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Characteristics of firms that grow from small to medium size: Industrial and geographic distribution of small high-growth firms

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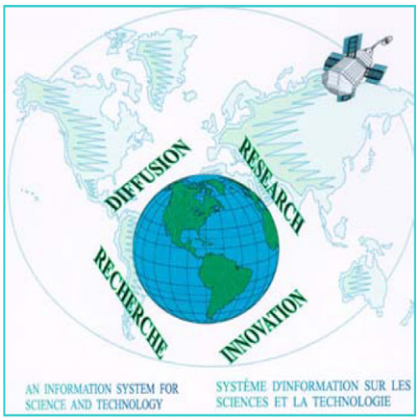

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Symbols used in this report:

The following standard symbols are used in Statistics Canada publications:

. not available for any reference period

.. not available for a specific reference period

… not applicable

0 true zero or a value rounded to zero

0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded

^{p} preliminary

^{r} revised

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^{E} use with caution

F too unreliable to be published

Note

Due to rounding, components may not add to the totals.

Characteristics of firms that grow from small to medium size

This series of working papers on ***Characteristics of firms that grow from small to medium size*** results from a joint project of Statistics Canada and the National Research Council's Industrial Research Assistance Program (NRC-IRAP). The project developed out of a need to better understand how and why certain businesses grow.

Existing studies on business growth are largely done on specific industries or with a limited set of factors. While building on this, the current project takes advantage of the specific data strengths of Statistics Canada's Science, Innovation and Electronic Information Division to provide a unique assessment of a broad range of growth factors as they relate to Canadian firms.

The foundation of this study is the analysis of firms that have made the transition from small to medium in our surveys: the Survey of Innovation 1999, the Research and Development in Canadian Industry survey, the Biotechnology Use and Development Survey, the Survey of Advanced Technology in Canadian Manufacturing (1998) as well as the Longitudinal Employment Analysis Program—Small Area File (LEAP-SAF). In addition to the statistical analysis, we have also conducted interviews of firms that have made the transition. Each of the five working papers in the series provides one perspective on the transition from small to medium size.

Background and purpose

Other components of this project are concerned with determining the differences between companies that grow quickly and those that do not. As well, they are developing and understanding of the qualities of small firms that have the potential of growing to medium size.

Recent economic and business literature (Audretch and Feldman, 1996; Gertler *et al.* 2002; Agrawal, 2003) contends that location is important—that cities differ in their attractiveness to businesses and highly-skilled workers (Florida, 2002), that the proximity to related industries and other support services such as venture capital (Porter, 1998; Voyer, 2003) create a cluster effect that is more conducive to growth in some industries than others. Confounding this already complex picture is the notion that communities can achieve employment growth through various pathways (high technology or low technology; specialization or generalization) Bordt and Katz (2004).

This component of the project provides another piece in the puzzle—which industries and communities have the highest proportions of quickly growing small firms? By providing an estimate of the number of small companies that have grown to medium-sized—and the number that haven't—this puts the other components of the project into perspective. For example, the propensity for small R&D performers to grow to medium size is much higher than the general population of businesses (Lonmo, 2004). Finally, this analysis may also be used to establish a "target" for future business development—where are the firms that have not yet grown to medium size and how could they be supported in their growth strategy?

Concepts, definitions and approach

The term **community** is generally used by Statistics Canada to refer to cities, towns, villages, Indian reserves and Indian settlements, etc. However, it has become a generic term to refer as well to Census Metropolitan Areas (CMAs, which could contain several cities and towns) and Census Agglomerations (CAs, which may also include multiple cities and towns). For this paper, "communities" is used synonymously with CMAs and CAs.

Since a non-standard data source is used for this analysis, it is important to review the concepts and definitions before discussing the results. The LEAP-SAF (Longitudinal Employment Analysis Program–Small Area File) is a synthetic database constructed from various administrative sources. The unit of analysis is the *regional enterprise*, that is, all establishments of an enterprise operating within a city (Census Metropolitan Area or Census Agglomeration). The employment in a regional enterprise is measured in terms of ILU or Individual Labour Unit. In most cases an ILU represents one employee but in cases where one person works for several companies in a year, his or her ILU is distributed proportionally among the companies. A part-time worker would still contribute one ILU to the total.

The dataset represents firms with employees. For that reason, owner-operator firms, those in which the owner is the only employee and does not remit taxes on behalf of employees through Canadian Revenue Agency's payroll deduction accounts, are not represented. Because of the unit of analysis (regional enterprises) and the coverage (firms with employees), results in these analyses are not easily compared with business and employment data from other sources.

Given the regional nature of the data, a "death" could represent a bankruptcy but it could also represent one branch plant of a larger enterprise closing down or moving to another town.

Growth is measured in terms of the change in ILU from one period to the next (in this case, 1995 to 2000):

> **Micro high-growth** are regional enterprises that have doubled or more than doubled but remain at under 20 ILUs.

High-growth are regional enterprises that have doubled or more than doubled in employment and have grown to more than 20 ILUs.
Growers are regional enterprises that increased employment by between 20 and 99%.
Stable are regional enterprises that remained within 20% of their original employment.
Decliners decreased in employment by more than 20%.
Deaths no longer exist in the region.

Results

Of all regional enterprises in existence in 1995 (1.1 million), about half did not survive until 2000. This rate of extinction is not unusual as shown by Baldwin (2000), where firms had only a 36% probability of surviving past their 5th year. Almost all of the deaths were very small firms. As Table 1 shows, there were also a great number of births (607 thousand) so that over the period, the total number of firms actually increased by about 55 thousand.

Between 1995 and 2000, 1.4% of all Canadian businesses increased their employment by 100% or more (Table 2). Of all the size classes, firms with 1-99 employees were less likely to double in size than larger businesses. In contrast, 3.9% of businesses with 100-499 employees managed to double their employment over the period.

High-growth firms represented 3.7% of 1995 employment in small firms (Table 3). Although half the regional enterprises existing in 1995 no longer existed in 2000, the loss represented only 21.9% of the employment. This should not be construed as painting a bleak picture of the economy of that period—as many or more new regional enterprises and jobs were created. The focus of this analysis is the firms that remained in existence from 1995 through 2000, not the overall business and employment dynamics of the era.

This proportion of high-growth small firms varied greatly by industry and by city. The two sectors with the greatest proportion of transitions from small to medium were "Plastic products" at 6.9% and "Electrical and electronic products" at 5.9% (Table 4). Industries generally fell into three groups in terms of the proportion of small high-growth firms. The industries with the highest proportions, above 4%, were all in manufacturing. The highest non-manufacturing sector was "Mines" with 3.7%. At the low end of the scale, with between 0.0% and 1.1%, were most of the primary industries together with "Accommodation, food and beverage service industries". "Construction, transportation, communications and utilities", "Wholesale and retail trade" and "Services" constituted a middle group with between 1.3% and 1.5% of their small businesses growing doubling or better over the period.

Table 1. Business dynamics in LEAP-SAF, 1995-2000

Status	1995	2000
	Regional enterprises	
Continuers	552,071	552,071
Micro High Growth	*61,082*	*61,082*
High Growth	*16,005*	*16,005*
Small (1-99) ILU	*15,377*	*15,377*
1-19 ILU	*11,464*	*11,464*
20-49 ILU	*2,961*	*2,961*
50-99 ILU	*952*	*952*
100-499 ILU	*556*	*556*
500+ ILU	*72*	*72*
Grower	*117,244*	*117,244*
Stable	*70,134*	*70,134*
Decline	*287,606*	*287,606*
Births (1996 through 2000)	…	607,454
Deaths (1996 through 2000)	552,528	…
Total	**1,104,599**	**1,159,525**

Source: Statistics Canada, LEAP-SAF.

Table 2. Distribution of regional enterprises by starting size class and growth category, 1995-2000

Starting size class	Micro high growth	High growth	Growers	Stable	Declined	Deaths	All	Regional enterprises
	percent of starting size class							n
1-99 ILU	5.6	1.4	10.5	6.2	25.8	50.5	100.0	1,088,004
100-499 ILU	-	3.9	18.6	17.2	41.9	18.4	100.0	14,077
500+ ILU	-	2.9	15.7	21.4	48.6	11.5	100.0	2,521
Total	**5.5**	**1.4**	**10.6**	**6.3**	**26.0**	**50.0**	**100.0**	**1,104,602**

Source: Statistics Canada, LEAP-SAF.

Table 3. Distribution of employment by starting size class and growth category, 1995-2000

Starting size class	Micro high growth	High growth	Growers	Stable	Declined	Deaths	All	Employment
	percent of starting size class							ILUs
1-99 ILU	1.8	3.7	16.1	11.7	34.8	32.0	100.0	7,038,449
100-499 ILU	-	3.9	18.5	17.2	42.7	17.7	100.0	2,720,977
500+ ILU	-	2.0	15.9	24.8	49.0	8.3	100.0	4,335,464
Total	**0.9**	**3.2**	**16.5**	**16.8**	**40.7**	**21.9**	**100.0**	**14,094,890**

Source: Statistics Canada, LEAP-SAF.

In seven of Canada's larger cities (CMAs) the proportion of quickly growing small firms exceeded 2%: Kitchener, Calgary, Halifax, Oshawa, Sherbrooke, Ottawa-Hull and Toronto. Eleven smaller cities exceeded the 2% level: Yellowknife (NW), Wood Buffalo (AB), Saint Georges (QC), Chatham (ON), Grande Prairie (AB), Leamington (ON), Guelph (ON) and Fort St. John (BC), Alma (QC), Cornwall (ON) and Brantford (ON) stood above the rest (Table 5).

Table 4. Growth category for small (1-99 ILU in 1995) firms by industry, 1995-2000[1]

Industry class (SIC80 custom grouping)	Micro high growth	High growth	Growers	Stable	Declined	Died	All	Number small in 1995
	(% of starting size class)							n
16 Plastic products industry[2]	5.5	6.9	16.5	7.3	23.0	40.9	100.0	2,317
33 Electrical electronic products	6.8	5.9	13.5	6.5	22.6	44.7	100.0	3,390
29 Primary metal industries	4.9	5.3	15.7	9.5	23.6	41.1	100.0	1,003
32 Transportation equipment industries	5.6	5.2	14.2	6.2	20.7	48.3	100.0	3,299
26 Furniture fixture industries	5.3	5.1	15.1	6.8	19.9	47.8	100.0	3,237
25 Wood industries	4.6	5.0	13.6	6.9	19.5	50.4	100.0	6,744
27 Paper allied products industries	4.9	5.0	11.2	8.1	21.1	47.1	97.4	1,381
31 Machinery industry	6.0	4.5	16.7	8.5	23.0	41.3	100.0	4,557
30 Fabricated metal products	5.7	4.2	18.5	9.3	25.4	36.8	100.0	10,645
18 Primary textile industry	0.0	4.0	3.0	7.9	25.2	41.0	81.2	329
10 Food industries	4.2	3.9	11.8	7.3	23.1	49.7	100.0	6,602
06 Mines	4.3	3.7	6.1	4.1	16.5	61.0	95.9	991
35 Non-metallic mineral products	5.9	3.4	15.6	8.2	23.8	43.2	100.0	2,814
39 Other manufactured products industries	5.9	3.1	12.9	6.7	28.6	42.9	100.0	6,960
07 Oil gas industry	5.1	3.0	7.1	2.8	22.1	59.5	99.4	1,628
19 Textile products industries	4.0	2.9	11.9	7.8	28.6	44.9	100.0	1,633
37 Chemical products industries	5.9	2.9	13.1	7.3	24.2	46.5	100.0	3,463
09 Mineral extraction services	6.2	2.6	8.2	4.4	19.3	59.3	100.0	5,040
24 Clothing industry	3.8	2.6	8.8	5.5	24.7	54.6	100.0	4,357
15 Rubber products industries	5.8	2.5	15.1	10.7	24.8	39.1	98.1	516
05 Forestry services industry	4.7	2.2	6.1	2.6	17.5	66.0	99.1	2,220
11 Beverage products industry	6.3	2.2	12.9	4.9	17.2	52.9	96.5	773
28 Publishing and printing industries	4.9	2.1	11.9	7.4	28.1	45.6	100.0	9,934
70-79 Services	6.5	1.5	9.6	5.6	29.6	47.3	100.0	176,216
40-49 Construction, transportation, communication and utilities	6.3	1.4	10.3	5.3	24.5	52.3	100.0	171,640
All industries	**5.6**	**1.4**	**10.5**	**6.2**	**25.8**	**50.5**	**100.0**	**1,088,004**
50-69 Wholesale & retail trade	5.4	1.3	11.9	7.1	25.7	48.5	100.0	234,637
80-89 Government services	6.0	1.3	13.3	9.5	31.9	38.0	100.0	94,179
90-99 Accommodation, food and beverage, other services	4.8	1.1	9.1	5.5	23.9	55.6	100.0	232,700
02 Agriculture services	7.0	0.8	12.0	6.6	24.2	48.7	99.3	5,723
04 Logging industry	5.2	0.7	6.5	3.4	20.2	63.6	99.5	11,898
03 Fishing trapping industry	6.4	0.6	6.9	4.2	20.6	61.4	100.2	5,974
01 Agriculture	5.7	0.5	8.2	4.5	25.9	55.1	100.0	54,230
Unknown SIC	2.3	0.2	1.5	0.8	6.5	88.7	100.0	14,785
08 Quarries sand pits	5.4	X	11.2	X	26.2	48.7	91.9	1,129
12 Tobacco industry	X	0.0	X	X	18.6	31.4	50.0	86
17 Leather and allied products industries.	4.5	X	7.0	X	28.7	53.3	93.4	561
36 Petroleum coal products	7.1	X	12.4	X	3.2	40.0	62.6	340

Source: Statistics Canada, LEAP-SAF.

Note:

1. The table is sorted in decreasing percentage of high growth firms. Suppression due to small numbers in some growth classes results in some rows not adding to 100%.

2. Although the Plastics products industry has the highest proportion of small high-growth firms, the greatest number would be in the largest sectors (over 3,000 small high-growth firms in Wholesale and retail trade but only about 160 in the Plastics products industry).

Conclusions

Although the reference period for this work (1995 to 2000) was one of exceptional growth in some sectors, it is not only the information and communications technologies that show high proportions of small high-growth firms. Similarly, over this period, certain cities will have experienced overall high rates of growth for firms of all sizes—not only small ones. As with most indicators, this one—the proportion of high-growth small firms in an industry or a city—needs to be considered in the context of other data that help to understand the dynamics of our businesses and communities.

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Table 5. Percentage of high-growth small firms (1-99 ILUs) for CMA/CAs 1995-2000.

CMA /CA	NAME	HGS[1]
Newfoundland and Labrador		
001	St. John's	1.7
010	Grand Falls-Windsor	0.5
011	Gander	1.0
015	Corner Brook	0.8
Prince Edward Island		
105	Charlottetown	1.1
110	Summerside	1.1
Nova Scotia		
205	Halifax	2.1
210	Kentville	1.6
215	Truro	1.3
220	New Glasgow	0.9
225	Cape Breton	0.6
New Brunswick		
305	Moncton	1.7
310	Saint John	1.1
320	Fredericton	1.0
328	Bathurst	1.0
330	Campbellton	1.6
335	Edmundston	1.2
Quebec		
403	Matane	0.7
404	Rimouski	1.1
405	Rivière-du-Loup	1.0
406	Baie-Comeau	1.1
408	Chicoutimi-Jonquière	1.9
410	Alma	2.0
411	Dolbeau	1.5
412	Sept-Îles	0.8
421	Québec	1.9
428	Saint-Georges	2.9
430	Thetford Mines	1.1
433	Sherbrooke	2.1
435	Magog	0.7
437	Cowansville	1.4
440	Victoriaville	1.5
442	Trois-Rivières	1.4
444	Shawinigan	1.5
446	La Tuque	1.3
447	Drummondville	1.9
450	Granby	1.7
452	Saint-Hyacinthe	1.8
454	Sorel	0.7
456	Joliette	1.5
459	Saint-Jean-sur-Richelieu	1.8
462	Montréal	1.9
465	Salaberry-de-Valleyfield	1.8
468	Lachute	1.9
480	Val-d'Or	1.6
485	Rouyn-Noranda	1.1
Ontario		
501	Cornwall	2.0
502	Hawkesbury	1.3
505	Ottawa-Hull	2.0
508	Smiths Falls	0.7
512	Brockville	1.7
515	Pembroke	1.8
521	Kingston	0.9
522	Belleville	1.1
527	Cobourg	1.3
528	Port Hope	X
529	Peterborough	1.3
530	Lindsay	1.6
532	Oshawa	2.1
535	Toronto	2.0
537	Hamilton	1.6
539	St. Catharines-Niagara	1.7
541	Kitchener	2.4
543	Brantford	2.0
544	Woodstock	1.9
546	Tillsonburg	1.8
547	Simcoe	0.4
550	Guelph	2.3
553	Stratford	1.3
555	London	1.9
556	Chatham	2.6
557	Leamington	2.4
559	Windsor	1.8
562	Sarnia	1.3
566	Owen Sound	1.4
567	Collingwood	1.2
568	Barrie	1.9
569	Orillia	1.3
571	Midland	0.9
575	North Bay	0.9
580	Sudbury	1.1
582	Elliot Lake	1.9
584	Haileybury	X
586	Timmins	1.2
590	Sault Ste. Marie	0.7
595	Thunder Bay	1.3
598	Kenora	1.1
Manitoba		
602	Winnipeg	1.6
607	Portage la Prairie	1.2
610	Brandon	0.8
640	Thompson	0.4
Saskatchewan		
705	Regina	1.5
710	Yorkton	1.5
715	Moose Jaw	0.7
720	Swift Current	1.3
725	Saskatoon	1.7
735	North Battleford	0.9
745	Prince Albert	1.7
750	Estevan	1.0
Alberta		
805	Medicine Hat	1.2
810	Lethbridge	1.5
825	Calgary	2.2
830	Red Deer	1.8
833	Camrose	0.5
835	Edmonton	1.8
840	Lloydminster	1.9
845	Cold Lake	0.8
850	Grande Prairie	2.6
860	Wood Buffalo	3.0
865	Wetaskiwin	1.2
British Columbia		
905	Cranbrook	1.1
913	Penticton	0.6
915	Kelowna	1.3
918	Vernon	1.0
925	Kamloops	1.1
930	Chilliwack	0.8
932	Abbotsford	1.4
933	Vancouver	1.3
935	Victoria	1.1
937	Duncan	1.0
938	Nanaimo	1.0
939	Parksville	0.4
940	Port Alberni	0.7
943	Courtenay	0.6
944	Campbell River	0.8
945	Powell River	1.2
950	Williams Lake	0.6
952	Quesnel	0.8
955	Prince Rupert	X
960	Kitimat	X
965	Terrace	0.6
970	Prince George	1.1
975	Dawson Creek	0.5
977	Fort St. John	2.2
Yukon Territory		
990	Whitehorse	0.9
Northwest Territories		
995	Yellowknife	3.5
All CMA/CAs		**1.7**

Source: Statistics Canada, LEAP-SAF.

Notes:

1. HGS is the percentage of high-growth small (1-99 ILU) firms. Of the firms that were between 1 and 99 ILU in size in 1995, the HGS represents the percentage of those firms that were double or more than double in ILUs in the year 2000.