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Do young firms owned by recent immigrants outperform other young firms?

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ABSTRACT

This study compares the performance of new businesses owned by recent immigrants with that of other new firms. It addresses an on-going unresolved discussion in the academic and professional literatures by drawing on a large sample of Canadian business owners whose firms began trading between 2000 and 2004 and using taxation data to track 2004 to 2008 performance. The results provide empirical evidence that young immigrant-owned exporter firms outperformed young domestically-founded firms whether or not they exported; however, immigrant-owned young enterprises that did not export underperformed other young firms. Owner-level factors such as gender, growth intentions and experience also influenced growth performance among young SMEs. The results provide evidence that suggests that immigrants have resources such as access to international networks that provide competitive advantage over non-immigrant owners that export or aspire to export. Not all immigrant business owners, however, are able to lever such advantages. The implications of the findings for research and policy are discussed.

1. Executive summary

The current literature on immigrants and immigrant-owned enterprises has revealed a compelling research question with respect to the performance and growth of such firms: do firms owned by immigrants outperform those owned by autochthonous entrepreneurs? That many believe this to be true is witnesses by the immigration policies of more than 30 nations, policies that encourage immigration of individuals with business acumen. Yet evidence to this effect is both sparse and contradictory. Anecdotally, many successful enterprises seem to have been founded by immigrant entrepreneurs and there is research that appears to confirm that immigrants are disproportionately represented among the founders of successful businesses. However, other research finds that even those immigrant business owners selected on the basis of entrepreneurial predisposition, experience and ability self-report limited economic success.

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This work draws on the knowledge-based view of the firm to develop the conceptual argument that businesses founded by recent immigrants who lever their international ties are likely to outperform. The same argument suggests that firms founded by recent immigrants who do not exploit their international connections can be expected to perform relatively poorly. To test empirically these expectations, the research draws on unique data in the form of a large-scale 2004 survey of Canadian business owners whose firms began trading between 2000 and 2004, inclusively. By linking taxation data for the subsequent 2004 to 2008 period to the survey data, this work derives empirical models of firm performance that seek to measure the impact on performance of immigrant status and export propensity. Performance is estimated by a variety of measures: sales growth, growth in employment and salary mass and growth in profits.

The results provide empirical evidence to the effect that young immigrant-owned exporter firms outperform other young firms. However, immigrant-owned young enterprises that did not export underperformed other young firms. Hence, performance was moderated by export propensity. Owner-level factors such as gender, growth intentions and experience also influenced growth performance among young SMEs. The results provide evidence to suggest that immigrants do indeed have resources (for example, access to international networks) that can provide competitive advantage over non-immigrant owners that export or aspire to export. Not all immigrant business owners, however, are able to avail themselves of such resources. The implications of the findings for research and policy are considered.

Accordingly, this study was able to offer some measure of resolution to the research question. Although this study is not without limitations, it contributes toward: stimulating future research on immigrant entrepreneurs; improving our understanding of new venture growth and international entrepreneurship; refining public policies; and assisting practitioners. The findings might encourage policymakers to consider yet more effective ways to stimulate international trade among SMEs—and immigrant-owned enterprises in particular. Agencies tasked with supporting international trade might be encouraged to consider cross-border initiatives targeted to those immigrant entrepreneurs who are able to engage in internationalization. The study findings also suggest the need to understand further the process of acquisition and diffusion of social capital by entrepreneurs. Future research might usefully examine the barriers faced by immigrant business owners and to identify the means by which successful immigrant entrepreneurs overcame the challenges. Practitioners might well benefit from understanding how immigrant owners leverage social capital endowments in order to export products or services—leading to the superior levels of growth for their firms.

2. Introduction

Immigration is an important aspect of the global economy. Within this context, there appears to be disagreement in the research literature regarding the impact of newly immigrated entrepreneurs on the economies of their host countries. One school of thought contends that businesses founded by recent immigrants outperform other new firms. The media frequently propagates this belief, a rationale that forms the basis of public policy initiatives that provide business immigrants with accelerated entry to host countries, initiatives that have been adopted by more than 30 nations (Ley, 2006). While there is some research evidence in support of this "outperformance hypothesis," there is also research evidence to the contrary: that new businesses founded by recent immigrants underperform other new firms. Therefore, immigration policies are frequently predicated on as-yet-unsubstantiated assumptions that entrepreneurial experience, relevant skills and competencies, and human capital endowments are transferable. The divergent findings prompt the research question that this work seeks to address: do young firms founded by recent immigrants outperform other, otherwise comparable, young firms? Primarily because of a lack of substantive data on immigrant-owned enterprises, resolution of this research question has been elusive (Fairlie, 2008). Few—if any—studies have investigated, conceptually or empirically, the comparative performance of immigrant-owned enterprises. This work seeks to inform this gap.

The findings of this work contribute to public policy formation in several ways. The importance of understanding the performance of immigrant-owned enterprises is highly relevant to policies that seek to attract immigrants with commercial acumen and pre-immigration intentions of starting businesses in the host country. In addition, research and public policy differ as to how "immigrants" are defined. To some, immigrants are people who were born in another country but who may have moved to a new country at any point in their lives; to others, immigrants are relative newcomers to their respective host countries. This study addresses this distinction and adopts the latter perspective.

Accordingly, this work compares the growth performance of young firms owned by recent immigrants with that of young firms owned by others. In doing so, this research adds to the existing literature in four ways. First, the knowledge-based view of the firm is used to develop a conceptual framework that provides a rationale for differential performance between immigrant-owned and other enterprises. This framework leads to hypotheses that:

- Young firms owned by recent immigrants are more likely to export than young firms owned by others.
- Young firms owned by recent immigrants that export outperform young firms owned by recent immigrants that do not export.
- Export-oriented immigrant-owned enterprises outperform other young firms, both exporters and non-exporters.
- Businesses that are not export-oriented and are owned by recent immigrants underperform, on average, export-oriented firms owned by others.
- Businesses that are not export-oriented owned by recent immigrants underperform, non-export-oriented firms owned by others.

Second, in order to address these hypotheses, the empirical analysis draws on a large representative sample of observations that links survey data to longitudinal taxation information. Third, analysis is based on performance data that employs a variety of performance measures. Finally, the work accounts for other salient determinants of growth, including the potentially confounding effect of export orientation that may be associated with immigrants' international perspective.

This paper continues with a review of the salient literature. This leads to the development of a set of research questions and testable hypotheses that guide the empirical analyses. The study draws on a unique, large-scale database of business owners, a sample that is closely representative of the underlying population of small businesses. The data includes a subset of business owners who are known to be recent immigrants and, for comparison, a subset of business owners who are known not to be recent immigrants but who had established their firms during the same time period as had the immigrant founders. The empirical analysis begins with a univariate comparison of salient attributes between young immigrant-owned enterprises and those of a sample of correspondingly young firms owned by non-recent-immigrant entrepreneurs. The study proceeds with estimation of multivariate longitudinal models of growth performance that compare the performance of immigrant-owned enterprises with that of enterprises not owned by recent immigrants while allowing for the confounding effects of differences in export propensity, as well as other factors, between immigrant-founded and non-immigrant-founded firms. Performance metrics comprise longitudinal data on a vector of measures that include growth of: sales revenues, pre-tax profits, employment and salary mass. Overall, the study adds to our understanding of the contributions and performance of immigrants within entrepreneurship.

3. Literature review and theoretical development

3.1. Immigrants and recent immigrants

The Encarta dictionary that accompanies the most recent version of Microsoft Word offers two definitions of the word “immigrant.” The first definition defines an immigrant as “a newcomer to a country who has settled there.” The second defines as immigrants “those who have come to settle in another country.” There is a subtle, but key, distinction between these definitions—one that holds vital implications for interpretation of the research literature salient to this study.[7]

The latter definition (“those who have come to settle in another country”) implies that an immigrant may be defined as any individual who has settled in a host country regardless of when he or she immigrated; hence it includes those who may have settled in the host country at a relatively young age but who may have lived most of their lives in the host nation. Many of the people who are identified as exemplars of successful immigrant business owners fit this definition (see, for example, Dalziel, 2008).[8] However, these exemplars may not fit the former definition (“a newcomer to a country”). Furthermore, some research on business-related aspects of immigrants has investigated “second- and third-generation immigrants” (for example, Constant and Zimmermann, 2006; Ekberg et al., 2010; Hammarstedt, 2004). Likewise, Fairlie's (2008) analysis of the contribution of immigrant business owners to the U.S. economy relies on the broader definition, one that includes as immigrants those individuals who—while being born in a foreign country—may, to all intents and purposes, have lived full lives in the host country.

This work relies on the definition that views immigrants as recent settlers and relative newcomers.[9] It is when immigrants have recently arrived that the challenges of being in an alien environment are most acute; yet this is also the period when their knowledge of their respective home countries, and their links with contacts, are most current.

3.2. Immigrant-owned enterprises as outperforming firms

An emergent literature focuses on immigrant entrepreneurs (as have parallel studies on ethnic entrepreneurs[10]) and includes research that describes firm and owner characteristics, start-up opportunities, and the behavior and management strategies of immigrant entrepreneurs (Clark and Drinkwater, 2009; Portes and Jensen, 1989; Portes et al., 2002; Ram and Smallbone, 2003; Waldinger et al., 1990). However, Fairlie (2008, p. 1) notes that: “in spite of the many previous studies that have examined immigrant business ownership, we know very little about the business performance of firms founded by immigrants.”

Constant and Zimmermann (2006, p. 280) summarize the tenets of the neoclassical human capital theory as it pertains to the outperformance hypothesis of immigrant businesses, stating that:

> “[I]mmigrants are a self-selected group of rational individuals who are willing to undertake risks in order to maximize their lifetime earnings and better their lives. They are characterized by a strong incentive to invest in human capital and have the

[7] Statistics Canada *Labour Force Survey* distinguishes among “very recent immigrants” (those who have arrived within the last five years, “recent immigrants” (those who have arrived at least five, but less than ten, years ago) and “established immigrants” (those who have arrived more than ten years ago). According to Statistics Canada, very recent immigrants account for 3.6% of the 2005 Canadian labor force, recent immigrants comprise 3.2% and 14.4% of the labor force are established immigrants.

[8] Indeed, Hammarstedt (2001) points out that self-employment among immigrants is positively correlated with elapsed time since arrival in the country.

[9] In relying on this definition, it can be argued that the differences between immigrants and non-immigrants are more apparent, as newcomers have yet to embed themselves within, and adapt to, the fabric of their respective host countries (as opposed to immigrants that have been in host countries for longer periods of time). Hence, as entrepreneurs, recent newcomers would present contrasting traits and characteristics to those of less recent immigrants or immigrants that have long resided in the host country.

[10] This work does not examine the question of ethnicity of business owners. Indeed, a shortcoming of this work is that the countries of origin of the immigrant owners studied here are unknown. As shown Clark and Drinkwater (2009), ethnicity can make a profound difference in business success. Also, Kariv et al. (2009) have reported that ethnic entrepreneurs from minority communities are more likely to engage in transnational networking activities than entrepreneurs from established ethnic communities. Note, however, that the concept of ethnicity differs from that of immigrant. People of a given ethnicity may well have resided in a particular country for generations, whereas immigrants are regarded here as newcomers.

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inner drive to succeed in the host country's labor market. By virtue of their willingness to assume the risk of migration (both pecuniary and psychic) and undertake this new and often risky venture they become the first entrepreneurs."

Essentially, this perspective views immigrants as dynamic risk takers who are inherently more prone to becoming self-employed relative to others. This argument maintains that immigrant owners present human capital resources of greater value and rarity than non-immigrant owners. According to the resource-based view (Barney, 1991), this may enhance a firm's ability to acquire and sustain competitive advantages and therefore lead to increased growth performance. Fairlie's (2008) finding, that immigrants are much more likely to start a business than non-immigrants, one among several to this effect, also witnesses Constant and Zimmerman's statement.[11] Moreover, Waldinger et al. (1990) characterize recent immigrants as being particularly industrious and willing to engage in self-exploitation in order to gain competitive advantages over businesses owned by non-immigrants. It has also been argued that immigrant business owners may have market opportunities not bestowed on non-immigrant (or non-ethnic) entrepreneurs (Miera, 2008; Waldinger et al., 1990). These include serving the ethnic community's needs; serving underserved or deserted markets; penetrating markets with low economies of scale; operating in unstable markets; selling ethnic goods; targeting expatriate buyers; and, opening foreign branches.

Much of the discussion about advantages availed to immigrant entrepreneurs relates to their ability to leverage their knowledge of international networks. Miera (2008), in particular, identifies internationalization strategies employed by immigrant-owned firms including exploiting high degrees of mobility and differences in purchasing power between countries; recruiting immigrant workers; targeting expatriate buyers living in the host country; and, opening branches in their countries of origin. Miera also remarks on the transnational nature of entrepreneurial activities finding that transnational entrepreneurs include a large proportion of self-employed immigrants.[12] Immigrant business owners are also thought to bring to their start-ups social capital derived from diverse and international networks (Kloosterman et al., 1998).

Immigrants may therefore be in a relatively advantageous position with respect to facilitating internationalization through contacts and business or personal networks. Orser et al. (2008) support the view that immigrant-owned firms are relatively more likely to export and that internationalization is associated with enterprise growth, productivity and other performance outcomes. Kim and Hurh (1985), OECD (2010) and Portes and Jensen (1989) report that immigrant owners are active in supportive of co-ethnic social networks and demonstrate a propensity to participate in enclaves, which may hold important performance implications for their firms. In related work, Crick and Jones (2000) find that owners of exporter firms had better developed customer networks that influence the decision to expand their business operations into foreign markets. Likewise, Leonidou (2004) has categorized limited levels of information (typically acquired through networks) and inabilities to contact customers abroad as 'very high impact' barriers to internationalization.

Accordingly, it seems reasonable to expect immigrant-owned enterprises to be relatively more engaged in international trade and that their firms may outperform others. However, a separate stream of the literature presents evidence to the effect that immigrant-owned enterprises may perform rather poorly.

3.3. Immigrant-owned enterprises as underperforming firms

Immigrants are likely to be a heterogeneous group, especially in terms of their labor market integration (Clark and Drinkwater, 2009; Hammarstedt, 2001; Ley, 2006). While Borjas (1986) found that self-employment rates of many immigrant groups in the U.S. exceeded those of autochthonous Americans, this, for some immigrants, was born of necessity. High skilled labor migrants were more likely to be opportunity entrepreneurs. To this point, Li (2001) observes that immigrants admitted to Canada under an 'economic class' program are more likely to engage in self-employment than immigrants admitted under any other class. However, Kloosterman et al. (1998), and Shinnar and Young (2008) are among those who suggest that a significant proportion of recent immigrants are pushed into business creation because of unfavorable employment markets in their host countries. Similarly, Bauder (2008) notes that employed immigrants have less desire to be self-employed than do unemployed immigrants. Encompassing many of these findings, Constant and Zimmermann (2006, p. 30) assert that:

"… impediments to good jobs and to upward occupational mobility as well as unemployment and discrimination in the labor market may impel immigrants to undertake the self-employment avenue. As the literature has shown, entrepreneurship may be the only avenue for their socioeconomic advancement."

Thus, firm growth for some immigrants may not be as pressing a motive as for others; their priority may be salary substitution or generating income to support family (Portes et al., 2002). Moreover, as Hammarstedt (2004) observes, individuals need time and skills to acquire the resources necessary to establish a business. Consequently, it may be argued that firms founded by immigrants forced into self-employment are likely to grow relatively slowly.

Access to financial capital is often needed to sustain enterprise growth; however, Kushnirovich and Heilbrunn (2008) report relatively smaller initial investments by immigrants compared to non-immigrant business owners. Bates (1997) found that

[11] Further to this finding, Le (2000) used data from the 1981 and 1991 Australian censuses to model propensity for self-employment, finding that educational attainment, labor market experience, the availability of capital, marital status and job-related characteristics were moderators of immigrants' likelihood of self-employment.

[12] Transnational entrepreneurs are those who travel abroad frequently and whose business success demands regular contact with foreign countries or their countries of origin.

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immigrant owners in the US maintain less debt than non-immigrant borrowers. Less use of commercial debt and smaller initial investments may reflect that immigrants are more likely to have comparatively short and, therefore, weaker banking relationships than non-immigrant business owners. This reasoning is consistent with the findings of Avery et al. (2009), who confirm that immigrants generally receive low credit scores.

Immigrants may also be relatively less able to marshal the human capital necessary for rapid business growth. Immigrant-owned enterprises may face compromised human capital. Fairlie (2008) provides descriptive evidence to the effect that immigrant owners are, on average, less educated than non-immigrant owners. Hammarstedt (2001) points out that business performance can be compromised due to differences in the labor markets between home and host countries and a lack of knowledge among immigrants about practical and formal matters typically encountered when trying to establish a business. Furthermore, immigrants are likely to lack familiarity with host country hiring legislation and practices and hence, the ability to hire quality personnel during the early phases of operations. Low levels of early investment, limited financial flexibility, and the need for low cost labor may also be associated with a higher likelihood of immigrant-owned enterprises firms employing family members as substitutes for better-qualified personnel (Portes and Jensen, 1989).

To the extent that immigrants are especially challenged with respect to the acquisition of human and financial capital, it is less likely that their enterprises would be able to assemble the “inaugural capacity” that Fan and Phan (2007) refer to as being critical to the internationalization and attendant growth of firms. Immigrant-owned new firms may face liabilities of size, newness and a limited resource base, factors that may hamper the expected performance of their enterprises.

In the Canadian context, Glover and Sim (2002) report on the findings of a survey completed by over 300 immigrant entrepreneurs in the Vancouver region, revealing that 44% of respondents had closed the business following immigration and less than half the survivors expected to be profitable in the year following the survey. Glover and Sim note that barriers included a perception of weak economic conditions, limited social networks, lack of government assistance, different ways of conducting business, language obstacles, a lack of social capital, and a regulatory environment that included blocked mobility due to human capital limitations.

Discrimination is yet another factor that immigrant business owners may face. Constant and Zimmermann (2006) argue that immigrants' earnings are penalized if they face discrimination. To this, Borjas and Bronars (1989) report that white consumers in the U.S. dislike purchasing goods from self-employed minority workers. Interestingly, a reliance on foreign trade may be a means of mitigating discrimination.

Given the above research findings, there is reason to expect that immigrant-founded businesses may perform relatively poorly and it may not be surprising that immigrant-owned enterprises are often viewed as operations that tend to be low-yielding endeavors (Ensign and Robinson, 2011). Similarly, Kloosterman et al. (1998) report that immigrant-owned enterprises tend to be situated within the lower end of the opportunity structure of urban economies.

Accordingly, it can be argued both ways: that immigrants ought to perform relatively well (outperformance hypothesis, see previous section) and, alternatively, that they are likely to perform relatively poorly (underperformance hypothesis). However, it is also true that immigrants are heterogeneous and that different groups of immigrants are likely to exhibit quite different levels of performance one from the other.

3.4. Synthesis: previous research

Based on the largely descriptive and empirical findings in the literature related to immigrant founder-entrepreneurs and immigrant-owned enterprises, it is evident that no consensus has been established as to whether or not, immigrant-owned enterprises outperform firms owned by non-immigrants. Accordingly, it becomes an important theoretical and empirical question, one that may be obscured because immigrants comprise a group that is heterogeneous in terms of ethnicity, whether or not business ownership is opportunity- or necessity-related, and their respective abilities to transfer experience and skills, etc.

However, one theme that consistently emerges from the literature is that immigrants' success is conceptually and empirically linked to their ability to lever international linkages and experience. It follows, then, that internationalization (that is, exporting) is likely to be an important determinant of performance for immigrant-owned enterprises (Miera, 2008; Orser et al., 2008; Portes et al., 2002). Empirical evidence in the international business and entrepreneurship literatures generally posits a positive association between firm internationalization and firm performance (for example, among many, Daniels and Bracker, 1989; Lu and Beamish, 2001; Shrader and Siegel, 2007). Accordingly, it seems reasonable to expect that, in general, immigrant-owned firms that export would be relatively more likely to demonstrate strong levels of performance. This is an initial indication that accounting for the contingent effects of export-oriented activities among immigrant-owned enterprises may be a useful starting point for conceptualizing whether (and why) immigrant-owned enterprises may (or may not) outperform firms owned by non-immigrants.

In spite of the intuitive connections that can be made among immigrant-ownership, internationalization, and performance; the literatures on immigrant-owned enterprises and that related to firm internationalization and performance, have evolved relatively independently of each other (Jones et al., 2011). The resulting gap reveals a lack of theoretical development that could provide explanation of: why, at a broad level, export-oriented firms (particularly young SMEs) may perform relatively well; why, among exporting firms, immigrant-owned enterprises would be expected to perform particularly well; and, why immigrant-owned enterprises who cannot (or do not) internationalize would be expected to perform relatively poorly. In order to provide richer explanations related to the positive spillover effects of export-oriented activities on firm performance, it is useful to develop a conceptual argument regarding how export-oriented firm activities are linked to performance. Accordingly, the

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following section draws on the knowledge-based view (KBV) of the firm to discuss the relationship between internationalization and firm performance as it applies to immigrant-owned enterprises.

4. Conceptual arguments and hypothesis development

Penrose (1959) was among the first to identify information and knowledge as important firm resources, a concept further reinforced by the knowledge-based view (KBV) of the firm (Cope, 2005; Grant, 1996; Kogut and Zander, 1992; Minniti and Bygrave, 2001; Politis, 2005). Indeed, the KBV considers knowledge not only as the most important of all firm resources, but also as accumulated and managed beyond the control of market-based mechanisms (Kogut and Zander, 1992). As Huber (1991) notes, prior experience shapes potential or actual changes in personal and firm-level action to the extent that firm executives tend to rely on mental representations of historical environments rather than on those of their current environments (Kiesler and Sproull, 1982). Therefore, at a broad level, many of the conceptual foundations of the KBV consider how previous knowledge, mental biases, and heuristics may impose certain constraints that affect the development of new knowledge, decisions, and strategies: all of which are linked to firm performance.

To this point, it is possible to envision how certain types of firms—notably those that are immigrant-owned—would be likely to engage in export-related activities as a result of the relationship between their current level of knowledge (along with the inherent biases) and its suitability for operating in, and navigating through, the international context (versus the potentially less familiar host country context). Moreover, in the spirit of Kiesler and Sproull (1982), it is arguable that recently immigrated entrepreneurs would develop routines and decision-making heuristics based more on their historical home country environments, than on their less familiar host country environments. It also follows that—in the absence of compensating for these potential limitations (for example by internationalization or by navigating toward environmental contexts that are more suited to their strategic postures)—firms founded by recent immigrants may suffer from liabilities associated with being a new firm adapting to an alien environment (Henderson, 1999; Singh et al., 1986). Accordingly, the first hypothesis is advanced:

H1. Young firms owned by recent immigrants are more likely to export than young firms owned by others.

Extending these conceptual arguments also leads to an argument, still within the KBV perspective, that internationalization (particularly for enterprises founded by recent immigrants) leads to the acquisition and development of *new* knowledge, which in turn leads to desirable firm performance outcomes. For example, Nahapiet and Goshal (1998) argue that 'intellectual capital' (that is, knowledge) is primarily acquired through relationships and the social capital contained within them. They argue that new knowledge is created through combining and exchanging new information and existing knowledge (which may be tacit or explicit). Even more specifically, Cope (2005) notes the importance of entrepreneurial networks, relationships and management routines to knowledge development in the entrepreneurial context. Accordingly, the KBV perspective leads one to conclude that export-related activities would further broaden knowledge-building and performance-facilitating networks. This implies the following hypotheses:

H2A. Export-oriented young firms owned by recent immigrants outperform, on average, young firms founded by recent immigrants that do not export.

H2B. Export-oriented immigrant-owned enterprises outperform, on average, export- and non-export-oriented firms owned by others.

The argument that firm internationalization and network development go hand-in-hand is not new (see, for example, Coviello, 2006; Coviello and Munro, 1997; Yli-Renko et al., 2002). Network-based theories of firm internationalization tend to regard network development as an antecedent to international activities. It is a short conceptual jump to argue that when a firm engages in formal international activities the network relationships that initially facilitated export become further strengthened and yet more valuable as sources of information and knowledge-creating social capital. It is important to note, however, that the broadening and deepening of relationship networks (and social capital) that occur in conjunction with export-oriented activities do not, in and of themselves, lead to superior levels of performance. To this point, argue that the influence of international venturing on firms' growth in profits and revenues is moderated by the owners' ability to successfully manage information and knowledge acquired from newly entered foreign markets. Nahapiet and Goshal (1998) reinforce this, explaining that social capital is composed of structural (network ties and composition), cognitive (shared codes and languages), and relational (trust, norms, obligation, and identification) dimensions. They contend that all three dimensions must be accounted for in order to effectively manage the combination and exchange processes that result in the creation of new knowledge within firms.

Accordingly, these theoretical relationships suggest that it can be expected that firms engaged in export-oriented activities should perform better than those firms that do not. Although simple network expansion through export-oriented activities may explain some measure of performance difference between exporting and non-exporting firms, the notion of effective information and network management arguable augments performance differences between types of exporting firms (e.g. those that are immigrant-owned and those that are owned by non-immigrants). Consequently, it is argued that recently immigrated entrepreneurs with high levels of international exposure, would be expected to manage the cognitive and relational dimensions of social capital developed through export-oriented activities more effectively (on average) than non-immigrant firm owners.

These arguments lead to the expectation that export-oriented immigrant-owned enterprises create relatively higher levels of *new* knowledge that would enhance performance not only in export markets, but also overall. Thus,

H3A. Businesses that are not export-oriented and owned by recent immigrants underperform, on average, export-oriented firms owned by others.

H3B. Businesses that are not export-oriented and owned by recent immigrants underperform, non-export-oriented firms owned by others.

Using the knowledge-based view (KBV) of the firm as a conceptual framework provides an explanation of performance differences between immigrant-owned enterprises and counterpart firms, while simultaneously accounting for the contingent effects of export-oriented activities. That is:

1. Based on the constraints that knowledge places on decision-making and firm strategies, more immigrant-owned enterprises—on average—would gravitate toward internationalization than firms owned by non-immigrants. Hence, immigrant-owned enterprises that do not (or cannot) internationalize may face relegation to small domestic markets in the context of alien environments, and therefore, be expected to perform relatively poorly.
2. Based on the network expansion that accompanies internationalization, export-oriented firms would be in a position to create *new* knowledge that would help them outperform, on average, firms that do not engage in export-oriented activities.
3. Because of their international acumen, recently immigrated founder-entrepreneurs would be expected to manage post-export-related social capital dimensions more effectively throughout the combination and exchange processes that create *new* firm knowledge. This, in turn, would see export-oriented immigrant-owned enterprises outperform counterpart firms, on average.

In summary, using the knowledge-based view (KBV) of the firm as a conceptual framework provides an explanation of performance differences between immigrant-owned enterprises and counterpart firms while simultaneously accounting for the contingent effects of export-oriented activities. Essentially, the preceding argumentation contends that export-oriented activities lead to critical expansions—both in breadth and depth—of important knowledge-creating resources (e.g. social capital, information, and knowledge), which in turn lead to superior performance. Thus, export-oriented immigrant-owned enterprises ought to be able to acquire, manage, and lever these resources more effectively than counterpart firms; thereby further enhancing their performance.

5. Data and methodology

5.1. Performance measurement

The preceding section presented hypotheses pertaining to the performance of recent immigrant- and non-recent immigrant-owned firms. It is necessary, therefore, to define and measure "performance."

Within the research literature, performance comparisons most commonly tend to rely on sales growth as an exclusive metric (Shepherd and Wiklund, 2009), usually without regard to profitability or growth in owners' wealth (which is theoretically ideal but inherently difficult to measure for SMEs). Scholars argue that revenue growth is an extremely narrow metric of enterprise growth and that earnings data are often obfuscated by tax arbitrage.[13] SMEs are not, by definition, listed on organized stock markets, hence share price, and the value of owners' equity, are not constructs that are easily operationalized. Moreover, Uzzi and Gillespie (2002) point out that social capital and the inseparability of entrepreneurs from their businesses are attributes of SMEs that make finance-related performance measurement a different proposition from that of major corporations. Other attempts at evaluating firm performance in the SME context have employed such measures as: growth in the number of employees, asset expansion, and growth in the value of owners' equity. Shepherd and Wiklund (2009) describe single measures as having limited explanatory power and they question the concurrent validity of the various alternative approaches. Similarly, it is important to deconstruct 'performance' in a variety of ways (Ansoff, 1965; Barney, 1991; Kaplan and Norton, 1992; Penrose, 1959; Porter, 1985). As such, there remains debate as to which financial measures are the most appropriate means of measuring growth or performance among SMEs.

To address these concerns, this study employs as dependent variables longitudinal performance measures composed of changes between 2004 and 2008 in revenues, profits, employment, and salary mass (the total salary expense of the firm). By employing several inter-related measures that capture various aspects of enterprise performance, the study is better positioned to gain insights into the various performance dimensions for particular categories of enterprises. Moreover, in that the data are obtained from tax filings, definitional consistency is promoted.

[13] In their review of such measures, Shepherd and Wiklund (2009) find low shared variance among many of the widely-used measures of growth performance and not all measures demonstrate sufficient concurrent validity. Accordingly, it makes sense to use an array of performance measures when investigating SME growth or performance.

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5.2. Data

Data for this work were drawn two sources as described presently.

5.2.1. Survey data

The first source comprised data drawn from the "Survey on Financing of Small and Medium Enterprises" conducted by Statistics Canada on behalf of Industry Canada between September 2004 and March 2005 (Industry Canada, 2006). The population of interest was 1.3 million Canadian enterprises listed in the Business Register maintained by Statistics Canada. The Business Register is an unduplicated list on all active businesses in Canada that have a corporate income tax (T2) account, or that are an employer or that have a GST account (graduated sales tax, mandatory for all Canadian firms reporting a minimum of $30,000 in revenues during any 12-month period). A sampling frame of 34,509 firms was randomly drawn from the Business Register. Eligible firms had fewer than 500 full-time-equivalent employees and annual gross revenues of less than $50 million ($CDN).

Computer-assisted telephone interviews collected extensive firm demographic data along with attributes of the primary owners of the firms (the key respondents). Interviews were conducted in late 2004 and early 2005. The reference period for the survey was the last 12 months preceding the date of the interview. Telephone follow-up was used to increase response rates and reduce non-response bias. Valid responses were received from 12,047 SMEs, a response rate of 47% of in-scope potential respondents.[14] The respondents were weighted according to region, size, and sector to best represent the underlying population while ensuring minimum data counts for particular cells. This work focused on the cohort of 2915 firms in the sample that had been started between 2000 and 2004 (the five-year period preceding administration of the survey). This period was chosen because the survey asked the following question of all respondents (respondents were identified as the primary owners of the businesses):

> "E.15 Was the majority ownership of the business held by persons who have resided in Canada for less than five years?"

It is because of this question that analysis of the data was restricted to firms that were less than five years old (as of the date of survey administration) and why this research examines the growth patterns of firms owned by *recent* immigrants. Of the 2915 firms that were less than five years old, 132 primary owner respondents answered in the affirmative to the above question and were thereby defined as the sample of recent immigrant business owners of interest to this research.[15] Data collected from the survey were comprehensive and were also enriched by drawing data, such as sector, from administrative databases maintained by Statistics Canada.

5.2.2. Longitudinal taxation data[16]

The second source of data comprised the measures of firm performance. Longitudinal information on firm revenues, employment, salary mass and pre-tax profits were obtained by using the business numbers of the firms whose owners had responded to the survey to link data from the survey to each firms' federal corporate income tax filings. Table 1 presents basic descriptive statistics of the key variables employed in this study along with the specifics of how each variable was measured. Table 2 presents the corresponding correlation matrix.

6. Empirical findings

6.1. Univariate comparisons

Table 3 provides univariate comparisons of salient attributes of firms owned by recent immigrants with those of firms started by non-recent-immigrants during the same five-year period, 2000 to 2004. Table 3 shows population estimates based on weighted data. Contrary to previous research, the data show that the sectoral distribution of young firms owned by recent immigrants do not differ significantly from counterpart young businesses owned by non-recent-immigrants. This result refutes previous studies that suggest that immigrant-owned enterprises tend to be disproportionately concentrated in the service sectors. While it is true that a high proportion of immigrant-owned enterprises are services firms, a similarly high proportion of all firms are also service-based.

It is notable that firm size distributions did not differ significantly between immigrant-owned firms and their counterparts, even though the age distribution differs significantly (p-value = 0.000) with immigrant-owned firms comprising a relatively

[14] Further analysis of non-respondents was carried out by Statistics Canada as described in detail at http://www.sme-fdi.gc.ca/eic/site/sme_fdi-prf_pme.nsf/eng/01990.html. Essentially, initial sample weights were adjusted to account for refusals and other forms of non-response. In addition, a separate study was conducted of 6636 unable-to-locate units and 2040 unable-to-contact units to confirm their characteristics. The impact of non-response effects was also mitigated by nearest neighbor interpolation techniques when appropriate.

[15] There is little doubt that immigrants were among the owners of firms that were greater than five years old in the larger sample. Because these could not be identified, only firms that were five years old or less were employed in this analysis.

[16] As is usually true of longitudinal data, the results will include an unavoidable survival bias. Unfortunately the taxation data does not specify why firms surveyed in 2004 are no longer reporting for tax purposes. Exits may therefore represent failure or acquisitions and mergers. Accordingly, it was not possible to compare survival likelihood across the firm categories.

Table 1
Descriptive statistics, key variables.

	Mean	Standard deviation	N
Employees, 2004	3.26	12.62	2145
Number of full-time equivalent employees based on Canada Revenue Agency payroll deduction accounts			
Sought financing, 2004	35.0%	47.9%	2145
Sought trade credit, 2004	46.1%	49.9%	2145
Whether or not firm had sought financing or trade credit in the reference year according to survey responses			
Age of firm, 2004	3.3	1.2	2145
Years since the firm had started trading according to survey responses			
Exporters, 2004	8.7%	28.3%	2145
Invested in R&D, 2004	32.8%	47.3%	2145
Growth intention, 2004	56.7%	49.5%	2145
Immigrant owner	4.8%	21.3%	2145
Female majority-owned, 2004	24.3%	42.9%	2145
Owners with > 10 years of experience[a]	41.1%	49.2%	2145
Services sector[b]	77.8%	41.6%	2145
Dependent variables			
2004–2008 difference, employees	0.24	0.41	1480
2004–2008 difference, salary mass	$48,352	$16,278	1480
2004–2008 difference, revenues	$128,660	$87,861	1461
2004–2008 difference, profits	$25,301	$33,781	1844
2004–2008 difference per employee, salary mass	$4862	$1540	1480
2004–2008 difference per employee, revenues	$30,358	$36,268	1108
2004–2008 difference per employee, profits	$5014	$5667	1241
2004–2008 difference per employee, employment	−5.7%	2.5%	1455

[a] Whether (=1) or not (=0), respectively, firm was an exporter, had invested in R&D, firm owner articulated an intention to grow his/her firm, was a recent immigrant, was female, had at least 10 years of experience.
[b] Whether (=1) or not (=0) firm was in a service sector.

higher proportion of start-ups (firms that had commenced trading less than two years prior to the date of survey administration). Firms owned by immigrants were significantly more likely to be growth-oriented (as expressed by the majority owner's stated intentions as of 2004), to conduct R&D, to be situated in urban locations and to be majority female-owned.

Table 2
Correlation matrix, key variables.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	Employees, 2004	1								
(2)	Sought financing, 2004	0.068	1							
(3)	Sought trade credit, 2004	0.055	0.646	1						
(4)	Age of firm, 2004	−0.076	−0.086	−0.031	1					
(5)	Exporters, 2004	0.001	0.058	0.019	0.061	1				
(6)	Invested in R&D, 2004	−0.006	0.050	0.037	0.023	0.184	1			
(7)	Growth intention, 2004	−0.017	0.153	0.095	−0.131	0.122	0.268	1		
(8)	Immigrant owner	0.034	0.029	0.012	−0.030	0.097	0.073	0.041	1	
(9)	Female majority-owned, 2004	−0.050	0.023	−0.016	−0.020	0.001	0.041	−0.049	0.108	1
(10)	Owners with > 10 years of experience	0.147	0.050	0.109	−0.015	0.052	−0.078	−0.013	0.032	0.021
(11)	Services sector	0.035	−0.103	−0.085	0.007	−0.022	0.085	−0.082	0.014	0.096
(12)	Difference, employees	0.000	0.086	0.039	−0.040	0.003	0.008	0.105	−0.017	−0.025
(13)	Difference, salary mass	0.228	0.119	0.089	−0.079	0.019	0.037	0.132	0.011	−0.037
(14)	Difference, revenues	0.176	0.067	0.031	−0.035	0.061	0.005	0.102	0.017	−0.018
(15)	Difference, profits	0.020	−0.021	−0.014	−0.021	−0.026	−0.040	−0.061	−0.005	−0.021
(16)	Difference per employee, salary mass	−0.003	0.090	0.122	−0.039	0.011	0.013	0.070	−0.038	0.019
(17)	Difference per employee, revenues	0.070	0.045	0.030	0.000	0.045	0.031	0.043	0.010	0.001
(18)	Difference per employee, profits	−0.059	0.033	0.024	−0.064	0.007	−0.025	−0.059	−0.011	−0.008
(19)	Difference per employee, employment	0.010	0.103	0.055	−0.015	−0.100	0.000	0.082	−0.024	−0.013

		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(10)	Owners with > 10 years of experience	1								
(11)	Services sector	−0.080	1							
(12)	Difference, employees	0.017	−0.033	1						
(13)	Difference, salary mass	0.041	−0.055	0.725	1					
(14)	Difference, revenues	0.049	0.033	0.328	0.424	1				
(15)	Difference, profits	−0.031	0.038	0.023	−0.006	0.217	1			
(16)	Difference per employee, salary mass	−0.001	−0.056	0.100	0.340	−0.050	0.045	1		
(17)	Difference per employee, revenues	0.048	0.031	−0.145	−0.155	0.534	0.040	−0.291	1	
(18)	Difference per employee, profits	−0.005	0.042	0.072	0.091	0.102	0.684	0.066	0.015	1
(19)	Difference per employee, employment	0.047	−0.034	0.388	0.332	0.149	0.028	0.372	−0.154	−0.006

Table 3
Population estimates of salient attributes of sample firms.

	Immigrant-owned (N=104)[a]	Benchmark new firms (N=2057)	Chi-square *p*-value
Size distribution of firm			0.642
<5 employees	0.825	0.858	
5 to 9.9 employees	0.087	0.083	
10 to 19.9 employees	0.039	0.031	
20 or more employees	0.049	0.029	
Sectoral distribution			0.775
Goods	0.214	0.223	
Services	0.709	0.681	
Knowledge-based	0.078	0.096	
Exporter propensity	24.3%	8.0%	0.000
Goods producers	56.0%	7.0%	0.015
Services firms	12.0%	7.0%	0.016
Growth intention	68.9%	56.2%	0.000
Majority male-ownership	44.2%	63.4%	0.002
Start-ups (<2 years old)	58.3%	40.0%	0.000
Urban (versus rural)	88.3%	76.9%	0.007
R&D investments	57.3%	32.6%	0.000

[a] Because of skip patterns in the data, the actual number of cases employed in a particular analysis is sometimes less than 132, as noted, and varies due to non-responses on particular questions.

Table 3 indicates that immigrant-owned new firms were significantly more likely to be exporters regardless of whether the firms were in the goods or services sectors. This result is consistent with Hypothesis 1. Accordingly, it is important to control for systemic differences in export propensity between enterprises owned by recent immigrants and firms founded by non-recent-immigrants.

6.2. Models of firm performance

As noted, to measure performance, four measures were employed based on differences between 2004 and 2008 in: (a) annual revenues, (b) number of employees, (c) salary mass, and (d) after-tax net income. To control for the potential confounding effects of export propensity and other systemic differences between immigrant-owned enterprises and firms owned by non-immigrants, hierarchical multiple regression models were specified. Four models were estimated, with each of the four measures of performance as the four alternative dependent variables.[17] For example, the dependent variable in the first model was set as the change in annual revenues (according to the firm's tax records) between 2004 (when the baseline survey was taken) and 2008. This was expressed on a per-employee basis so as to abstract from initial firm size differences.[18] To test the hypotheses advanced previously, it is necessary to estimate the coefficients (particularly *b*, *c* and *d*) in the following generic model:

$$P_i = a + bE_i + cI_i + d(E_iI_i) + hX_i + e_i$$

where:

- P_i is the performance measure (alternatively, 2004 to 2008 growth in sales, salary mass, employees or profits) for firm *i*;
- E_i is a dummy variable corresponding to whether firm *i* was an exporter (=1) or not (=0);
- I_i is a dummy variable corresponding to whether firm *i* was owned by a recent immigrant (=1) or not (=0);
- E_iI_i is the interaction term between the exporter and immigrant variables;
- X_i is a vector of control variables that include:

- Age of the firm (number of years for which the firm had been trading).
- Gender composition of the firm ownership. (This was accomplished by including two binary variables, one set equal to 1 if the majority control of the firm rested with women (20.1% of cases) and 0 otherwise, and a second binary variable set equal to 1 if ownership of the firm was shared equally by men and women (17.4% of cases) and 0 otherwise.
- Age and experience of the primary owner. Age was expressed as a binary variable set equal to 1 if the primary owner was less than 39 years of age. Owner experience was expressed as a binary variable set equal to 1 if the primary owner reported more than 10 years of experience, 0 otherwise.
- Sector was represented by a binary variable set equal to 1 if the firm was in a services sector and 0 otherwise.

[17] In addition, MANCOVA analysis was employed using the four performance measures as the dependent variable vector, with substantially the same results as are reported here for the four separate regression models. This is not surprising given high correlations among the dependent variables (Table 2).
[18] The models were alternatively estimated using the absolute differences in performance measures (that is, not on a per-employee basis) as well as on a percentage change basis. In all respects, the results did not differ materially with those reported here. Detailed model results are available on request.

- Financing history was represented by two binary variables. The first variable was set equal to 1 (0 otherwise) if the firm had sought external financing; the other was set equal to 1 (0 otherwise) if the firm had sought trade credit.
- The growth aspiration of the primary owner was represented as a dummy variable set equal to 1 if the owner had reported an intention to expand the scale or scope of the business (0 otherwise).

Because of the high variances displayed in Table 1, it was important to control for the outliers in that data that contributed to these variances. Accordingly, the robust regression procedure in SAS 9.2 was employed, using M estimators to detect outliers and provide stable results for the estimation of parameters a, b, c, d, and h. Tests of the hypotheses advanced were carried out on the parameter estimates b, c and d. Specifically, Hypothesis 2A states that export-oriented young firms owned by recent immigrants outperform, on average, young firms founded by recent-immigrants that do not export: that is, $(b+c+d)>c$ or $(b+d)>0$. Likewise, Hypothesis 2B states that export-oriented immigrant-owned enterprises outperform, on average, export- and non-export-oriented firms owned by non-recent-immigrants: that $(b+c+d)>b$, or $(c+d)>0$. Hypothesis 3A stated that non-export-oriented businesses owned by recent immigrants underperform, on average, export-oriented firms owned by non-recent-immigrants: that $c<b$, that is, $(c-b)<0$. Finally, Hypothesis 3B stated that non-export-oriented businesses owned by recent immigrants underperform, non-export-oriented firms owned by non-recent immigrants: that $c<0$. For each case, the null hypotheses were, respectively: $b+d=0$; $c+d=0$; $c-b=0$; and (Hypothesis 3B), $c=0$. Against each null hypothesis, two types of tests were performed: the robust version of the F-test (referred to as the Rho-test) and the robust version of the Wald test (referred to as the Rn2-test).[19]

The results of the robust regression estimations and the hypothesis test results are presented in Table 4 (revenues), Table 5 (profits), Table 6 (employment), and Table 7 (salary mass). While the R-squared values vary, all of the above models were statistically significant at p-value<0.001.

First, Hypotheses 2A, 2B, 3A and 3B are supported for all performance measures except profits with the null form of each hypothesis being rejected (according to both the Rho test and Wald test) at p-values of less than 5% (less than 0.1% in most cases). With regards to profits, the parameter estimates suggest the opposite of Hypothesis 3A such that non-export-oriented immigrant-owned firms appear to outperform export-oriented firms owned by non-immigrants (in other words, $b<c$, not $c<b$). Other findings include the following.

- Age of firm was not a significant correlate of growth in the context of the young firms examined here. This may reflect that there was relatively little variation in age among the sample firms, given that all firms had started trading within the five-year period prior to the survey.
- Women-controlled young firms performed significantly less well as those owned by men in terms of revenues, employment and salary mass (but not profits).
- Better performance in terms of revenues, employment and salary mass (but not profits) was associated with firms that sought either external financing or trade credit.
- Firms whose primary owners had reported more than 10 years of experience significantly outperformed firms, on all measures of performance, whose owners had reported less experience.
- Growth intentions were consistently positively and significantly correlated with all measures of growth performance.

7. Discussion

The objective of this research was to investigate whether young firms founded by recent immigrants outperform or underperform otherwise comparable other young firms. Previous research has not fully addressed this question primarily because of the relatively low incidence of recent immigrants in the population and because longitudinal performance data are rare. Previous research has therefore relied on small samples, simple or perceptual performance metrics and limited degrees of generalizability. This work adds to our understanding of this research question by embedding the question in a conceptual framework and by drawing on a large sample of firms surveyed in 2004/05 and five years of subsequent performance metrics based on taxation records linked to the survey results.

It is important to preface the discussion of study results by emphasizing that this work focuses exclusively on recent immigrants: those who had immigrated within the five years prior to the 2004/05 survey. In addition, it must be recognized that immigrants comprise a mixture of ethnicity, immigration circumstances, etc., within-group differences that are likely to influence their labor market integration (Hammarstedt, 2001). Likewise, however, the comparator firms also comprise a mixture of ethnicity etc. and would also include some people who had also immigrated, albeit more than five years before the survey. Despite within-group differences between immigrant and non-immigrant groupings, significant between-group differences were expected to persist, arguably affecting firm performance. Conceptual reasoning followed by empirical analysis using a vector of performance measures confirmed this expectation.

Table 8 provides a detailed summary of the hypotheses examined in this work, the test parameters employed, and interpretation of the results. It was found that firms founded by recent immigrants were significantly more likely to export than other firms. This is important because export propensity was found to moderate performance outcomes. The "performance hierarchy" identified here

[19] The authors are grateful to an anonymous reviewer and the field editor for their suggestions with respect to the structure of this portion of the manuscript.

Table 4
2004–2008 growth in revenues ($10,000) per 2004 employee.

	Parameter estimate	Standard error	*p*-Value
Intercept	2.25	1.06	0.035
Age: <2 years	0.19	0.57	0.742
Age: 3–5 years	0.04	0.20	0.851
Majority female-owned	−4.83	0.80	<.0001
50–50 ownership	−0.82	0.59	0.166
Experience	3.04	0.55	<.0001
Services sector	−3.56	0.63	<.0001
Sought financing	2.05	0.68	0.003
Sought trade credit	2.56	0.79	0.001
Growth intention	4.40	0.53	<.0001
Immigrant (*c*)	−3.69	1.46	0.012
Exporter (*b*)	−1.83	0.92	0.046
Immigrant exporter (*d*)	17.66	2.74	<.0001
Scale	9.19	0.000	
		Rho test *p*-value	Rn2 test *p*-value
Hypothesis tests			
$b+d=0$	15.832	<.0001	<.0001
$c+d=0$	13.969	<.0001	<.0001
$c-b=0$	−1.864	<.0001	0.007
Outlier (%)	12.6		
Observations used	1305		
R-square	0.114		

was that exporter firms owned by recent immigrants outperformed firms founded by entrepreneurs who were not recent immigrants and both of these categories of firms outperformed immigrant-owned firms that did not export.

Thus, the first major finding of the study was that new firms founded by recent immigrants that exported outperformed, to a statistically and economically significant extent, all other firms. This result was consistent with theoretical reasoning that immigrant founder-entrepreneurs are especially likely to manage the post-export network development and social capital more effectively than non-recent-immigrants. This result is also consistent with Constant and Zimmermann (2006) expectation that immigrants are "willing to undertake risks" (p. 280), such as the incremental risks associated with foreign trade. However, they appear to be able to mitigate these risks by drawing on their knowledge of the customs and culture of their countries of origin or through contacts with expatriates in other countries. These results are consistent with the knowledge-based view of the firm, insofar as immigrant-owned enterprises create higher levels of new knowledge that then leads toward superior performance.

Table 5
2004–2008 growth in profits ($10,000) per 2004 employee.

	Parameter estimate	Standard error	*p*-Value
Intercept	−0.36	0.24	0.140
Age: <2 years	0.45	0.13	0.001
Age: 3–5 years	−0.12	0.05	0.011
Majority female-owned	−0.05	0.18	0.773
50–50 ownership	0.34	0.14	0.013
Experience	1.08	0.13	<.0001
Services sector	0.16	0.14	0.263
Sought financing	0.30	0.16	0.052
Sought trade credit	−0.74	0.18	<.0001
Growth intention	0.30	0.12	0.012
Immigrant (*c*)	−0.07	0.33	0.823
Exporter (*b*)	−0.52	0.21	0.013
Immigrant exporter (*d*)	1.90	0.62	0.002
Scale	1.87	0.00	
		Rho test *p*-value	Rn2 test *p*-value
Hypothesis tests			
$b+d=0$	1.383	<.0001	0.003
$c+d=0$	1.827	<.0001	0.002
$c-b=0$	0.444	<.0001	0.046
Outlier (%)	14.4		
Observations used	1305		
R-square	0.047		

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Table 6
Growth in employment per 2004 employee.

	Parameter estimate	Standard error	*p*-Value
Intercept	0.05	0.08	0.569
Age: <2 years	−0.00	0.05	0.968
Age: 3–5 years	−0.01	0.02	0.706
Majority female-owned	−0.30	0.07	<.0001
50–50 ownership	0.02	0.05	0.731
Experience	0.24	0.04	<.0001
Services sector	−0.20	0.05	<.0001
Sought financing	0.25	0.05	<.0001
Sought trade credit	0.13	0.06	0.032
Growth intention	0.08	0.04	0.047
Immigrant (c)	−0.38	0.11	0.001
Exporter (b)	−0.30	0.07	<.0001
Immigrant exporter (d)	1.13	0.21	<.0001
Scale	0.67		
		Rho test *p*-value	Rn2 test *p*-value
Hypothesis tests			
$b+d=0$	0.83	<.0001	<.0001
$c+d=0$	0.80	<.0001	<.0001
$c-b=0$	−0.08	<.0001	<.0001
Outlier	0.067		
Observations used	1177		
R-square	0.115		

The second major finding of the study is that firms founded by immigrants who did not export underperformed, on average, all other firm categories. This finding supports the theoretical expectation that immigrant founder-entrepreneurs who lack the cosmopolitan perspective associated with exporting may be subject to decision-making heuristics based on personal histories such that they may be less able to adapt to their new environments. Hence, non-exporter immigrant business owners may be left to compete in a new and alien setting while lacking networks, track records and credit histories thereby compromising their firms' abilities to create new knowledge. Exporting appears to be a dimension that differentiates between especially successful and especially unsuccessful immigrants. This suggests that the ability to capitalize on international aspects of their respective histories may explain divergent previous findings. For example, Ley (2006) and Glover and Sim (2002) both report poor performance of Canadian business-class immigrant entrepreneurs in the Vancouver region. Both samples included a relatively high proportion of Korean immigrants who, according to Ley (2006, p. 743) "were less involved in transnational business activities."

Table 7
2004–2008 growth in salary mass ($10,000) per 2004 employee.

	Parameter estimate	Standard error	*p*-Value
Intercept	10.59	0.38	0.006
Age: <2 years	−0.18	0.21	0.398
Age: 3–5 years	−0.06	0.08	0.422
Majority female-owned	−1.07	0.30	0.000
50–50 ownership	0.37	0.22	0.086
Experience	0.80	0.20	<.0001
Services sector	−0.93	0.22	<.0001
Sought financing	0.14	0.25	0.579
Sought trade credit	1.40	0.28	<.0001
Growth intention	0.94	0.19	<.0001
Immigrant (c)	−1.94	0.52	0.000
Exporter (b)	−1.14	0.32	0.000
Immigrant exporter (d)	10.27	0.97	<.0001
Scale	3.04	0.00	
		Rho test *p*-value	Rn2 test *p*-value
Hypothesis tests			
$b+d=0$	9.13	<.0001	<.0001
$c+d=0$	8.33	<.0001	<.0001
$c-b=0$	−0.79	<.0001	<.0001
Outlier (%)	9.7		
Observations used	1317		
R-square	0.113		

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Table 8
Summary of research findings.

Number	Hypothesis	Finding				Interpretation
1	Young firms owned by recent immigrants are more likely to export than young firms owned by others.	From Table 3, export propensity of young, immigrant owned firms goods producing sectors was 56% and 12% among services firms. Compares with 7% for young firms not owned by recent immigrants; differences significant at $p<0.05$.				Supported. Regardless of sector, export propensity is higher for young firms owned by recent immigrants than for other young firms.
		Tables 4–7 Revenues	Profits	Employment	Salary mass	
2A	Young firms owned by recent immigrants that export outperform young firms owned by recent immigrants that do not export. H2A: $b+d>0$	$b+d=15.83$, $p<0.001$	$b+d=1.38$, $p<0.001$	$b+d=0.83$, $p<0.001$	$b+d=9.13$, $p<0.001$	Supported. $b+d>0$ at $p<0.001$ for all measures.
2B	Export-oriented immigrant-owned enterprises outperform other young firms, both exporters and non-exporters. H2B: $c+d>0$	$c+d=13.97$, $p<0.001$	$c+d=1.83$, $p<0.001$	$c+d=0.80$, $p<0.001$	$c+d=8.33$, $p<0.001$	Supported. $c+d>0$ at $p<0.001$ for all measures.
3A	Businesses that are not export-oriented and are owned by recent immigrants underperform, on average, export-oriented firms owned by others. H3A: $c-b<0$	$c-b=1.86$, $p<0.001$	$c-b=0.44$, $p<0.001$	$c-b=-0.08$, $p<0.001$	$c-b=-0.79$, $p<0.001$	Supported. $c-b<0$ at $p<0.001$ for all measures except profits.
3B	Businesses that are not export-oriented owned by recent immigrants underperform, non-export-oriented firms owned by others. H3B: $c<0$	$c=-3.69$, $p=0.012$	$c=-0.07$, $p=0.823$	$c=-0.38$, $p<0.001$	$c=-1.94$, $p<0.001$	Supported. $c<0$ at $p<0.050$ for all measures except profits.

The third major finding relates to the contingent effect of exporting on firm performance. Previous empirical evidence suggests that exporter firms, on average, perform better than non-exporter firms (Daniels and Bracker, 1989; Lu and Beamish, 2001; McDougall and Oviatt, 1996; Shrader and Siegel, 2007). However, most such studies are limited to small studies and cross-sectional data and are therefore unable to distinguish causality: does exporting enhance performance or do firms export because of their performance? Because this study employed longitudinal growth performance data, the findings indicate that exporting alone is not, in and of itself, a significant determinant of performance—at least in the context of the young firms studied here. Rather, this work infers that the extent to which exporting improves enterprise performance is linked to the nature of the firms that are exporting, and the ability of owners to create new knowledge based on their international orientation.

Likewise, new businesses founded by recent immigrants are much more likely to export than new businesses founded by others. As noted, this implies that recent-immigrant founders may indeed have resources, such as access to international networks and familiarity with foreign markets, which give them a competitive advantage. Recent immigrant owners appear to be more successful than non-recent-immigrant owners in using exporting and post-export social capital, to leverage firm performance. This finding is consistent with knowledge-based theoretical arguments such as those advanced by Nahapiet and Goshal (1998).

The two findings (immigrant-owned exporter firms outperformed but immigrant-owned non-exporters underperformed) shows that the simple question, do immigrant owned firms outperform firms owned by others, is not so simple. This study demonstrates that export propensity moderates performance for immigrant-owned enterprises. Thus, a comparison of performance between immigrant-owned and other firms that does not allow for the moderating effect is apt to find that, on average, the positive performance of immigrant exporters is at least partially offset by the negative performance of immigrant non-exporters. This could explain the variation in conclusions from previous literature, variation that could be exacerbated by the typically small sample sizes employed.

Although secondary in importance to the main study findings, some additional results that contribute to the larger literature on international entrepreneurship and new venture growth also emerged from the analysis.

First, the findings reveal possible gender-related effects with respect to enterprise growth performance in that firms owned predominantly by women underperformed other firms across all four measures of performance. This result is consistent with, and adds to, previous findings regarding the influence of gender on enterprise growth (Boden and Nucci, 2000; Carter et al., 1997; Cliff, 1998; Orser, 2007; Verheul and Thurik, 2001; Verheul et al., 2009). This work appears to be the first to document slower growth among women-owned firms using a variety of performance measures along with longitudinal data. Accordingly, further research seems in order to further examine this result.

Second, owners' experience was strongly correlated with performance. Owners cannot, of course, be endowed with experience. However, this result does suggest that training may be one potential means of alleviating a lack of experience. Accordingly, training may be a useful means of redressing the performance gaps between exporters and non-exporters and between genders.

Third, growth intentions (as articulated in the 2004 survey) and applications for external finance were strongly correlated with subsequent, 2004 to 2008, growth performance. This result suggests an additional means of targeting remedial actions: towards business owners who seek growth. Moreover, these results may imply that factors such as exporting, financing and innovation are secondary: that they are, perhaps, the means of achieving the owners' underlying growth objective.

In spite of the rich data set, several limitations are noted. First, the data do not allow for the examination on performance of the potential effects of either ethnicity or country-of-origin of the immigrant owners. Both of these factors may influence export propensity and growth performance (as noted, for example, by Ley, 2006). However, even with such a large data set, more breakdowns of the sample of 132 immigrant owners (even if information on ethnicity and country of origin were available, which they are not) would result in relatively few observations per cell. Therefore, while the findings support that firms founded by immigrants who are able to leverage their international competitive advantage flourish, it is more difficult to separate this result from the impact of ethnic grouping and other factors. For example, although understanding the dynamics of firm internationalization was not a primary focus of the study, data on country-of-origin and destination-of-export sales could further facilitate the exploration of network theories of firm internationalization in future work. In doing so, however, it must be acknowledged that recent immigrant owners (as well as domestic owners) display a wide variety of ethnic backgrounds. The findings reported here illustrate that it would be interesting to control for ethnic background within the sample of immigrant owners—but this would also need to be accomplished also within the comparator sample of domestic business owners.

Second, this study defines immigrants in the sense of “newcomers.” It may therefore be inappropriate to compare these results to those of other studies that define immigrants differently, such as anyone not born in the host country. Nonetheless, the “immigrant-as-newcomer” approach and an emphasis on young firms enabled the research team to abstract from the very real likelihood that longevity in the host country is likely to militate against discovery of the impacts of short track records and lack of networks. Moreover, previous research may be unclear about the immigrant performance hypotheses—and about many aspects of immigrant entrepreneurs—precisely because of the various and inconsistent ways in which immigrants have been defined. Arguably, both the advantages and disadvantages associated with being a recent immigrant are moderated by time (Hammarstedt, 2001). Over a relatively short period, for example, credit histories and credit scores can be established and personal networks can be formed locally—but may wither internationally. Future work might usefully investigate how quickly, and by what means, immigrant owners overcome the obstacles that confront them.

Third, as with all longitudinal data, attrition of the number of observations is a normal outcome. While the data allowed for identification of exits, the data did not specify the nature of exits (firm failure, acquisition, intentional wind-up, etc.). Accordingly, analysis of the survival aspect of performance is left for future research.

Fourth, endogeneity, often a concern in research that employs regression models, may also influence the findings of this study. For example, one could argue that a positive correlation exists between exporting and competence among immigrants such that immigrant business owners who start an exporting firm may have outperformed other types of business owners even if they had not chosen to start an export firm. Because the counterfactual cannot directly be observed two-stage models are often employed to correct for the unobservable cases that could potentially bias the estimates.[20] While endogeneity is often addressed using either a two-stage methodology, or structural equation models (SEM), this discussion—along with the findings reported here—prompts the need for a broader consideration of causal modeling of the SME growth process. To this point, a next step in the research process that might usefully build on the findings of this work could be the development of a structural equations model of growth. For example, one such model might hypothesize that growth aspiration is an antecedent of performance (see Orser and Hogarth-Scott, 2002) such that growth intention is realized through such actions as exporting, innovation and financing: that is, such factors are means of realizing a growth ambition and not, as is often understood, primary causes of enterprise growth. Immigrant status, competence and gender may be among moderator variables in such a model. Research is underway in this direction.

8. Conclusions

The current literature on immigrants and immigrant-owned enterprises has revealed a compelling research question with respect to the performance and growth of such firms. In drawing on the knowledge-based view of the firms and a unique, large-scale, dataset and longitudinal performance data, this study was able to offer some measure of resolution to the discussion. Although this study is not without limitations, it contributes toward stimulating future research on immigrant entrepreneurs, improving our understanding of new venture growth and international entrepreneurship, refining public policies, and assisting practitioners. The findings might encourage policymakers to consider yet more effective ways to stimulate international trade among SMEs—and immigrant-owned enterprises in particular. Agencies tasked with supporting international trade might be encouraged to consider cross-border initiatives targeted at those immigrant entrepreneurs who are able to engage in internationalization. The study findings suggest the need to understand further the process of acquisition and diffusion of social capital by entrepreneurs. Practitioners might benefit from understanding how immigrant owners leverage social capital endowments in order to export

[20] In this particular instance, a logistic regression model with export propensity as the dependent variable was estimated as a function of explanatory variables that included measures of owners' experience, age, gender and a vector of control variables; however, the model proved to be a poor fit to the data.

products or services—leading to superior levels of growth for their firms. Gaining a yet better understanding of the particular challenges encountered by immigrant entrepreneurs, and means by which barriers were overcome, is a natural continuation in the direction of this work.

The study's focus on immigrant founder-entrepreneurs and the contingent effects of exporting on firm performance suggest several additional avenues for further research. Examples include:

- Whether immigrant-owned enterprises are more likely to export products or services to home countries or, in the context of Canada, to the United States (destination for the vast majority of Canadian exports) or to other countries where diaspora may be located. It would be beneficial for future research to explore internationalization with respect to country-of-origin as well as country-of-destination over time among immigrant and non-immigrant business owners.
- Comparison of the network composition of immigrant and autochthonous businesses between owners who do and do not export. Given that the study found exporter immigrant-owned enterprises to outperform all other firm cohorts, understanding whether exporting firms also import (a relevant issue for trade balance), and if importing is associated with firm growth, are suggested as areas of future inquiry.
- On balance, immigrant-owned enterprises do not outperform firms owned by non-immigrants. In large part, this is because one group (exporting immigrant-owned enterprises) performed extremely well while non-exporting immigrant-owned enterprises performed poorly. Future research might focus on identifying additional factors that might help to further explain differential performance between these two groups of immigrant-owned enterprises.
- Results that emerged with regards to gender effects and performance also offer support for future empirical and policy-related research on immigrant entrepreneurs that focuses on gender-related issues.
- Finally, future work could usefully consider on the cognitive underpinnings of the opportunity recognition processes of immigrant entrepreneurs and how such processes may be altered based on degree of familiarity with host country environments and to what extent these processes are tied to business owners' home country environments.

More broadly, the usage of the knowledge-based view of the firm, as a theoretical framework for explaining the complex, multi-level relationships in this study suggest that the framework could enhance the comprehensiveness of explanations in entrepreneurship research that seeks to span multiple levels of analysis. Moreover, recognizing that knowledge is a crucial performance antecedent for entrepreneurial firms further supports the need for research that explores how new knowledge is created within firms and used as a resource for enterprise growth.

Finally, the results bear important implications for public policy. To the extent that systemic differences in performance exist (for example, between immigrant and non-immigrant, between male and female, etc.) economic development is below potential. As Bardasi, Sabarwal and Terrell (2011, p. 417) assert:

> "A performance gap between [different categories of] entrepreneurs … would imply that countries are not fully utilizing their human and physical capital and that the repercussions on their (and their country's) growth potential are negative."

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