

Financial, Gender and Continuity Issues in Regional Small Business: Management and Policy Implications Derived from Canadian and New Zealand Survey Evidence

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Globalization and urbanization are making the employment-and-wealth-distribution roles of regional small businesses (SBs) increasingly important to regional-socio-economic-and-political stability. This study in contrasting the outcomes of a survey of 220 regional SBs in Canada and New Zealand (NZ) found that: regional SB continuity is significantly higher than commonly presumed; tax-and-life-style differences may have skewed continuity in NZ SBs; female NZ SB entrepreneurs tend to have under half the sales of their male counterparts (a relationship not found in Canada); SB entrepreneurs are slow in adopting the internet for marketing. These findings should interest policy makers, creditors, and the general business community.

INTRODUCTION

While the importance of SBs in management policy and practices has become increasingly apparent in the current socio-economic and political environment, research on regional SBs has not yet been developed into a full understanding of their regional and national importance. Urbanization, caused first by industrialization and now by post-industrialization concentrating ever more employment opportunities and population in cities (Catto, 2003), can overwhelm infrastructure in cities, while existing infrastructure in regions is underused and decaying. While regional SBs can act as a major stabilizing and slowing force in this process, by creating new employment and investment opportunities in the regional parts of a country, this role may be under-recognized because;

- Typically, empirical research on SBs is based on studies dominated by, or exclusively of, urban SBs (Papadaki and Chami, 2002). As a result, SB policy may be better matched to the attributes, needs, and contribution of urban SBs than to regional SBs (Lowe and Henson, 2006; Kennedy and Tennent, 2006), and
- Globalization and the internet, by extending SB market-reach and reducing their cost of reaching distant markets, are reducing distance-and-border barriers that traditionally shielded regional SBs from competition from, and access to, urban and world markets (Brown, 2003).

Thus, just as regional SBs face increasing threats and opportunities outside of their regions, SB policy may be increasingly mismatched to their needs. This study seeks to offset the common urban bias in SB

research by contrasting the outcomes of a survey of regional SBs in Canada and New Zealand (110 in each country), by country and to a synthesis of received SB literature, government studies, and widely-held SB models.

The decision to sample regional SBs in Canada and NZ makes the findings more general and the choice of these countries reflects similarities, such as:

- i. Trade patterns with their neighbor, who is much larger (population and economic power),
- ii. Development strategies that rely heavily on primary products,
- iii. Populations being concentrated in a few cities,
- iv. Strong social-safety nets,
- v. A treaty approach to relations with indigenous peoples, and
- vi. Climate, demography, and physical geography.

This study considers whether regional-SB-friendly policies are desirable in Canada and NZ and if commonly-held perceptions of SBs are a sufficient basis for such policies. A number of hypotheses are developed in this study (from the literature review) and are evaluated using survey data from regional SBs in Canada and NZ (that were selected via a stratified-random process). The study uses empirical data to evaluate: Continuity rates; Past-and-expected internet usage; and Financing choices. Also, Firm-specific variables (including financing choices) and management-specific variables are regressed against the perceived-financial-condition of SBs, the gender of their entrepreneurs and their age. This study complements existing literature by identifying a gap between common perceptions of SBs and the attributes, needs, and contribution of regional SBs. The findings in this study should be interest to policy makers, creditors, and the business community.

The rest of this paper is organized as follows: First a literature review and hypotheses are given, next a theoretical foundation on the methodology and choice of variables are provided; a description of the methodology and data are discussed in the following section followed by empirical findings; and the final section provides the conclusion with policy implications and future research.

LITERATURE REVIEW AND HYPOTHESES

An Overview of SB Contribution and Attributes in Canada and NZ¹

National needs, history and perspectives affect each country's SB definition. In Canada, SBs are firms with under \$5 million in sales and under 100 employees (Canada's SB Data Centre, 2008). While NZ's Ministry of Economic Development (MED, 2006) does not define SBs, it defines small and medium enterprises (SMEs) as firms with under 20 employees. The similarity of the definitions caused this study to treat NZ SMEs as being interchangeable with Canadian SBs (Morrison, 1999). A notion of the average size of NZ SBs can be found in Table 1.

TABLE 1
THE AVERAGE 2004 SALES PER NZ SB

Number of Employees	Average sales (NZD)
0	174,810
1-5	288,578
6-9	974,347
10-19	1,743,531

Source: AES, 2005

In 2004, SB contributions to Canadian and NZ GDP were, respectively 24 percent (Industry Canada, 2008) and 39 percent (AES, 2005). Canadian SB numbers rose from 600,000 in 1979 (Knight, 1979) to 2.6 million in 2005 (Ontario, 2006). In 2000-05, SBs provided 60 percent of private-sector jobs (Stats Canada, 2007; Loveman and Sengenberger, 1991). NZ SMEs accounted for 96.3 percent of total NZ firms in 2005 and 42.3 percent of full-time employees (FTEs) in 2003 (MED, 2006). From 1975-82, firms

with under 50 employees created all net new jobs in Canada (CFIB, 2008); large firms contributed 30 percent of employment prior to 1980 but shed many of those jobs in the 1980-82 recession. Employment data for NZ SBs/SMEs is incomplete (Morison, 1999). However, from 1997-2002, NZ SBs with 0-5 FTEs created 180,370 new jobs; in 2004, 96.3, 86.8, and 64.7 percent of NZ firms had, respectively, 19 or fewer, five or fewer, and no paid employees. In 2004/05, NZ SBs created 44 percent of all jobs (Lewis, 2004; Massey, et al., 2003).

Thus, as a group, SBs are the largest employers in both countries and are rising in importance. This rising importance likely occurs because, as large firms respond to technology and competitive pressures by an ongoing shedding of labor, many newly unemployed are soaked-up by newly-formed SBs. Thus, in regional areas, SBs are a key social-continuity-and-harmony bulwark—they mitigate and slow the decades-long trend of rural to urban migration (Catto, 2003).

The Role of Financing

Managing financing is a key factor for SBs throughout their lifecycle (Terpstra and Olson, 1993; SEC, 2004; CIBI, 2006; SME FDI, 2006; Hettihewa and Wright, 2007) and many empirical and anecdotal studies suggest that *financial decisions* are among the top nine SME challenges (Jones, 1979; Welsh and White, 1981; Van Auken and Neely, 1996; Coleman, 2000). Kaplan (1979) asserts that a lack of start-up-and/or venture-capital, a dearth of merchant banks, and requirements for massive collateral, encourage: *short-termism* in lending, demands for high paybacks, scarcity of equity capital, and a lack of assistance by financiers. As a result, trade credit is likely to be important for SBs. García-Teruel and Martínez-Solano (2010), focusing on 47,197 SMEs in Europe (1996–2002), found a strong homogeneity in the factors determining trade credit, and that firms with easy access to funding tend to grant more trade credit to their customers; suggesting that tight monetary policy likely disproportionately burdens small firms via a cascading tightening of trade credit. La Rocca, et al. (2010) found SMEs tend to be heavily dependent on local institutions for financing; as a result, regional SBs may have more-limited financing options than urban SBs.

Financial Risk

Proprietors of SBs find the non-dilution-of-ownership trait of debt desirable. However, the perceived higher risk and small asset-base of SBs make accessing debt difficult. Regional SBs find accessing new financial products, information, and training to be more difficult than urban SBs. Serrasqueiro and Nunes (2008) found that debt and low fixed-assets reduce credit access, that separation of management and ownership has a positive influence, and liquidity, risk and ownership control were irrelevant.

Risk and Bankruptcies in SBs

Dun and Bradstreet statistics suggest that 88.7 percent of SB failures are attributed to management error (Duncan, 1993). Knight (1979) found that many failed SBs: did not keep reasonable financial records, considered cash-flows unimportant, and relied almost exclusively on bank financing (banks forced the failure in 85 percent of Knight's sample of 1,000 bankrupt firms). In 1998, 28 and 27 percent of bankruptcies were due, respectively, to financing and inside business conditions (Bradley and Cowdery, 2004)². Nemetz and Fry (1988), Boswell (1972), and Hoad and Rosko (1964), found that SMEs have a more intense perception of business risk than large businesses. Serrasqueiro and Nunes (2008) also found a positive size-to-performance relationship.

Operating risks are also rising, as regional SBs increasingly compete with urban SBs and firms in other nations. Bradley and Cowdery (2004) found that 38.5 percent of SB bankruptcies are due to outside-business conditions, including increased competition. Also, the perceived low-continuity rates of SBs cause creditors to see them as highly risky and, by bottlenecking access to credit, that perception may become a self-fulfilling prophecy.

HYPOTHESES AND THEORETICAL FOUNDATION FOR THE METHODOLOGY

The following null hypotheses were developed from the literature review for testing with the Canadian and NZ data:

- H1:** Regional SBs have a higher continuity than what is commonly perceived for SBs,
- H2:** Regional SBs make little or no use of internet marketing,
- H3:** The perceived financial condition of SBs can be predicted from their attributes, their financing choices, and the characteristics of their entrepreneurs,
- H4:** The gender of a SB entrepreneur can be predicted by the perceived financial condition of their SB, the attributes of their SB, the financing choices of their SB, and non-gender characteristics of the entrepreneur, and
- H5:** The age of a SB can be predicted by its perceived financial condition, attributes, financing choices, and the characteristics of its entrepreneur.

The notions behind the above hypotheses are discussed in more detail below.

Continuity

The perception that SBs have low continuity rates is a key factor in them being seen as high credit risks. However, per Law and MacLellan (2005) and Mayer and Goldstein (1961), low continuity may be more due to dynamism than fragility. Further, much of high risk perception arises from statistics (e.g. Table 2) that agglomerate SBs across size and urban and regional locations and may be skewed by a few high risk groups.

TABLE 2
CONTINUITY RATES BY FIRM SIZE, CANADA (1994-2003)

Number of Employees	Continuity Rate, After the			Inferred Annual Discontinuity Rate
	1 st Year	5 th Year	9 th Year	
00-04	72 %	35 %	23 %	15.1 %
05-99	70 %	37 %	26 %	13.9 %

Source: Stats Canada, 2006

In NZ, the *transition rate* (a proxy for business growth—the change in the number of employees in firms over time) suggests that many SMEs persist at the same employee count (EC) or drift into a lower bracket. Sixty-six percent of firms with a 1-5 EC remained the same size in 2006 and just over three percent shifted to the 10-19 EC size. However, in terms of performance, the (Statistics NZ) Annual Enterprise Survey (AES, 2005) shows that firms with 1-5 EC in 2004 had the highest profit per employee of all EC groups and the next highest group was 6-9 EC. In this study continuity was examined via descriptive statistics and ordinal-logistic regression analysis (see Model 3).

Internet Usage and Globalization

Regional SBs have traditionally operated mostly in sheltered, monopolistically-competitive, local markets that afforded a complacent response to change (Nassimbeni, 2001). The current pace of globalization and e-commerce change SB risks and opportunities by: shrinking time-and-distance barriers, shifting market definitions and boundaries and reducing market refuges (Pope, 2002; Hettihewa and Wright, 2007). Regional SBs may be at more risk if they are less willing or less able to exploit the benefits created by technological change. This study's review of regional SB usage of the internet (via descriptive statistics) makes it uniquely important in terms of future-policy implications.

Financing Issues

Bradley and Cowdery (2004), Nemetz and Fry (1988), Hoad and Rosko (1964) Boswell (1972) and Reid (1996) suggest that financing is a key SB issue. Several theories underpin the financing issues portion of the survey questionnaire in this study:

- *Capital-structure decisions* (Modigliani-Miller, 1958; Terpstra and Olson, 1993) are a key survival determinant for young SBs. Holmes and Kent (1991) and Michaelas, et al. (1999) performed a comparison of capital structures in, respectively, Australia and the UK. . Levin and Travis (1987) assert that, if traditional leverage theory is not applicable, an owner's risk attitude sets a suitable debt-to-equity ratio.
- *Growth-cycle Theory* postulates that, as firms grow, a succession of financing options become attractive and available (Berger and Udell, 1998; Hall, et al., 2000).
- *Pecking-Order Theory* (POT; Myers, 1984; Myers and Majluf, 1984) suggests that firms rank and prioritize funding sources in terms of the effort to obtain it. Exceptions, where the survey findings did not validate the above theories, are noted and explained. Lopez-Garcia and Sorgob-Mira, 2008 assert that firms prefer internal finance and if external finance is required, they start with debt, to minimize ownership dilution.

Empirical research indicates that all of these theories provide useful insights into the financing choices of firms and that none is sufficiently robust to stand alone—for example: Berger and Udell (1998) found that smaller-and-less-transparent firms rely on inside finance, trade credit and angel capital until stability is achieved and financing sources widen. Elston (2002) suggests that financial constraints vary inversely with firm size, Chittenden, et al. (1996) note that financial constraints affect SB growth, and Gregory, et al. (2005), found firm size (employee numbers) is a good predictor of capital-structure. Sogorb-Mira (2005) found: a negative relationship between non-debt tax shields, profitability and SME leverage and a positive relationship between size, growth options, leverage and SME capital structure. Freear, Sohl and Wetzel (1995) found bootstrap financing to be more creative than traditional financing approaches. Ayyagari, et al., (2007) found, for 76 countries, that lower entry costs and better credit-information sharing lead to a larger SME sector. Evans (1987) and Yasuda (2004) found a negative relationship between growth and firm size. Heshmati (2001) noted that SB sales growth and indebtedness were positively correlated (Becchetti and Travato, 2002; Elston, 2002). Nicolini (2001) found that sectorial differences have little effect on SME behavior and performance. An investigation by Honjo and Harada (2006), on public policy and financial structure, found that SME growth was favorably affected by cash-flow and government incentive schemes. Financial issues were examined via ordinal-logistic regression analysis (see Model 1).

Gender Issues in SBs

A significant share of Canadian and US SMEs are run by female entrepreneurs (FEs), respectively, 36 and 38 percent). Roper and Scott (2009) noted that, after adjusting for income, education, and experience differences, FEs were 7.4 percent more likely to perceive financial barriers to business start-up, but could not explain what caused that difference. In counter-point, Fabowale, et al. (1995) and SME FDI (2006) found that actual gender-based differences in credit access can be explained by differences in the track-record and structure of firms. However, the structural attributes lenders use as risk proxies may be linked to gender and, thus, represent indirect and/or unintended gender discrimination. In considering such attributes, Cuba, et al. (1983) and Sirinivason, et al. (1994) assert that FEs have smaller SBs with lower financial performance and slower growth than male-run SBs. Shim, et al. (1998) and Sirinivason, et al. (1994) suggest that such attributes may arise from noneconomic motivations, including a less-aggressive, less-growth-oriented focus. Heilbrunn (2004) found that businesses of FEs are smaller, more service oriented and *cheaper* to finance. These attributes were also considered, at various SB growth stages, by Shim and Eastlick (1998) and SME FDI (2006). Robson and Obeng, (2007) found that business barriers were related to the entrepreneur's education but not to their age or gender. Other researchers (Smeltzer, et al., 1989) found that FE SBs are as successful as those run by males. While LeCornu, et al., (1996) suggest nonfinancial returns are as important to SBs as financial returns, an analysis of regional FE-run SB performance has not been done to confirm such findings. Given that regional SBs often have less access to new information, new-financial products, technology, and training than urban SBs, it is

important to understand the gender-driven attributes of regional SBs. Gender issues were examined via descriptive statistics and binary regression analysis (see Model 2).

Managerial Factors

While Scherr (1989) asserts that managerial variables are crucial issues in SB failure, El-Zeyaty (1986) found that performance/financial-ratio models are poor predictors of bankruptcy. Lussier (1995) tested quantitative and qualitative managerial success/failure factors of SBs using a non-financial model and found that successful entrepreneurs often had less education but made better use of professional advice and had specific business plans. Managerial factors made up a large part of the independent variables in the regression models.

DESCRIPTION OF METHODOLOGY AND DATA

This study is based on responses to questionnaires with 46 and 51 questions distributed to 110 SB entrepreneurs in each of, respectively, Canada (2006)⁵ and NZ (2007)⁶. A stratified-random selection process was used to ensure that the responses were not dominated by one type of SB (e.g. restaurants). The effective response rates of 24.6 and 32.3 percent in, respectively, Canada and NZ are reasonable, for this type of mail survey (e.g. 23.0, 20.5, 24.0, and 30.9 percent in, respectively, Karagozoglu and Lidell, 1998; Fletcher, 2001; Pope, 2002; and Holmlund et al., 2007; also, 27.6 and 24 percent for Batten et al., 1997 and 1999).

Regional SB Continuity

Continuity of SBs can be difficult to analyze in a cross-sectional study. Fish-and-game managers overcome a similar problem by using age profile to estimate survivorship/continuity. Table 2 shows the continuity rates for Canadian SBs and the inferred annual discontinuity rate over 9 years. The questionnaire provided information on the continuity of regional SBs by asking how many years since your firm was founded and then that data is related to the responses on firm size.

Internet Usage

The importance of the internet to the business was inferred by asking NZ SBs the percentages of their annual sales generated via the internet: Three years ago, Currently, Expected in three years? This question was added after several Canadian regional SBs noted that internet marketing greatly enhanced their sales.

Financing, Gender, and Managerial Issues

Regression models 1 through 3 are used for each country to examine, respectively, the SB's perceived financial condition, the gender of its entrepreneur, and its age. Each model started with a large number of variables and the correlation matrix was used to identify well-correlated variables for retention into the next iteration of the model (e.g. Model 1 has iterations of 1.1 to 1.3). However, some poorly-correlated variable were retained to provide a comparison between countries. While it is always nice to have a strong regression result, the intent in this analysis is to examine the effect of specific factors, rather than to make predictions. In comparing and contrasting Canadian regional SB's with their NZ counterparts, the initial model reviews how the principals of regional SBs perceive the financing situation of their firm is affected by a selection of capital structure, firm-specific and management-specific variables:

FIGURE 1
GENERAL-FORM MODEL (EQN 1)

$$FC = \alpha + \sum_{i=1}^n \beta_i X_i + \sum_{j=1}^m \varphi_j K_j + \sum_{k=1}^p \lambda_k Z_k + \varepsilon \quad (1)$$

FC = perceived financial condition
 X_1 to X_n = firm-specific effects
 K_1 to K_m = capital structure types

Z_1 to Z_p = management-specific effects
 ε = sum of unexplained-error disturbances

The initial analysis (Model 1.1), using the SPSS statistical package, began with 17 and 18 independent variables (i.e. from the questionnaire responses) for, respectively, Canada and NZ, in an ordinal-logistic regression against the respondent's perception of the financial condition of their firm.⁷ Models 2 and 3 (gender and firm-age, described by eqns (2) through (3a)) were developed by reordering eqn (1) to change the dependent variable and are used to determine if a SB's attributes can be used to profile the gender of its principal and/or its age. The binary nature of the Model 2 makes the binary-regression-analysis function in SPSS appropriate. The ordinal-logistic-regression function in SPSS was used to analyze Model 3.

EMPIRICAL FINDINGS AND ANALYSIS

Regional SB Continuity

The 81.8 percent survivorship to over 10 years for the sample of responding Canadian SBs (Table 3) infers that their annual continuity rate exceeds 98 percent p.a.; the resulting discontinuity rate of under two percent is far lower than the 14 to 15 percent average discontinuity rate for Canadian SBs in Table 2. The grimmer story told in Table 3 for NZ can be explained by the NZ life-style-and-tax rules (i.e. after five years, NZ SBs must prove an intent to earn a profit; whereas, Canadian SBs face that burden of proof from inception). Thus, to make sense of the NZ SB survivorship, it must be separated by firm size *before-and-after-the-tax-crisis point*. Where this is done in Table 4, there is a clear divide between firms of three-and-fewer employees and larger SBs. The smaller firms are severely affected by the five-year-tax cut-off—with annual survivorships falling from around 94 percent to under 75 percent.

TABLE 3
FIRM-AGE PROFILE OF REGIONAL SBS RESPONDING TO THE QUESTIONNAIRE

Years Since Founding	Canada		NZ	
	% of Responding	Survivorship	% of Responding SBs	Survivorship
< 01 yrs	0.0 %	100.0 %	7.5 %	100.0 %
01 to 03 yrs	4.5 %	100.0 %	10.0 %	92.5 %
03 to 05 yrs	4.5 %	95.5 %	30.0 %	82.5 %
05 to 10 yrs	9.2 %	91.0 %	17.5 %	52.5 %
> 10 yrs	81.8 %	81.8 %	35.0 %	35.0 %

† The survey provides a cross-sectional snapshot of the age of respondent firms from which the minimum survivorship can be inferred. *Ceteris paribus*, if SBs have a low survivorship, the cross-section should show a large number of young firms and a high survivorship will result in a large number of older firms. Thus, the pattern in the survivorship bias can be used to infer the minimum survivorship by subtracting the “% of Responding SBs” from the previous survivorship balance—this is a minimum survivorship; because an unknown number of firms, which have survived into their current age category, may not survive into the following age category.

TABLE 4
FIRM-AGE PROFILE FOR NZ SBS, SPLIT-OUT BY SB SIZE

Number of Employees	Canadian SB Survivorship % to			NZ SB Survivorship % to		
	3-to-5yrs	Over 5yrs	Over 10yrs	3-to-5yrs	Over 5yrs	Over 10yrs
≤ 3	100.00 %	75.00 %	75.00 %	76.47 %	23.53 %	5.88 %
≥ 4	94.44 %	94.44 %	83.33 %	91.67 %	75.00 %	58.33 %
	Inferred Annual Survivorship			Inferred Annual Survivorship		
≤ 3	98.58 %	98.86 %	75.32 %	93.51%	74.87 %	75.32 %
≥ 4	98.58 %	98.86 %	98.19 %	97.85 %	94.41 %	94.75 %

Internet Usage

While the internet usage of NZ SBs has improved somewhat, Table 5 suggests that a great majority are not using, and do not expect to use, the internet for marketing and that the vast majority have little-or-no internet involvement.

TABLE 5
SHARE OF SALES GENERATED BY THE INTERNET

Sales	3 Yrs Ago	Current	Expected in 3 Yrs
00%	75.0%	65.0%	65.0%
00-05%	12.5%	17.5%	12.5%
05-10%	2.5%	2.5%	2.5%
10-15%	0.0%	5.0%	0.0%
15-20%	5.0%	2.5%	10.0%
20-30%	5.0%	0.0%	0.0%
30-50%	0.0%	5.0%	0.0%
> 50%	0.0%	2.5%	10.0%
Total	100.0%	100.0%	100.0%

Analysis of the Perceived Level of Financial Difficulty—Model 1

The Model 1 (eqns (1a) and (1b)) considers the questionnaire respondents' perceptions of the financial condition of their SBs, as a function of selected attributes of the SBs and the respondent:

FIGURE 2
MODEL 1.1 – FINANCIAL CONFIDENCE (EQN 1a & 1b)

$$\begin{aligned}
 FC_{\text{CDN}} = & \alpha + \beta_1 \text{Ind} + \beta_2 \text{Emp} + \beta_3 \text{REV} + \beta_4 \text{IS} + \beta_5 \text{BT} + \beta_6 \text{FAGE} + \beta_7 \text{FRec} + \beta_8 \text{PLR} + \\
 & \varphi_1 \text{KapIn} + \varphi_2 \text{KapTc} + \varphi_3 \text{KapBs} + \varphi_4 \text{KapBm} + \\
 & \lambda_1 \text{Rage} + \lambda_2 \text{Rgen} + \lambda_3 \text{REd} + \lambda_4 \text{RWExp} + \lambda_5 \text{RMExp} + \lambda_6 \text{REB} + \varepsilon
 \end{aligned}
 \tag{1a}$$

$$\begin{aligned}
 FC_{\text{NZ}} = & \alpha + \beta_1 \text{Ind} + \beta_2 \text{Emp} + \beta_3 \text{REV} + \beta_4 \text{IS} + \beta_5 \text{BT} + \beta_6 \text{FAGE} + \beta_7 \text{FRec} + \beta_8 \text{PLR} + \\
 & \varphi_1 \text{KapIn} + \varphi_2 \text{KapTc} + \varphi_3 \text{KapBs} + \varphi_4 \text{KapBm} + \\
 & \lambda_1 \text{Rage} + \lambda_2 \text{Rgen} + \lambda_3 \text{REd} + \lambda_4 \text{RWExp} + \lambda_5 \text{RMExp} + \lambda_6 \text{REB} + \varepsilon
 \end{aligned}
 \tag{1b}$$

See Table 6 for variable descriptions.

As expected, the first iteration of the Model 1.1 (per Table 6) was relatively poor for both Canada and NZ. Eleven variables in the Canadian data that were well correlated with the dependent variable (per the correlation matrix) were retained for Model 1.2. Model 1.2 significantly improved the Canadian statistics; the equation approached 10 percent significance and two parameters were 10 percent significant. Applying Model 1.2 to the NZ data gave significantly weaker statistics and indicated that SBs in regional NZ differ significantly from their Canadian counterparts. When respondent perceptions of the interest rate were added to Model 1.2 to create Model 1.3, the NZ statistics were improved and one parameter became marginally significant. Table 6 gives detailed findings for the analysis.

TABLE 6
STATISTICAL RESULTS FOR MODELS 1.1 – 1.3 (PERCEIVED FINANCIAL CONDITION)

Independent Variable and Description		Model 1.1				Model 1.2				Model 1.3	
		Canada (eqn 1a)		NZ (eqn 1b)		Canada		NZ		NZ	
		Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test
Ind	Industry type	0.076	0.257	0.185	1.345	na	na	na	na	na	na
Emp	Employees	0.051	1.802	0.031	0.281	0.037	1.853	0.013	0.097	-0.012	0.064
Rev	Revenues	-0.471	0.588	-1.007	2.946	na	na	na	na	na	na
IS	% International sales	23.211	1.513	-1.492	0.419	na	na	na	na	na	na
IP	% International purchases	0.148	0.002	-1.772	1.232	na	na	na	na	na	na
KapIn	Internal capital	1.247	0.452	-0.714	0.214	0.735	0.282	0.420	0.142	0.645	0.303
KapTC	Trade credit	5.447	1.817	-3.507	3.373	4.419	1.668	-2.295	2.088	-1.659	1.022
KapBS	Bank short-term loans	-2.790	1.779	-5.928	2.473	-3.372*	3.735	-3.076	0.924	-2.661	0.681
KapBM	Bank medium-term	1.754	0.459	-2.642	1.435	na	na	na	na	na	na
BT	Business type	0.220	0.204	0.429	1.283	na	na	na	na	na	na
FAge	Firm age	0.864†	1.902	0.441	1.091	0.421	0.767	-0.018	0.003	0.049	0.022
FRec	Record keeping frequency	-0.739	0.325	-0.158	0.102	0.191	0.031	-0.142	0.101	-0.253	0.293
RAge	Respondent Age	-2.350*	3.671	1.071	2.542	-2.274*	4.799	0.965	2.806	1.184*	3.881
RGen	Respondent gender	-1.504	1.105	1.875	2.268	-0.607	0.304	0.713	0.730	0.967	1.236
REd	Respondent education	-0.056	0.014	-0.497	1.663	0.118	0.119	-0.208	0.681	-0.030	1.508
RMExp	Respondent management experience	0.845	2.087	-0.912	3.195	0.489	1.112	-0.482	1.378	-0.516	1.526
REB	Respondent employment background	-0.356	1.170	-0.517	3.405	-0.418	0.175	-0.288	1.527	-1.232	0.951
PLR	Perception of lending rate	na	na	na	na	na	na	na	na	1.297	3.337
Pseudo R² (Cox and Snell)		0.493		0.326		0.442		0.201		0.264	
Chi-Square		21.736		16.580		18.674		9.429		12.871	

*** Significance at 1 percent; **Significance at 5 percent; * Significance at 10 percent

Gender as a SB Issue—Model 2

While gender inequality is a significant issue in management and finance literature, the earlier model suggests that the respondent's gender is not statistically correlated with their perception of their SB's financial difficulty (e.g. the correlation was slightly negative and slightly positive in, respectively, Canada and NZ). This unexpected outcome was further explored by determining if a respondent's gender is predicable by the responses on key attributes of their SB and what such predictability implies, with respect to their society. Equations (2) and (2a) are used in the estimations and the variable descriptions are in Table 7.

FIGURE 2
MODEL 2 – GENDER (EQN 2 & 2a)

$$\text{Male}_{\text{CDN}} = \alpha + \beta_2 \text{Emp} + \beta_3 \text{Rev} + \beta_{16} \text{FC} + \beta_5 \text{KapIn} + \beta_6 \text{KapTC} + \beta_7 \text{KapBs} + \beta_{10} \text{FAge} + \lambda_1 \text{RAge} + \lambda_2 \text{REd} + \lambda_5 \text{RMExp} + \lambda_6 \text{REB} \quad (2)$$

$$\text{Male}_{\text{NZ}} = \alpha + \beta_2 \text{Emp} + \beta_3 \text{Rev} + \beta_{16} \text{FC} + \beta_5 \text{KapIn} + \beta_6 \text{KapTC} + \beta_7 \text{KapBs} + \beta_{10} \text{FAge} + \lambda_1 \text{RAge} + \lambda_2 \text{REd} + \lambda_5 \text{RMExp} + \lambda_6 \text{REB} \quad (2a)$$

Per Table 7, eqn (2) explains almost one third of the variance in the Canadian data and one parameter (respondent employment background) approached significance at 10 percent. The fitting of eqn (2a) to the NZ data generated equivalent results, with a Cox and Snell R² of 38 percent but a slightly weaker test of significance. One parameter (respondent education) is significant, at 10 percent. Similar to what was done with the first model, the correlation matrix was used to fine-tune the Canadian and the NZ models to Model 2.2. The Canadian statistics were considerably improved, in terms of fit. However, the statistical results for NZ were significantly degraded. As a result, the comparison results in Table 7 are taken from the statistical results of Model 2.1.

TABLE 7
STATISTICAL RESULTS FOR MODELS 2.1 AND 2.2 (GENDER)

Independent Variable and Description		Model 2.1				Model 2.2			
		Canada (eqn 2)		NZ (eqn 2a)		Canada		NZ	
		Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test
Emp	Employees	0.054	0.484	0.045	0.360	na	na	na	na
Rev	Revenues	-1.580	0.527	0.364	0.324	na	na	na	na
FC	Financial difficulty	-0.899	0.600	0.392	0.288	-0.364	0.187	0.164	0.120
KapIn	Internal capital	1.387	0.896	-0.529	0.153	na	na	na	na
KapTC	Trade credit	0.588	0.051	-0.830	0.123	na	na	na	na
KapBS	Bank short-term loans	5.008	1.179	-7.379	1.796	2.976	1.070	-2.633	0.562
FAge	Firm age	0.650	0.786	0.354	0.452	na	na	na	na
BT	Business Type	na	na	na	na	-0.343	0.759	0.066	0.070
RAge	Respondent Age	-0.054	0.001	-0.119	0.027	na	na	na	na
REd	Respondent education	0.232	0.138	1.042*	5.402	na	na	na	na
RMExp	Respondent management experience	0.465	0.519	0.820	3.007	0.394	0.794	0.616*	4.170
REB	Respondent employment background	0.826*	3.635	0.069	0.031	0.702*	4.331	0.145	0.354
Cox and Snell R²		0.315		0.384		0.283		0.139	
Chi-Square		12.207		11.591		10.624		6.300	

*** Significance at 1 percent; **Significance at 5 percent; * Significance at 10 percent

The simple descriptive statistics in Table 8 show that, NZ FEs have less than half of the sales of their male counterparts and in Canada they have slightly more sales. Table 9 suggests that this relationship is not due to the tax practices in NZ (e.g. the SBs of NZ FEs are, on average, nearly 30 percent older than those run by men). It is interesting to note that Canadian SBs tend to be significantly older than NZ SBs and there is little gender difference in their average age. These effects should be further studied in more detail in NZ and other countries.

TABLE 8
COMPARISON OF SB GROSS SALES BY ENTREPRENEUR GENDER, COUNTRY, AND WITH GENDER/WAGE RATIO

Country	Avg. Gross Sales by Gender of SB Entrepreneur			Female/Male Ratio for	
	Female	Male	Average	Gross Sales	Employment Wages 2008 [†]
Canada	\$1,118,000	\$1,056,000	\$1,093,000	106.1%	71.8 %
NZ	\$503,000	\$1,073,000	\$813,000	47.1%	78.8 %
(Canada/NZ) x 1.32469 [‡]	294.1%	130.1%	178.1%	225.1%	91.1%

[†] Hausmann, et al., 2009, p.9; [‡] CAD to NZD Exchange rate

TABLE 9
COMPARISON OF FIRM AGE BY ENTREPRENEUR GENDER AND COUNTRY

Country	SB Age by Gender of SB Entrepreneur			
	Female	Male	Average	Female/Male Ratio
Canada	11.08 yrs	11.22 yrs	11.18 yrs	99.1%
NZ	7.98 yrs	6.21 yrs	7.05 yrs	129.1%
Canada/NZ	139.1%	181.1%	178.1%	

Firm Age and SB Continuity—Model 3

As discussed earlier, SBs are perceived as highly risky with failure rates approaching 80 percent in the first five years. Table 2 shows slightly higher, but still dismal, average continuity rates for Canadian SBs.

However, if the great majority of all SBs were failing in the first five years, the SB profile in Table 3 would tend to have a greater weight of younger firms. The beyond-five-year continuity rate for regional SBs in Canada and NZ (inferred by Table 3 is, respectively, 91.0 and 52.5 percent. As noted previously, lower NZ continuity rates may have been due to tax practices encouraging lifestyle SBs to form and then disband after five years and Table 4 clearly shows this discontinuity.⁸

Model 3 (eqns 3 and 3a) explores the nature of SB continuity with the intent of determining if the age of respondent SBs is predictable by their questionnaire responses and what such predictability implies.

FIGURE 3
MODEL 3 – FIRM AGE (EQN 3 & 3a)

$$FAge_{CND} = \alpha + \beta_2 Emp + \beta_{16} FC + \beta_5 KapIn + \beta_7 KapBs + \beta_8 KapBM + \beta_9 BT + \lambda_1 RAge + \lambda_3 REd \quad (3)$$

$$FAge_{NZ} = \alpha + \beta_2 Emp + \beta_{16} FC + \beta_5 KapIn + \beta_7 KapBs + \beta_8 KapBM + \beta_9 BT + \lambda_1 RAge + \lambda_3 REd \quad (3a)$$

Per Table 10, half the variance in the Canadian data is explained by eqn (3), it is significant at five percent, and one parameter (respondent education) approaches being significant at 10 percent. The fitting of eqn (3a) to NZ data also produced excellent results with one parameter (respondent education) being significant at five percent and another five parameters (employees, internal capital, short-term bank loans, medium-term bank loans, and respondent management experience) are significant at 10 percent.

TABLE 10
STATISTICAL RESULTS FOR MODELS 3.1 AND 3.2 (FIRM AGE)

Independent Variable and Description		Model 3.1				Model 3.2			
		Canada (eqn 3)		NZ (eqn 3a)		Canada		NZ	
		Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test	Estimate	Wald-test
Emp	Employees	0.431	1.147	0.292*	6.132	0.081	1.163	0.078*	3.647
FC	Financial difficulty	4.567	1.756	0.734	0.787	1.815*	3.840	na	na
KapIn	Internal capital	-13.187	3.264	7.015*	3.912	-4.132*	3.857	1.185	1.460
KapBS	Bank short-term loans	-4.755	0.685	-10.729*	3.743	na	na	na	na
KapBM	Bank medium-term	-14.222	2.246	22.309*	5.840	-2.702	1.414	3.110*	3.529
BT	Business type	-3.466	3.296	-1.015	3.062	-1.190*	3.775	0.379	2.186
RAge	Respondent Age	1.460	0.399	-0.779	0.565	0.764	0.456	1.502*	10.451
RGen	Respondent gender	-5.918	1.529	na	na	na	na	na	na
REd	Respondent education	2.442*	3.576	3.345**	7.5000	1.074	0.85	-0.108	0.232
RMExp	Respondent management experience	0.276	0.065	2.342*	4.736	na	na	na	na
Pseudo R² (Cox and Snell)		0.502		0.577		0.426		0.410	
Chi-Square		22.307		23.411		17.745		22.183	
Significance		0.014**		0.054*		0.013**		0.001***	

*** Significance at 1 percent; **Significance at 5 percent; * Significance at 10 percent

Similar to what was done with the first and second models, the correlation matrix was used to fine tune Model 3.1 into Model 3.2. The Canadian results showed further improvement in the equation significance and three parameters (financial difficulty, internal capital, and business type) approached significant at 10 percent. The NZ results were greatly improved, with the equation significant to one percent and three parameters (employees, medium-term-bank loans, and respondent age) either significant at 10 percent or approaching that significance.

CONCLUSION, POLICY IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

A common perception of SBs is that they are ephemeral acorns with most failing but a few survive to become the mighty oaks of future commerce or linger on as hopeful saplings. However, this study found

that the majority of NZ SBs and the vast majority of Canadian SBs persist, rather than failing or striving to grow. While the individual contribution of SBs to GDP is small, their combined contribution is significant (i.e. 25 and 40 percent for, respectively Canada and NZ) and they serve modern economies as *engines of employment* and *distributors of wealth* (e.g. Canadian and NZ SBs provide over two-thirds of national employment and are currently the largest net contributors to new employment). When partners and entrepreneurs are added, the SB contribution to job creation is immense. Also, SBs are the conduit by which most workers, shed from primary and secondary sectors, migrate to the growing service sector. Roughly a third of SBs are regional and are vital sources of employment to those areas. Thus, the most significant socio-economic effects of SB policy are likely to impact regions—e.g. while hinterland spending creates regional multipliers and flow on to benefit metropol, per *Locational Economics*, the reverse does not occur. Given that SB studies tend to be based on samples that are of urban, or undifferentiated-and-mostly-urban SBs, SB policies may not reflect the realities and needs of regional SBs.

Responses from regional SBs in Canada and NZ were gathered and contrasted with each other and to the common *urban-SB-biased* view of SBs using five hypotheses. Within the limitation of the sample size in the study, the findings in this study suggest that:

- 1) *Hypothesis 1 is proven for Canada and NZ*—Regional SBs have a higher continuity than what is commonly perceived for SBs. However, in NZ, tax practices appear to have created a divide between Micro-enterprises (MEs have < 4 employees) and larger SBs. The 10-year survivorship of NZ SBs is significantly less than the Canadian equivalent (The ratio of the NZ to Canadian survivorship rates is 0.08 and 0.70 for, respectively MEs and for larger SBs).
- 2) *Hypothesis 2 is proven for NZ (where it was tested)*—the great majority of Regional SBs make little or no use of the internet in marketing. This finding is consistent with Papdaki and Chami (2002) and should be of concern to policy makers. Specifically, 57.5 percent of the respondent-regional-SBs are in the wholesale and retail sector and that that sector is increasingly attractive to foreign firms.
- 3) *Hypothesis 3 is weakly proven for Canada and NZ*—there is a weak correlation between the perceived financial condition of SBs and some of: the attributes of the SB, its financing choices, and the attributes of its entrepreneur. In Canada, older respondents seem to be more worried about the financial condition of their SBs and in NZ the opposite occurs.
- 4) *Hypothesis 4 is not proven by the model*—but is still plausible based on the descriptive statistics. Specifically, the gross sales of NZ female entrepreneurs are under half of those of men, but in Canada there is only a 6.1 percent difference that favors females. (NB: because the FEs-run SBs are much older than the SBs of male entrepreneurs, the earnings imbalance is not attributable to tax practices). In Canada, regional FEs tend to have less employment experience than male SB entrepreneurs and, in NZ, regional FEs are likely to have less management experience.
- 5) *Hypothesis 5 is proven for Canada and NZ*—the age of a SB can be predicted by its perceived financial condition, attributes, financing choices, and the characteristics of its entrepreneur. The magnitude of internal capital has a large effect on SB age that is negative (and approaching significance) in Canada and positive (and significant) in NZ. Respondent education appears to be highly correlated with, and have a large effect on, the age of their SB. The magnitude and significance of this effect is greater in NZ than in Canada. In both countries the magnitude of bank-short-term loans was negatively correlated with SB age, but only the NZ relationship was statistically significant. It will be interesting to test in future research whether high-levels of bank-short-term loans are a predictor of a SB short-life span and/or are they rapidly retired as the SB gets older.

The most important finding of this study is that the conventional wisdom of low-continuity rates for SBs appears to be inappropriate for Canadian or NZ regional SBs. While a longitudinal study should be

done (to avoid survivor bias) the high regional-SB-continuity rates found in this study are conservative (i.e. many (if not most) younger responding SBs will survive to become older SBs). The high-fifth-year discontinuity for many small NZ SBs is a predictable and avoidable tax-practice-driven effect that should not be factored into the discontinuity risk for non-lifestyle NZ SBs.

The literature review in this study suggests that urbanization and globalization are making SBs increasingly important to maintaining the socio-economic harmony and stability in regional areas. This study showed important differences between the attributes, needs, and contribution of regional SBs and the common perception of SBs. As a result, SB policies should be carefully designed and targeted (e.g. rural communities may find *continuity and stability* more appropriate and desired than the *growth-focused* policies favored in urban centers).

Future Research

Further research on regional and urban SBs should consider: 1) Expanding the sample sizes to several hundreds of respondents to optimize sample error; 2) Creating more international comparisons, to determine the effect of culture and history on SB attributes; and 3) Contrasting several regions in larger countries, to determine the effect of regional traits on SB attributes.

ENDNOTES

1. For details on industrial sector focus and geographical factors see Hettihewa and Wright (2007).
2. Details on recent figures on business bankruptcies are also available on the website of the Office of the Superintendent of Bankruptcy at URL: osb-bsf.gc.ca.
3. See Sahiman 1990 and Small Business Administration Task Force 1977 for venture capital organizations and Sayed and Hettihewa (2007) for a summary of POT.
4. Bootstrap financing includes: payment delays, minimizing receivables, minimizing investments, private-owner financing, and sharing resources with other businesses (Van Auken, 2005).
5. Thunder Bay Business Directory (2006; <http://www.canadianbusinessdirectory.ca/city-ON-2086-0.htm>; accessed 30 June 2006) and Nelson Business Directory (2006; <http://www.canadianbusinessdirectory.ca/city-BC-494-0.htm>; accessed 12 July 2006).
6. Experience in the analysis of Canadian data led to the addition of five questions to the NZ study.
7. The survey questions were designed to be answered by choosing from arrays of ordinal-responses. In SPSS, such responses are best evaluated using ordinal-logistic regression.
8. Please note that *the intent to earn a profit* requirement is similar in the tax laws of Australia, Canada, NZ, the USA, and the UK, the enforcement practices vary between these countries. In NZ there is a significant ongoing debate on the need to create more equity in the tax burden by making enforcement of *the intent to earn a profit* requirement of lifestyle companies more stringent—particularly for lifestyle-block and hobby SBs.

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