationally or firms that avoid direct competition with existing firms by competing internationally (Jolly, Alahunhta and Jeannet, 1992)." (cited by Bloodgood et al., 1996: 63).

¹² "Monopolistic advantage theory holds that multinational enterprises (MNEs) exist because a firm has unique sources of superiority over foreign firms in their own markets (Hymer 1976)." (McDougall, Shane and Oviatt, 1994:473-474). McDougall et al., (1994) argue that the theory does not account for international new ventures (where entrepreneurs perceive international advantage at inception, while other have not) with same monopolistic advantage compared to firms that choose not to export.

H1a: Exporters are significantly different than (non-exporter) domestic firms.

H1b: Born Global firms are significantly different than (non-exporter) domestic new firms.

McDougall (1989:390-391) also identifies structural characteristics of industries in which BG compete: "Consequently, industry structure appears to be a potentially important discriminating variable." Rather than industry and export being independent contextual dimensions, structural characteristics of BG industries differ from their domestic counterparts. These industries are characterized by market interdependency with the consequence that: 'a strategic action in one country will concurrently impact other locations (Roth and Morrison, 1990).

Industry studies suggest a high incidence of exporting among technology firms (Cavusgil, 1984; Baldwin, 1994). Chandler (1986, as cited by Sullivan, 1994) notes that seven US industries account for the majority of American multinational corporations since the 1880s (food, chemical and allied products, pharmaceuticals, petroleum and refining, industrial machines, electronics and transportation). Industry differences may be reflected in assumptions about "mandatory" exporting in which certain industries are "global", and where SMEs must "fit" the external export-orientated market context (Cvar, 1984; Hamel and Prahalad, 1985; Bartlett, 1985; Roth and Morrison, 1990). As a consequence, SMEs operating in saturated markets have to look further afield for a less hostile environment. Such is the case of Canadian SMEs in the IT sector that need to expand beyond the US and into Asia and the Americas (Francis and Calwell, 1995). In other instances, SME follow "boom markets". For example, the Asian market for consumer electronics is experiencing rapid growth. As such, Canadian SMEs in this field are directing their efforts towards Asia, bypassing North America all together.

The BG export model should therefore control global industries, within *industry growth* and industry export growth rates. "Global industries" are defined as those sectors that reflect a significantly higher export propensity (top 10 percent) compared to all sectors. It is therefore hypothesized that BGs operate in sectors with higher than average industry export rates compared to domestic and other SME exporters.

H2a: Industry sector and exporting are associated.

H2b: Compared to (non-export) domestic new ventures, Born Global firms are more likely to operate in "global industries".

Staged (Process or Upsalla) Theory

The process of firm growth has been described as a staged process (Reynolds, Storey, and Westhead, 1994). In the international context, Kazanjian and Drazin (1990: 145) postulate a "stage of growth" model of business development in which penetrating new geographic territories does not occur until after conception, commercialization, and growth and only once the firm has achieved stability. This generic sequence reflects: inception and development during which resources are acquired and technology developed; commercialization, which involves production related to start-up; growth, during which sales and market share development occur and which influence organizational arrangements; and, stability, which is characterized by profitability, internal control, and establishment of a base for future growth. Hence, internationalization reflects a gradual acquisition, integration and use of knowledge about foreign markets with increasing commitments to foreign markets (Johanson and Vahlne, 1990). Stage theory also suggests that the smallest firms lack the efficiencies, economies of scale of larger SMEs and the management acumen required to survive in the international marketplace (Bates, 1989; Cromie, 1991; Kallenberg and Leicht, 1991). Size-related advantages (where size is a function of time) enhance the ability of firms to cope with the operational demands and potential problems (Katsikeas et al., 1997). Hence, as firms grow they accumulate resources, build economies of scale and excess capacity,

or a level of “slack” that enables management to direct greater efforts to export when compared to very small firms (Bonaccorsi, 1992).

The concept of a threshold size, a point at which the firm has acquired the financial and managerial resources required to engage in export, has also been explained in the context of this theory. Empirical work supports these assertions. Among a sample of Israeli firms, Hirsch and Bijaoui (1985) conclude that a minimum size is required for export; beyond that firm size is not a major factor. Mittelstaedt et al., (2003:77) also write that regardless of (U.S.) industry, productivity, labour and capital intensity or product characteristics, “... that the minimum firm size needed to engage in exports is 20 employees”. Among Canadian SMEs, Julien, et al. (1993) report a minimum size threshold of approximately 40 employees. It is expected therefore that Canadian SMEs of more than 20 employees are more likely to export.

Critics' of the staged or threshold theories of SME growth contend the rationale does not account for the increased incidence of BGs, firms that are initiated by entrepreneurs with considerable international experience and/or are able to accumulate organizational resource prior to or following inception (McDougall et al., 1994). Empirical support for this theory is also mixed, perhaps a reflection of both the advantages and disadvantages of time. For example, while management teams may demonstrate greater flexibility and attention to customer needs, older and larger operators have greater financial and operational resources (McDougall, Shane & Oviatt, 1994; Reuber and Fischer, 1997b; UNCTAD, 1994).

In the Canadian setting, Lefebvre and Lefebvre's (2000) large scale study of Canadian SME manufacturers provides empirical support for the theory; conversely exporters became increasingly active in foreign markets over the three year study. Conversely, Calof (1993: 67) reports a correlation between firm size and degree of internationalization. Contrary to the stage model paradigm, firm size was not a barrier: “...large firms appeared to have lower levels of international sales intensity than did small and medium-sized firms”. Karagozoglu and Lindell (1998) also report that, for technology-oriented small firms, the international market was more attractive than the domestic. Moreover, Kirpalani and MacIntosh (1980:83) found that age is associated with export performance, but that the association was negative.

To examine empirically the internationalization process described by the staged theory of firm and previously described American and Canadian (employment) size export thresholds, the following study propositions are advanced.

H3a: Older firms are more likely to export compared to younger firms.

H3b. Firms of 20 employees or more are more likely to export compared to smaller firms.

H3c: Firms of 40 employees or more and more likely to export compared to smaller firms.

Resource exchange theory

Resource exchange theory suggests that: “...organizations enter into transactional relationships with environmental factors because they cannot generate all necessary resources internally (Pfeffer and Salancik, 1978).” (cited by Westhead et al.,1994). Zacharakis (1997) suggests the internationalization process is predicated on “transaction efficiency”. Firms mitigate early transaction costs by partnering in foreign markets to offset market and relationship risk.

As such, resources are retained at both the firm and founder level. Resource exchange theory also considers behaviour-based explanations, behaviour that is reflected through founder(s) intention

(Simmonds and Smith, 1968 cited by Cavusgil, 1984; Miner, Smith and Bracker, 1992; Krueger and Carsrud, 1993; Orser et al., 2003) and in the accumulation of human capital through international experience, knowledge, networks and foreign languages (Oviatt and McDougall, 1995; Eriksson et al., 1997; Reuber and Fischer, 1997). Founder resources are proxied as level of innovation, years of management experience, age, first language, Canadian residency, visible minority status, ownership in multiple businesses and growth intention. Each are now briefly described with reference to related Canadian and international studies.

Innovation (R&D and technology-intensive products): Canadian studies suggest that technology and other knowledge-based firms rely heavily on foreign markets, seek global markets, and are export-dependent (Beamish and Munro, 1986b; Seringhaus, 1993). The association between innovation, export intensity and propensity are not, however, conclusive. For example, Beamish and Munro (1986b) report “high-technology” Canadian products were positively associated with export intensity. In a subsequent study comparing Canadian and UK manufacturers, Beamish, Craig and McLellan (1993) report higher technology products were not associated with export intensity. An earlier study of Canadian SME manufacturers by Kirpalani and MacIntosh (1980: 86) also concludes that simple products that were well established in broad-based mature markets were more successful than products of “higher technological type” (simple versus complex systems, standard versus tailor-made). Similar inconclusive findings have been reported among international studies (Willmore, 1992; Kumar and Siddharthan, 1994; Wakelin, 1998). One potential explanation has been an observed lag effect between R&D expenditure and export, as reported by Hirsch and Bijaoui (1985) in a study of Israeli SME exporters. Given inconsistent findings, this study therefore seeks to clarify further the association between innovation and export. It is expected, however, that innovation is associated with export propensity and intensity.

H4c: Firms with above average rates of innovation are more likely to export.

Management experience: In a review of related studies, Reuber and Fischer (1997: 807) note characteristics found “(though not invariably) to predict propensity for, or success in, exporting include: the extent to which the manager had engaged in foreign travel; the number of languages spoken by the manager; and whether the top decision maker was born abroad, lived abroad or worked abroad. For example, Canadian management teams with international knowledge and experience are more likely to engage foreign partners and have fewer delays in foreign sales after start-up (Reuber and Fischer, 1997). As such, it is expected that BG founders will have brought to their firms significant management experience compared to non-exporters and other SMEs.

Age: Similarly, owner age is another proxy for human capital, where age is positively correlated with work experience, fostering entrepreneurial skills and attributes (Crosa, Aldrich and Keister, 2002). It is expected therefore that older founders will bring to the firm additional experience and resources requisite to export.

Ownership in multiple businesses: Building on the above arguments, it is also reasonable that founder(s) who invest in other businesses (other than publicly-traded firms), have more business experience compared to founders who have not.

Gender: While little research has been conducted with respect to women-owned SME exporters (McRea, 1998), Canadian studies suggests that women-owned firms are less likely to export compared to their male counterparts. Carrington (2006) found that approximately 7 percent of women majority-owned firms exported their products or services outside of Canada, compared with 13 percent of male-owned firms. Thomson Lightstone (1996) also report that a disproportionate fraction of exporters, 60 percent, are owned exclusively by men with approximately 10 percent owner exclusively by women and 30 percent jointly-owned. While gender-related barriers to export are not well documented, however, Orser

et al., (2004) described factors such as not being taken seriously and lack of respect by male business owners. It is expected therefore that majority-owned male businesses are more likely to export compared to majority-owned female firms.

Canadian residency, visible minority status, and language: While many new Canadians entrepreneurs may face similar challenges that have been previously identified with immigrant entrepreneurs (e.g., limited domestic networks, lack of name recognition, cultural unfamiliarity and language barriers: see Amatucci and Young, 2002), many founders also bring foreign language competencies, international networks and international work experiences to their firms, assets associated with export propensity (Reuber and Fischer, 1997). These are important export assets given “previous familiarity with an export market” was cited as a key influence among Canadian (women) exporters (Orser et al., 1999). Carrington (2005) also reports that 59 percent of visible minority entrepreneurs speak a non-official language as their mother tongue and that compared to “other entrepreneurs, minority entrepreneurs are more likely to export products or services outside of Canada” (13% exported compared to 11% for other entrepreneurs). The association between language, managerial competencies and Canadian export is also evidenced in work by Seringhaus (1993). Given period of residency, visible minority status and foreign first language reflect international experience, assets that are linked to exporting, it may be that these founder attributes are also associated with early exporting.

Growth intention: Owners’ growth intentions have been linked to subsequent firm growth (Orser and Hogarth-Scott, 2003). In the context of BG firms, Rasmussen et al. (2001:81) hypothesize a similar link between intention and export: “... the whole process of founding a new organization can thus be seen as a development from propensity to intention and then to action.” It is reasonable to expect those individuals that seek the growth of the firm are more likely to consider export as a means to growth.

Building on the above covariates, it is expected that certain owner attributes are associated with the internationalization of SMEs.

H5a: Age of owner and exporting propensity are positively associated.

H5b: Owners whose first language is not an official language (English or French) are more likely to export compared to owners whose first language is an official language (English or French).

H5c: Firms of majority male ownership and exporting are positively associated.

H5d: New Canadians (immigrants) and exporting are positively associated.

H5e: Intention to grow the firm and exporting are positively associated.

H5f: Ownership in multiple businesses and exporting are positively associated.

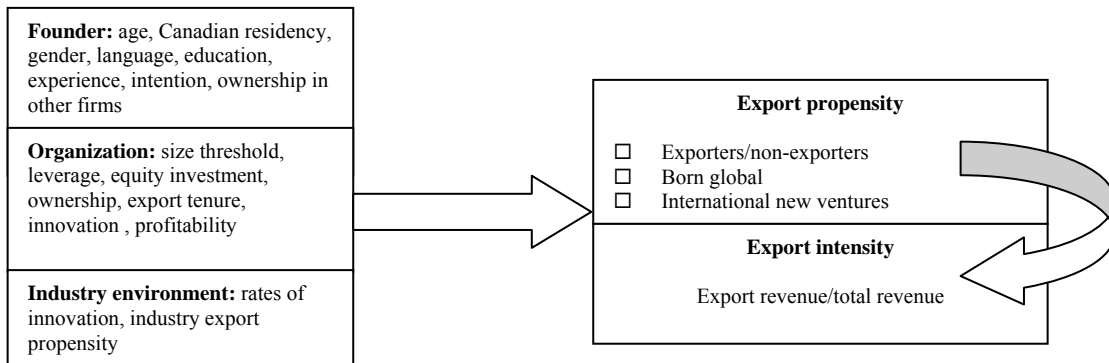
H5g: Level of innovation and exporting are positively associated.

In summary, it is hypothesized that export propensity reflect the interrelationship among managerial/organizational, entrepreneurial and technological resources (Dhanaraj and Beamish, 2003). The theory also suggests that in the context of Born Global and international new ventures, market structure is an inherent dimension of the export process and that the association among these firms and owner attributes differ from domestic and other SME exporters. Figure 1 illustrates the proposed export model used to examine these associations. The export model is consistent with that advanced by Madsen and Serais (1997:581) and Rasmussen et al., (2001:81), where Born Global firms reflect influences or “triggers” associated with the founder and founding process, organizational and environment. The proposed model suggests that early export propensity is also associated with export intensity.¹³ The next

¹³ It should be noted that the above model does not include “pre-organization” or organization formation: this aspect of the internationalization process is left to subsequent research.

section provides a brief description of the research methodology followed by a presentation of preliminary research findings.

Figure 1: Determinants of export propensity and intensity among Canadian SMEs



RESEARCH METHODOLOGY

This research was conducted in partnership with Industry Canada and in association with Finance Canada and Statistics Canada. This empirical work drew extensively on a survey conducted in 2004, regarding the financing and export experiences of a large stratified sample of Canadian small firms (SME Financing Data Initiative, Statistics Canada, *Survey on Financing of Small and Medium Enterprises*, 2004). Responses were received from 8112 business owners. The survey was stratified so as to ensure a minimum number (among other criteria) of responses from particular groups of respondents.

Several key related questions posed to respondents were: “During what year did the business first start selling goods and services?”; “Did the business sell or export any of its goods and services outside Canada during the past 12 months?”; “What percentage of your revenues came from outside of Canada?”; and “What percentage of your total investment expenditure was devoted to research and development?”.

EMPIRICAL FINDINGS

Export propensity: In 2004, 8 percent of Canadian SMEs exported goods or services. Among SME exporters, on average, one-third of revenue (33 percent) was accounted by exports. Approximately about half (52.3 percent) of exporters report export revenue accounts for less than 25 percent of total sales; 15 percent report export revenue accounts for 25 to 49 percent of revenue, while a third (32.8 percent) report export revenue in excess of 50 percent of sales. See Table 1: Profile of Owner and Firm Attributes among Exporter, Non-exporter, New Domestic and Global Firms.

Born Global: Estimates about the propensity of “new exporters, born global, instant exporters, international ventures” (Andersson and Wictor, 2003) vary according to the definition employed. Statistics Canada defines Born Global₍₁₎ as “firms that had been in business for two years or less and report some export revenue. Approximately 1.2 percent of all SMEs are Born Global₍₁₎. Among a sub-sample of new firms that are two years or less — 8 percent engage in export. Employing a more conservative estimate of Born Global — defined as firms in business for three or less year and at least 25 percent of total revenue is accounted by export sales, 0.7 percent are Born Global₍₂₎. In 2004, this estimate represents approximately 9,000 Canadian businesses. Among Born Global₍₂₎ firms, export

intensity is high, accounting for 65 percent of total sales. See Table 2: Export propensity, intensity and investment in R&D by firm sector.

Owner profile: Significant differences in owner profiles between exporter and non-exporter were observed. While, on average, one-third of owners (34 percent) expressed intention to expand the size and scope of their business in 2004, growth-oriented business owners were twice as likely to export compared to non growth-orientated owners.

Firm profile: Based on NAIC (North American Industry Codes), manufacturers outpace all other sectors in likelihood of exporting. In 2004, one-third of manufacturers sold goods and services outside Canada. Export propensity of wholesale and retail (13 percent), professional service (12 percent) and transportation and warehousing firms (10 percent) follow. ANOVA analysis reported that export propensity and sector were statistically associated among all SME exporters and Born Global₍₂₎ firms ($p=0.000$). The association between export intensity and NAIC code sectors was not significant (among all SMEs, $p=0.359$; among Born Global₍₂₎ $p=0.772$, respectively). While export propensity is highest among manufacturing businesses, export intensity was highest within service sector firms.

Significant differences in level of innovation, (defined as investment in R&D) were noted across sectors. Among all SMEs, approximately one-third invested in R&D. Manufacturers and professional service firms led the way. When innovation was defined as R&D expenditures greater than 25 percent of total investments, manufacturing (5 percent of firms) and professional service operations (9 percent) and other services (5 percent) were again the market leaders.

Finally, total exporter revenue and Born Global₍₂₎ firm revenue were significantly higher than their domestic counterparts: \$1.2 million for Canadian SME exporters and \$505,761 for non-export firms. In 2004, average total revenue among Born Globals₍₂₎ was \$609,330 compared to \$406,066 for domestic new firms. Exporters and Born Global₍₂₎ firms are report significantly higher total assets, retained earnings, total equity and profitability. At the same time, SME exporters and Born Globals₍₂₎ reported approximately twice the level of liabilities than other SMEs. Hence, both exporters and Born Global₍₂₎ are significantly more leveraged compared to their domestic counterparts.

Table 1: Profile of Owner and Firm Attributes among Exporter, Non-exporter, New Domestic and Global Firms*

	All SMES*	Exporters*	Non Exporters*	p-value/ chi-square	All New SMEs**	Non ** Born global ₍₂₎	Born Global _{(2)**}	p-value/ chi-square
Number (n)								
Owner Profile								
Growth intention (0, 1)	40.0%	66.2%	37.7%	0.00	0.56	0.55	0.70	0.00
Owned by new Canadians	1.4%	3.7%	1.2%	0.01	0.05	0.05	0.07	0.00
English language owner	67.2%	72.2%	66.7%	0.00	0.65	0.65	0.63	0.28
French language owner	19.8%	17.2%	20.1%	0.00	0.18	0.18	0.15	0.02
Other language owner	13.0%	10.6%	13.2%	0.00	0.18	0.18	0.22	0.19
Informal Investor (0,1)	9.9%	13.0%	9.7%	0.00	0.09	0.10	0.07	0.16
Experience of primary owner				0.00				0.00
< 5 years	12.8	11.0	13.0		41.89	42.83	18.93	
5-10 years	18.6	14.0	19.0		18.72	18.48	24.55	
> 10 years	68.6	75.0	68.0		39.39	38.69	56.52	
Age of primary owner				0.054				0.408
Less than 30 years	2.96	1.53	3.08		10.15	10.51	1.32	
30-39 years	15.6	13.5	15.8		25.24	25.35	22.41	
40-49 years	35.1	35.8	35.0		37.36	37.44	35.21	
50-64 years	37.0	41.1	36.6		23.93	23.48	34.87	
65 and over	9.4	8.2	9.5		3.33	3.21	6.19	
Gender of ownership team				0.00				0.077
Majority Male Ownership	62.95	67.31	62.58		62.39	62.27	65.22	
50-50 Ownership	19.97	19.15	20.04		16.05	16.41	7.19	
Majority Women	17.07	13.54	17.38		21.56	21.32	27.59	

Owned								
Firm Profile								
R&D Expenditure >20%	4.2%	10.6%	3.7%	0.00	0.07	0.06	0.31	0.00
Total Revenues	\$633,200.94	\$1,240,537.07	\$558,247.20	0.00	\$ 422,967.77	\$406,066.16	\$609,330.80	0.12
Interest & bank charges	\$21,824.41	\$17,527.22	\$22,354.74	0.66	\$11,145.96	\$11,868.96	\$3,173.93	0.07
Net Profit before tax	\$57,189.14	\$82,404.71	\$54,077.19	0.00	\$ 58,527.93	\$53,318.30	\$115,971.08	0.14
Total assets	\$537,741.97	\$756,057.44	\$510,798.80	0.03	\$394,473.03	\$413,990.98	\$179,261.35	0.43
Total liabilities	\$285,583.97	\$413,382.09	\$269,811.90	0.06	\$172,887.37	\$181,074.61	\$82,611.97	0.24
Leverage	0.71	1.02	0.67	0.91	0.84	0.83	0.97	0.31

Source = SME Financing Data Initiative, Statistics Canada, Survey on Financing of Small and Medium Enterprises, 2004

Table 2: Export propensity, intensity and investment in R&D by Firm Sector*

Panel A: Export propensity & Intensity	All SMES	All Exporters		Born global ¹	
	% of sample	Propensity (p=0.000)	Intensity (p=0.359)	Propensity (p=0.000)	Intensity (p=0.772)
Manufacturing	4.9	31.8%	30.9	18.9%	69.2
Wholesale & Retail	14.7	12.6%	34.0	5.7%	81.4
Professional Services	17.9	12.1%	39.2	6.6%	52.7
Transportation & Warehousing	5.5	10.1%	43.5	5.7%	59.8
Primary	8.6	7.0%	38.3	2.8%	71.6
Other Services	23.3	4.0%	25.5	2.6%	66.9
Finance, Insurance, Real Estate ...	6.3	2.2%	2.5	0.1%	70.0
Construction	13.3	1.3%	19.3	0.0%	0.0
Accommodation & Food Services	5.5	0.0%	24.8	0.0%	0.0
Total	100.0	8.0%	33.9	3.9%	65.1
Panel B: Expenditures devoted to R&D	Some R&D	R&D Expenditure			
	(p=0.000)	>25%	(p=0.000)		
Manufacturing	41.3%	4.8%			
Professional Services	37.3%	9.2%			
Finance, Insurance, Real Estate, ...	30.0%	1.0%			
Wholesale & Retail	28.4%	3.1%			
Other Services	28.3%	4.9%			
Construction	24.2%	2.0%			
Transportation & Warehousing	23.2%	2.8%			
Primary	19.9%	2.1%			
Accommodation & Food Services	19.8%	1.3%			
Total	28.7%	4.2%			

¹Born global is defined as firms of less than 3 years with export revenue \geq 25% total revenue propensity. Propensity is defined as the percent of new firms that export where born global
ANOVA estimates are based on unweighted data

Source = SME Financing Data Initiative, Statistics Canada, Survey on Financing of Small and Medium Enterprises, 2004.

Multivariate analysis of owner, firm and sector variables

Logistic regression was then employed to examine the associations of key study variables (propositions) between exporters and non-export firms and between Born Global₍₂₎ and domestic new firms. Table 3 presents summary data about the incidence of exporting according to various definitions. Owner profile data entered into the models included age, gender composition of the management team (majority male ownership; 50-50 ownership; majority female ownership), informal investment (0, 1), growth intention (0, 1), first language of majority owner (English, French and other), Canadian residency status (person resided in Canada for less than 5 years), and management experience (< 5 years; 5-10 years; > 10 years). Firm profile data included size (FTE equivalents), and a proxy for innovation (R&D expenditures >25%). Sector data was defined by NAIC codes. See Table 3: Logistic Regression of Exporters and Non-export firms, Born Global and Domestic New Firms.

Table 3: Panel A presents the logistic regression model estimates ($p=0.000$) for all SMEs where the dependent variable was whether (=1) or not (=0) a given firm had reported exports. Panel B presents the findings for the logistic regression model ($p=0.085$) restricted to new firms where the dependent variable was whether (=1) or not (=0) a given new firm was also exporting according to the definition of Born Global₍₂₎. Significant differences between the above univariate analysis and following description of the multivariate logistic analysis were noted.

The logistic analysis examining firm and owner characteristics among exporters and non-exporters was statistically significant (Cox & Snell $R^2 = 0.134$; Nagelkerke $R^2 = 0.233$; Hosmer and Lemeshow Test = 0.29; overall percentage explained = 85.6 percentage). Manufacturers, professional service firms, larger SMEs (based on FTE equivalents) and innovative firms were most likely to export. For example, manufacturers were approximately three times as likely to export; professional service firms were 40 percent more likely to export. Innovative firms (investments of at least 25 percent in R&D) were twice as likely to export. Speaking a first language *other* than English or French, being a new Canadian (immigrant), growth-orientated and an informal investor also significantly increased the likelihood of export. For example, everything else equal, owners that expressed the intention to grow their firm and new Canadians (immigrants) were approximately twice as likely to export. Informal investors were 28 percent more likely to operate an export firm. Conversely, operating in the financial, insurance, real estate, accommodation and food service sectors, owners with less than five years of management experience, French as a first language, and majority women-owned firms were significantly less likely to export. For example, first language French owner were 47 percent less likely to export compared to first language English owners; owners with less than 5 years of experience were 31 percent less likely to operate an export firm compared to owners with more than 10 years experience.

Table 3 Panel B summarizes the likelihood of classification as a new domestic firm or Born Global₍₂₎ firms (Cox & Snell $R^2 = 0.0967$; Nagelkerke $R^2 = 0.228$; Hosmer and Lemeshow Test = 0.550; overall percentage explained = 92.14). Not all owner and firm characteristics associated with exporters were mirrored in Born Global₍₂₎ firms. All things being equal, Born Global₍₂₎ firms were more likely to operate in the manufacturing sector, be larger in size (FTE equivalent) and innovate. For example, manufacturers and innovative firms were approximately (respectively) three times more likely to be Born Global₍₂₎. Owners of firms that invested more than 25 percent in R&D were three times more likely to be categorized as Born Global₍₂₎. Owners' growth intentions and Canadian residency status were also positively associated with Born Global₍₂₎. For example, owners who sought to expand the scope and size of their business were 47 percent more likely to be Born Global₍₂₎; New Canadians (immigrants) were approximately twice as likely to be Born Global₍₂₎ compared to domestic new firm owners. Conversely, new firms operating in financial services, insurance and real estate sectors and owners with less than five years of management experience were significantly more likely to be domestically based. Firms in all other sectors were no more or less likely to export. Owner age, informal investor status, owners' first

language, gender composition of the management team were also not associated with likelihood of Born Global⁽²⁾.

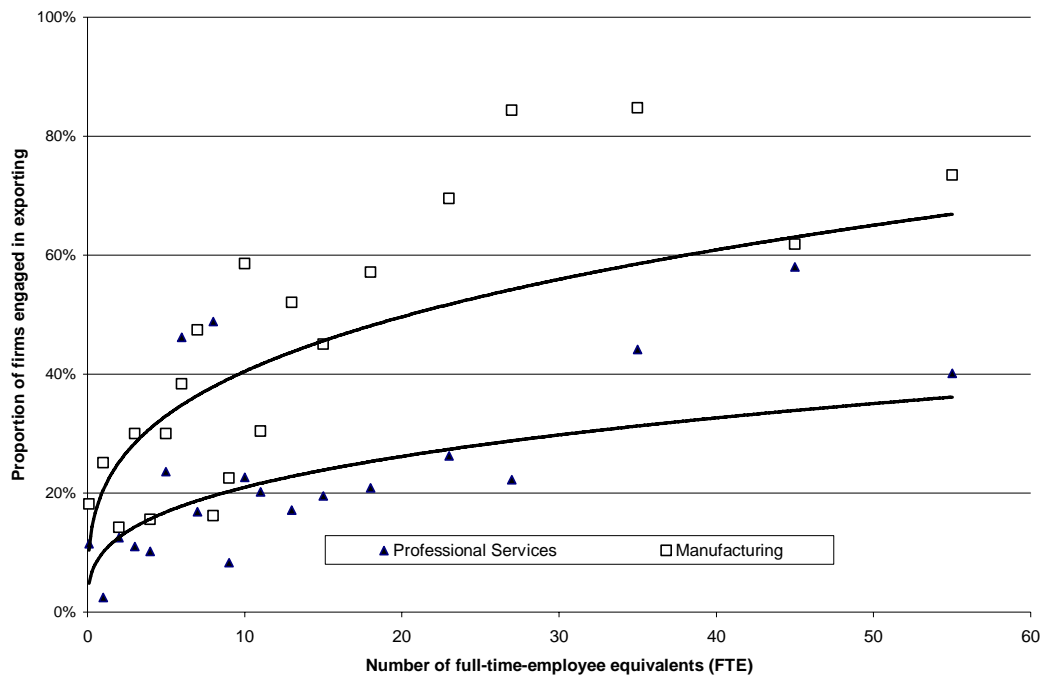
Table 3: Logistic Regression of Exporters and Non-export firms, Born Global and Domestic New Firms

		Panel A: Exporter and Non-export Firms (n = 8112)			Panel B: Born Global and Domestic New Firms (n = 1972)		
		B	Sig.	Exp(B)	B	Sig.	Exp(B)
Sectors			0.000			0.000	
	Primary	0.632	0.000	0.531	-0.861	0.148	0.423
	Construction	2.434	0.000	0.088	-18.71	0.994	0.000
	Manufacturing	1.084	0.000	2.956	1.035	0.015	2.814
	Wholesale & Retail	0.034	0.825	1.034	-0.038	0.929	0.963
	Finance, Insurance, Real Estate	1.934	0.000	0.145	-1.953	0.073	0.142
	Professional Services	0.314	0.035	1.369	0.442	0.275	1.556
	Accom. & Food Services	4.007	0.000	0.018	19.087	0.994	0.994
	Other Services	0.306	0.063	0.736	-0.232	0.603	0.793
Employees (FTEs)		0.011	0.000	1.011	0.015	0.002	1.015
Innovation: R&D Exp. >20%		0.834	0.000	2.303	1.088	0.000	2.968
Owner age		0.006	0.113	1.006	0.006	0.544	1.006
French language owner		0.534	0.000	0.587	-0.406	0.123	0.666
Other language owner		0.202	0.052	1.224	0.311	0.236	1.364
Gender of Ownership Team				0.037		0.188	
	Majority Male Ownership	0.161	0.136	1.174	0.026	0.920	1.026
	50-50 Ownership	0.048	0.707	0.953	-0.466	0.173	0.628
New Canadians (immigrants)		0.59	0.003	1.804	0.758	0.020	2.134
Growth intention (0,1)		0.673	0.000	1.96	0.386	0.055	1.471
Informal investor (0,1)		0.245	0.009	1.277	0.052	0.834	1.053
Mgt experience of owner			0.004			0.030	
	< 5 years	0.378	0.001	0.685	-0.514	0.030	0.598
	5-10 years	0.057	0.556	0.945	0.164	0.496	1.178
	Constant	2.546	0.000	0.078	-2.961	0.000	0.052
Panel A: Cox & Snell R Square = 0.134; Nagelkerke R Square = 0.233; Hosmer and Lemeshow Test= 0.29; Overall in-sample correct classification percentage = 85.6							
Panel B: Cox & Snell R Square = 0.0967; Nagelkerke R Square = 0.228; Hosmer and Lemeshow Test = 0.550; Overall in-sample correct classification percentage = 92.14							

Examining Size Thresholds and Export Propensity

It is suggested that enterprises must exceed a threshold size in order to export goods or services (Julien, et al., 1993; Hirsch and Bijaoui, 1985; Mittelstaedt et al., 2003). To explore the size-export propensity relationship, sample firms were sorted into 20 groups, based on size, as measured by the number of full-time-equivalent employees. Each category comprised a minimum of 150 businesses. The proportion of exporters for each of the 20 categories was calculated for manufacturing and professional services sectors (as shown in Figure 2). For the two sample sectors, lines of best fit were then calculated based on power, exponential, and logarithmic formulations of the propensity-size relationship. The findings are summarized in Table 4: Modelling Functional Form, Firm Size and Export Propensity of Canadian SMEs.

Figure 2: Export Propensity and Firm Size



The concept of a threshold size implies an exponential-type relationship between propensity and size. As these results show, the exponential formulation was not superior to the power or logarithmic functional forms. This is further illustrated in Figure 2 which shows the power formulation imposed on the data points. Study proposition H3b (Firms of 20 employees or more are more likely to export compared to smaller firms) and 3c (Firms of 40 employees or more and more likely to export compared to smaller firms) were therefore not supported.

Table 4: Modelling Functional Form, Firm Size and Export Propensity of Canadian SMEs

Model	Manufacturing	Professional Services
Power	$y = 0.205x^{0.29}; R^2 = 0.539$	$y = 0.101x^{0.32}; R^2 = 0.392$
Exponential	$y = 0.248e^{0.028x}; R^2 = 0.533$	$y = 0.1251e^{0.029x}; R^2 = 0.364$
Logarithmic	$y = 0.117\ln(x) + 0.196; R^2 = 0.543$	$y = 0.060\ln(x) + 0.118; R^2 = 0.324$

where, Y=export propensity and X=Number of FTE employees

DISCUSSION OF FINDINGS

Drawing on entrepreneurship theory, this paper has examined the profile of Canadian SME exporters. The results are consistent with previous Canadian and international studies that suggest systemic differences between exporters and non-exporters. Resource theory was partially supported: multiple proxies for management acumen were associated in the increased likelihood of export: owners with more than 5 years of business ownership experience, informal investor status, Canadian residency and foreign language. It is interesting that many of these attributes were not stable across the sub-sample of new and Born Global₍₂₎ firms. Firm size (FTE equivalents), one sector (manufacturing) and Canadian residency (immigrant) status were significantly and positively associated with Born Global₍₂₎. These observations suggest manufacturing is the sole “global industry”. The results also point to the value of international (immigrant) experience, described in the Canadian literature as “familiarity with export destinations” (Orser et al., 1999), international networks and work experience (Reuber and Fischer, 1998). The concept of an export size threshold was not empirically supported. These observations also lend empirical support for the theory of the internationalization of new firms, where a small minority (0.7 percent) of “innovative” firms operating across sectors are capable of amassing significant resources (financial assets, equity, profit, employees) at or near inception. Further research is required to determine the causality of the associations.

The next steps in this research project are to examine the association among export propensity and revenue growth. Examination of owner attributes, particularly Canadian residency status, first language and gender composition of the management team are anticipated. The implications for entrepreneurship theory and public policy will also be considered.

Suggestions to be discussed (badly written):

Suggestions for managerial implications: Entrepreneurs should be encouraged to develop appropriate networks to expand overseas and trained to identify the most relevant ones for their business and target markets.

Suggestions for public policy implications: Programs could be put in place to encourage new immigrants whose language is not English or French to start their own business and use their overseas networks for market development as those could give a boost to the country foreign trade.

Size does not influence export (BG export twice as much as other exporters and they are about 50% larger than domestic new ventures). Consequently, our export promotion programs, presently based on the stage theory, should take into account this new reality as well. It is not to be meant that existing programs no longer have their use as ‘regular’ exporters still fit the mould.

Service firms seem to be below the radar screen of most government policy and export programs. However, given their export intensity and level of innovation, more account should be taken of their contribution to the Canadian economy as well as more research should be done about these firms.

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