DEMOGRAPHIC TRENDS IN CANADA: IMPLICATIONS FOR SMALL- AND MEDIUM-SIZED ENTERPRISES

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MADISON AVENUE DEMOGRAPHICS GROUP

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Section A: Introduction

The purpose of this paper is to describe and analyse demographic trends in Canada and to discuss their implications for small- and medium-sized enterprises (SMEs) during the next ten years.

The paper is organised in five sections. Section A positions the paper in terms of its purpose, approach, and organisation. Section B examines key demographic trends at the national, provincial, and urban levels, both on a retrospective and prospective basis. Sections C reviews the demographic implications for the labour force of small- and medium-sized enterprises. Section D identifies several other issues for small- and medium-sized enterprises that arise from the demographic changes underway. Section E provides a general conclusion on the relative importance of demographic analysis in understanding the future of this important segment of the Canadian economy.

This paper was researched and written by the three partners of the Madison Avenue Demographics Group -- David K. Foot, Richard Loreto, and Tom McCormack. The Madison Avenue Demographics Group is a consulting partnership committed to the competent and continuing use of demographic information in both the private and public sector planning and decision making.

Section B: The "Demographics Lesson"

Overview of Demographic Trends

Demographics explain about "two-thirds" of economic behaviour (Foot with Stoffman, 1996). Although demographics are concerned with the interplay of many variables including ethnicity and gender, our analysis gives primacy to the impact of the age variable through the life cycle.

Canada's population is aging due to a prolonged (and likely continuing) period of low fertility and increasing life expectancy. Therefore, the changing age composition of the population will have a substantial impact on the provision of goods and services by the public and private sectors.

Canada's population growth is determined by two factors:

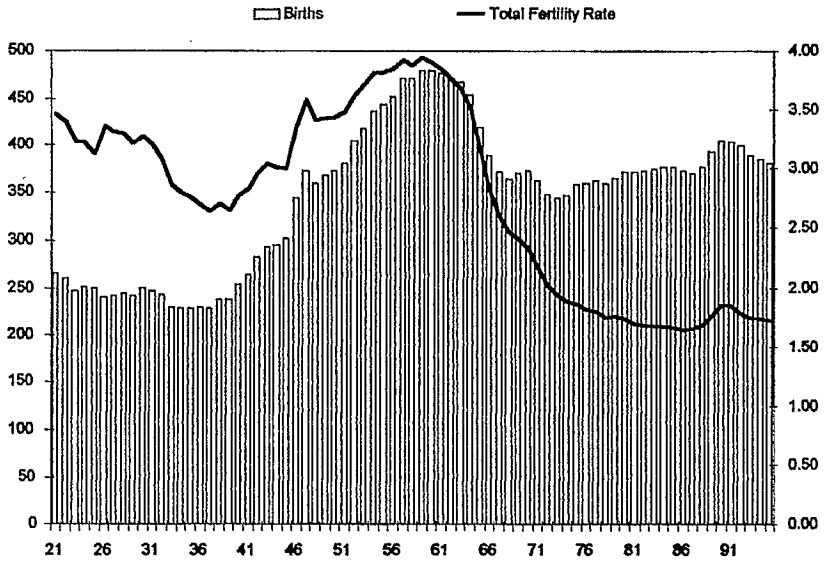
- net natural causes - the difference between births and deaths; and
- net migration - the difference between immigration and emigration.

On the birth side of the net natural equation, a distinction must be made between the fertility rate and the birth rate. The fertility rate is the average number of births per female over her lifetime and it can be considered as a proxy for family size. The birth rate is the number of births in a given time period divided by the population.

Fertility in Canada has been declining since the 1960s and currently stands at 1.7 children per woman. This rate is below the replacement rate of 2.1. All of the provinces have fertility rates below replacement, with Newfoundland (1.3 in 1993) now having the lowest rate ever recorded for a province (Dumas et al., 1996). Only in Canada's aboriginal communities is fertility substantially above replacement (Nault et al., 1993).

Despite this low fertility, the number of births increased annually during the 1980s as the post-war "baby boom" generation traversed its prime child-bearing ages. Births peaked in 1990 and have decreased 4.7 percent between 1990 – 1994 (Dumas et al., 1996).

Total Fertility Rate (Line, Right Scale)
Births in Thousands (Bar, Left Scale)
1921 to 1995



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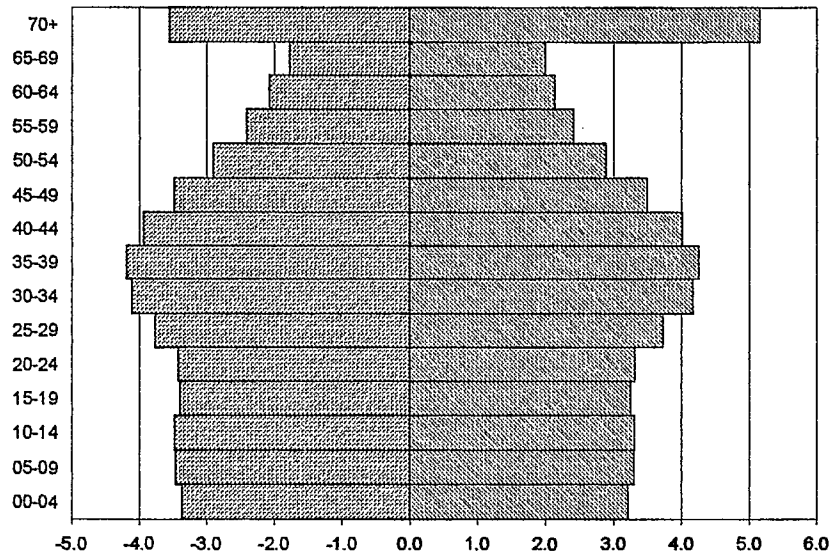
Source: Statistics Canada

In terms of net natural population growth, the template of the "baby boom, bust, and echo" generations provides the key analytical framework for understanding the past fifty years and the next ten. The baby boom, born between 1947 and 1966, account for almost one-third (9.8 million) of Canada's current population of 30 million (see *Technical Note* in References section). An important sub-cohort, within the boom generation, is those individuals born after the peak of the boom in 1960, the so-called "Generation X" who number approximately 2.6 million. The baby bust cohort, born during a period of declining fertility between 1967 and 1979, encompasses 5.4 million Canadians (around 55 percent the size of the boom cohort). The echo generation, born during the 1980s and first part of the 1990s, are the children of the boomers. They are more numerous (6.9 million or about 70 percent of the boom) than the preceding bust generation not because of an upswing in fertility but as a consequence of the sheer size of the baby boom cohort. Looking ahead it is now possible to discern the next generation or "millennium kids" that will be born during the period from 1995 to 2010. These are essentially the children of the baby bust generation and hence they will be a relatively small component of the Canadian population (Foot with Stoffman, 1996).

Canada's Population Age Distribution in 1996
Males (Left) Females (Right)
Percent Share of the Total Population



Source: Strategic Projections Inc.

The "boom, bust, and echo" template is evident for Canada as a whole, Ontario, and the western provinces. The echo generation is not a salient factor in the populations of Quebec and the Maritime provinces due to relatively high levels of internal out-migration of the boom generation during the past several decades (Foot with Stoffman, 1996).

In relative terms Canada's baby boom was one of the largest of those developed nations that experienced this phenomenon in the post-war period (i.e., United States, Australia, and New Zealand). The importance of demographics to understanding past and future trends in public policy and market behaviour in Canada is the sheer size of the boom generation, the substantially smaller size of the bust generation, and the "middling" dimensions of the echo generation (i.e., smaller than the boom but larger than the bust generation). Given the primacy of the age variable on economic behaviour, the impact of these different cohorts marching through the various stages of the life cycle leaves an indelible stamp on the demand and supply of public and private goods and services (Foot with Stoffman, 1996).

Despite falling mortality rates, the number of deaths has increased steadily during the past fifty years and will continue to do so because of the aging of the population. Also, at today's mortality rates, there is a "gender gap", i.e., women, on average, live longer than men (81 versus 75 years). Notwithstanding the long-term increase in the mortality rate, in 1994 there were almost twice as many births (386,550) as deaths (211,535) in Canada (Dumas et al., 1996).

Given these patterns of fertility and mortality, the net addition to Canada's population from natural means will be zero by the second decade of the next century. In the absence of population gain through immigration, Canada's population would then enter a long period of gradual decline.

Immigration has always been an important factor in the growth and vitality of Canada's population. Over time immigration has been used as a tool of economic policy, i.e., higher levels during good times when the economy is able to absorb the additional population and lower levels when economic growth is weak. However, a break with this linkage between the health of the economy and immigration policy was evident during the 1990s. Despite Canada's poor economic performance during much of this decade, immigration levels have been maintained at relatively high levels in historical terms (Strategic Projections Inc., 1997).

Currently, slightly more than 200,00 immigrants come to Canada annually. When emigrants are factored in, there is a net gain of approximately 150,000 people annually from migration as a source of population growth. It is interesting to note that at this level net migration is only slightly below net natural increase as a source of population growth.

Immigrants arriving in Canada vary in age but the majority are 20 - 44 years old, the period in life when individuals are most mobile (Dumas et al., 1996). This period of peak personal mobility is applicable both to international and internal migration. Therefore, the component of population growth attributable to net migration adds more to some population cohorts than others.

Moreover, the destination within Canada of a majority of immigrants is Ontario (51.9 percent in 1994), particularly the Greater Toronto Area. Hence, net migration also affects the regional distribution of population both among and within provinces (Dumas et al., 1996).

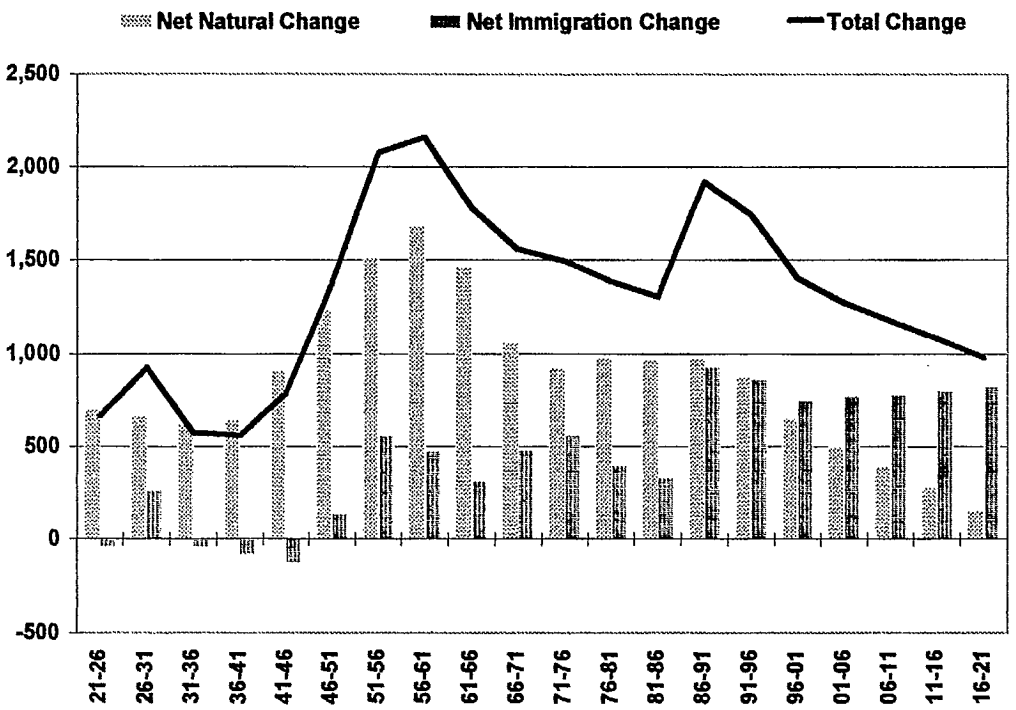
During the 1950s and 1960s the bulk of Canada's immigrants came from Europe. During the past twenty-five years, the majority of immigrants have come from Asia, the Caribbean region, and Central/South America (Dumas et al., 1996). This reflects the

aging (and hence lower mobility) of the European populations and the higher fertility (and higher mobility) of populations in Asian, Caribbean, and Central/South American countries (Population Reference Bureau, 1996). Given global patterns of fertility and mortality, immigration will not only add to Canada's population growth but also continue the process of ethnic and racial diversity that is a hallmark of our society.

Demographics provide a basis for projecting not predicting future trends. Projections are made on the basis of assumptions about fertility, mortality, and net migration (both international and internal). Scenarios for periods five, ten, or twenty years into the future can be constructed. Although projections can be made for periods further out, the longer the projection time frame, the less it is possible to control the other "one-third" of variables that affect economic behaviour. Therefore, given plausible assumptions, demographic projections have their most effective impact for periods from five to fifteen years in the future.

Our projections assume fertility and mortality rates at current levels and net migration of 150,000 annually. This creates a future scenario in which there is a continuing decline in the number of births and a continuing increase in the number of deaths. Consequently, population growth declines and net migration gradually becomes more important than net natural increase as a source of population growth.

Canada's Population Growth by Source
5-Year Periods in Thousands
1921 to 2021



Source: Statistics Canada and Strategic Projections Inc.

Canada's Population by Province in 1996

Since 1991 Canada's population has increased by 6.4 percent from 27,296,900 to 29,033,500 (see *Technical Note* in the References section). Canada's people are unevenly distributed throughout the country. The most populated province, Ontario, has a total of about 10,823,300 persons in 1996, accounting for 37.3 percent of the country's entire population. Quebec, the second most populated province, has a total of about 7,187,300 persons (24.8 percent of the total). British Columbia, placing third, has about 3,731,200 (12.9 percent) while Alberta, in fourth place, has about 2,717,400 (9.4 percent). These four provinces, therefore, account for 84.2 percent of all Canadians. The remaining population -- totaling 4,574,300 persons (or 15.8 percent of the total) -- is scattered throughout the other six provinces and two territories.

The rate of growth of the population by province has varied significantly since the 1991 census. British Columbia grew fastest (13.7 percent over that 5 year period) followed by the Northwest Territories (9.2), Ontario (7.3), Alberta (6.7), Prince Edward Island (4.8), Quebec (4.2), the Yukon (4.1), Manitoba (2.7), Nova Scotia (2.6), New Brunswick (1.9), Saskatchewan (1.2), and Newfoundland (-1.0).

Population of Canada by Province
1996

Province	Population 1996	Percent Change 1991-1996	Percent Share in 1996
Newfoundland	563,009	-1.0	1.9
Prince Edward Island	135,978	4.8	0.5
Nova Scotia	923,615	2.6	3.2
New Brunswick	737,635	1.9	2.5
Quebec	7,187,252	4.2	24.8
Ontario	10,823,307	7.3	37.3
Manitoba	1,121,821	2.7	3.9
Saskatchewan	1,000,439	1.2	3.4
Alberta	2,717,369	6.7	9.4
British Columbia	3,731,184	13.7	12.9
Yukon	28,954	4.1	0.1
Northwest Territories	62,916	9.2	0.2
Canada	29,033,478	6.4	100.0

Source: Strategic Projections Inc.

The variation in growth rates among the provinces over this period is due to variations in the fertility and mortality rates, variations in the age distributions of the base populations against which these rates apply, and variations in the degree to which each is an attractor for migrants from abroad or from other provinces or territories.

Sources of Population Growth
Canada by Province
1991 to 1996

	Births	Deaths	Net Natural	Net Migration	Total Change
Newfoundland	31,031	19,280	11,752	-17,228	-5,476
Prince Edward Island	8,737	5,719	3,017	3,210	6,228
Nova Scotia	56,451	37,530	18,920	4,755	23,675
New Brunswick	43,105	28,674	14,431	-681	13,750
Quebec	446,222	257,429	188,793	102,488	291,282
Ontario	697,258	376,347	320,911	417,497	738,407
Manitoba	81,702	46,129	35,574	-5,703	29,871
Saskatchewan	70,689	40,617	30,073	-18,564	11,509
Alberta	194,191	75,898	118,293	53,521	171,814
British Columbia	219,154	127,867	91,287	357,842	449,129
Yukon	2,250	629	1,621	-492	1,129
Northwest Territories	7,061	1,300	5,761	-480	5,281
Canada	1,857,851	1,017,419	840,433	896,165	1,736,598

Source: Statistics Canada and Strategic Projections Inc.

The table above reveals those provinces and territories exhibiting the fastest growth rates do so because of net migration. For example, British Columbia grew by 449,100 persons over the last five years, but 79.7 percent of that growth was due to net migration. Quebec, on the other hand, grew by 291,300 persons, but only 35.2 percent was due to net migration. Newfoundland's population fell by 5,500 -- despite an 11,800 increase in its population due to net natural causes -- because migration resulted in a net outward movement of 17,200 persons.

Canada's Population by Urban Area in 1996

As of 1996 Canada's 29,033,500 people were heavily concentrated among the largest urban areas of the country. For example:

- the 54 largest urban areas in Canada -- including all Census Metropolitan Areas and all Census Agglomerations with populations in 1991 exceeding 50,000 persons -- account for 69.8 percent of Canada's total population in 1996
- these 54 collectively grew by 1,329,700 persons over the period from 1991 to 1996; thus they accounted for a disproportionate 76.6 percent of Canada's total growth over this period
- the 54 urban areas as a group achieved a growth rate of 7.0 percent over the 1991 to 1996 period; in sharp contrast, the rest of Canada grew by only 4.9 percent (Canada's total gain was 6.4 percent)
- the four largest areas -- each with a population exceeding 1,000,000 persons -- account for 35.4 percent of Canada's total population
- the 16 largest urban areas -- each with a population of 250,000 persons or more -- account for 56.2 percent of the total population in Canada

The growth rate of Canada's population by urban area over the 1991 to 1996 period was uneven, however, ranging from a high of 22.7 percent in the Barrie, Ontario area (a compound annual growth rate of 4.2 percent) to a low of 0.4 percent in the Thunder Bay, Ontario urban area (a compound annual growth rate of 0.0 percent).

Population of Canada by Urban Area
Ranked by Population in 1996

Urban Area	Province	Population 1996	Percent Change 1991-1996	Percent Share in 1996
Toronto	Ont	4,222,790	8.5	14.5
Montreal	Que	3,258,915	4.2	11.2
Vancouver	BC	1,811,962	13.1	6.2
Ottawa-Hull	Ont	1,005,150	9.2	3.5
Edmonton	Alb	869,029	3.5	3.0
Calgary	Alb	827,567	9.8	2.9
Quebec	Que	677,155	4.9	2.3
Winnipeg	Man	669,587	2.6	2.3
Hamilton	Ont	626,076	4.4	2.2
London	Ont	406,395	6.5	1.4
Kitchener	Ont	387,501	8.7	1.3
St. Catharines-Niagara	Ont	379,310	4.0	1.3
Halifax	NS	336,291	4.9	1.2
Victoria	BC	306,830	6.6	1.1
Windsor	Ont	278,924	6.4	1.0
Oshawa	Ont	258,618	7.7	0.9
Saskatoon	Sask	220,998	5.2	0.8
Regina	Sask	196,746	2.6	0.7
St. John's	Nfld	177,239	3.1	0.6
Chicoutimi-Jonquiere	Que	165,372	2.8	0.6
Sudbury	Ont	161,914	2.7	0.6
Sherbrooke	Que	145,468	4.5	0.5
Kingston	Ont	143,317	5.1	0.5
Trois-Rivieres	Que	139,817	2.6	0.5
Kelowna	BC	136,629	22.2	0.5
Abbotsford	BC	135,383	19.2	0.5
Saint John	NB	126,687	1.4	0.4
Thunder Bay	Ont	124,951	0.4	0.4
Sydney	NS	117,052	0.8	0.4
Barrie	Ont	113,070	22.7	0.4
Moncton	NB	111,542	4.7	0.4
Guelph	Ont	104,201	7.2	0.4
Brantford	Ont	102,319	5.4	0.4
Peterborough	Ont	101,188	3.2	0.3
Belleville	Ont	100,293	5.6	0.3
Sault Ste. Marie	Ont	91,416	7.5	0.3
Nanaimo	BC	89,285	21.5	0.3
Sarnia-Clearwater	Ont	88,928	1.2	0.3
Kamloops	BC	80,193	18.2	0.3
Prince George	BC	77,095	10.7	0.3
Saint-Jean-sur-Richelieu	Que	76,941	12.6	0.3
Fredericton	NB	76,450	6.5	0.3
Chilliwack	BC	73,928	23.0	0.3
North Bay	Ont	66,647	5.3	0.2
Lethbridge	Alb	66,206	8.6	0.2
Granby	Que	64,135	8.0	0.2
Drummondville	Que	63,931	6.4	0.2
Red Deer	Alb	63,350	9.0	0.2
Shawinigan	Que	62,002	0.4	0.2
Charlottetown	PEI	60,631	5.6	0.2
Saint-Jerome	Que	59,975	15.4	0.2
Medicine Hat	Alb	58,334	10.8	0.2
Cornwall	Ont	55,768	4.1	0.2
Saint-Hyacinthe	Que	51,146	1.9	0.2
Sub-Total		20,272,645	7.0	69.8
All Other Canada		8,760,833	4.9	30.2
Canada		29,033,478	6.4	100.0

Source: Strategic Projections Inc.

Canada's Population Growth 1996 to 2006

Over the next decade Canada's population is projected to grow by about 2,593,000 persons. That projection is based on the following assumptions:

- the total fertility rate will hold at a rate of 1.74 live births per female
- mortality rates by age and sex will hold constant at the rates prevailing during the early 1990s
- net international immigration will average about 150,000 persons per year (i.e., immigration will average 200,000 per year, in line with current federal targets, and emigration will average 50,000 per year, in line with historical precedent)

The expected stability in the total fertility rate over the next decade implies the number of births on an annual basis will hover between 370,000 and 380,000 between now and 2006.

Canada's Population Growth by Age from 1996 to 2006

Canada's expected population growth of 2,593,000 persons over the next decade is expected to be unevenly distributed by age. Over this period we expect the following:

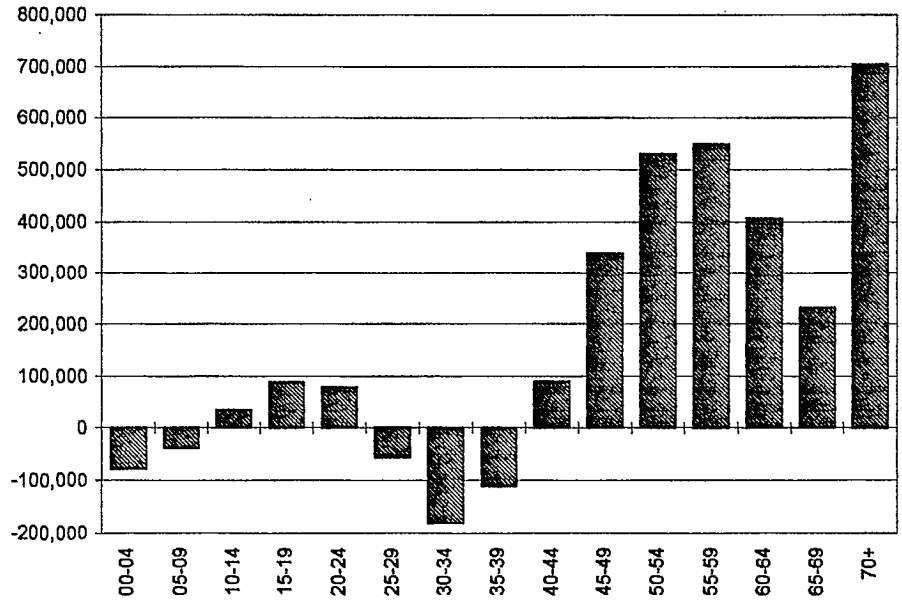
- the age group expected to show the greatest growth in absolute terms over this period is that including all those over the age of 70; this group is expected to grow by about 705,000 persons over this period, thus accounting for 27 percent of all of Canada's population growth
- the age group 55 to 59 is expected to grow by 548,000 and the age group 50 to 54 is expected to grow by 529,000; thus those in their 50s are expected to account for 1,077,000 of Canada's 2,593,000 growth over this period, or almost 42 percent of the total; this group represents those who are currently between the ages of 40 and 49, the front end of the baby boom generation
- the next largest gains are expected among those aged 60 to 64 (up 407,000), those aged 45 to 49 (up 339,000) and those aged 65 to 69 (up 233,000); the 45 - 49 group represents those born at or near the peak of the baby boom

- every five year age group under the age of 45 is expected to grow less than any of those groups over the age of 45, and in some cases significant declines are expected; these cohorts represent Generation "X" as well the baby bust and echo generations

- the declines are expected to be especially large among those aged 30 to 39; these people -- who as of 1996 are between the ages of 20 and 29 -- are members of the baby bust generation and were born in the 1967 to 1976 period when births fell significantly compared to the previous decade

- Canada's population among those under 45 is either growing by only a small amount or declining over the next decade despite the major inflows of immigrants assumed in these projections; immigrants tend to be relatively young, concentrated among the age groups from 20 to 44 (57% of immigrants between 1990- 1992 were in this age group), often with young children in tow; if it were not for this immigration inflow Canada's population under the age of 45 would grow even less quickly over the next decade than we currently anticipate

Canada's Population Growth by Age
1996 to 2006



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Source: Strategic Projections Inc.

Canada's Population Growth by Province 1996 to 2006

Over the next decade we expect fertility rates and mortality rates by province will hold constant at recent levels, and we project net migration -- representing net flows from abroad and from province to province -- will heavily favour growth in Ontario, British Columbia and, to a lesser extent, Alberta (Quebec will be favoured, but only by net international migration, as it is a net loser in terms of net inter-provincial migration). Ontario, British Columbia, and Alberta are favoured by both types of migrants because they afford higher living standards and greater economic opportunities compared to all of the other provinces. Net migration will also be a positive factor for population growth in each of Nova Scotia, New Brunswick, and Prince Edward Island, but it will negatively impact the populations of Saskatchewan, Newfoundland, Manitoba, the Northwest Territories, and the Yukon. Thus, we expect Canada's population by province will grow over the next decade as indicated below.

Sources of Population Growth
Canada by Province
Cumulative Change 1996 to 2006

	Births	Deaths	Net Natural	Net Migration	Total Change
Newfoundland	57,432	44,518	12,914	-21,091	-8,177
Prince Edward Island	17,583	12,580	5,003	4,296	9,299
Nova Scotia	104,757	84,363	20,394	14,957	35,350
New Brunswick	80,723	65,234	15,489	5,042	20,531
Quebec	821,374	632,375	188,999	245,929	434,929
Ontario	1,335,339	922,400	412,938	689,618	1,102,556
Manitoba	153,632	102,015	51,617	-7,015	44,602
Saskatchewan	136,603	88,620	47,983	-30,799	17,184
Alberta	368,497	190,758	177,739	78,806	256,545
British Columbia	466,580	319,081	147,499	523,120	670,619
Yukon	3,965	1,804	2,161	-476	1,686
Northwest Territories	14,203	3,550	10,653	-2,767	7,885
Canada	3,560,687	2,467,298	1,093,389	1,499,620	2,593,009

Source: Strategic Projections Inc.

Canada's Population Growth by Urban Area 1996 to 2006

In general we expect those urban areas of Canada exhibiting the fastest and/or most significant absolute growth during the period from 1991 to 1996 to continue to do so over the next decade. For example, in relative terms we expect the ten fastest growing areas to be Barrie, Ontario followed by Chilliwack, Kelowna, Nanaimo, Kamloops and Abbotsford in British Columbia, Saint-Jerome in Quebec, Vancouver in British Columbia, Saint-Jean-sur-Richelieu in Quebec, and Prince George in British Columbia.

We expect the ten urban areas making the greatest contribution to Canada's growth in absolute terms to be Toronto in Ontario, Montreal in Quebec, Vancouver in British Columbia, Ottawa-Hull in Ontario-Quebec, Calgary and Edmonton in Alberta, Quebec City in Quebec, Winnipeg in Manitoba, Hamilton in Ontario, and Kelowna in British Columbia.

Our expectations regarding urban growth in Canada over the next decade are summarized in the following table.

Population Growth
Canada by Major Urban Area
1996 to 2006

	1996	2006	96-06	% Change 96-06
Toronto	4,222,791	4,720,406	497,614	11.8
Montreal	3,258,907	3,456,544	197,637	6.1
Vancouver	1,811,934	2,124,981	313,047	17.3
Ottawa-Hull	1,005,187	1,131,547	126,361	12.6
Edmonton	869,003	912,409	43,406	5.0
Calgary	827,570	936,966	109,396	13.2
Quebec	677,165	724,665	47,500	7.0
Winnipeg	669,586	696,033	26,448	3.9
Hamilton	626,051	664,169	38,118	6.1
London	406,402	443,268	36,866	9.1
Kitchener	387,517	433,815	46,298	11.9
St. Catharines-Niagara	379,302	401,021	21,719	5.7
Halifax	336,297	360,168	23,870	7.1
Victoria	306,817	334,819	28,002	9.1
Windsor	278,909	303,654	24,746	8.9
Oshawa	258,617	283,395	24,778	9.6
Saskatoon	221,006	238,447	17,442	7.9
Regina	196,743	204,656	7,913	4.0
St. John's	177,238	187,310	10,072	5.7
Chicoutimi-Jonquiere	165,385	172,381	6,996	4.2
Sudbury	161,892	168,364	6,473	4.0
Sherbrooke	145,457	155,325	9,868	6.8
Kingston	143,313	153,477	10,164	7.1
Trois-Rivieres	139,815	145,610	5,794	4.1
Kelowna	136,625	173,625	36,999	27.1
Matsqui	135,365	167,592	32,227	23.8
Saint John	126,688	129,423	2,735	2.2
Thunder Bay	124,973	125,493	520	0.4
Sydney	116,977	118,317	1,340	1.1
Barrie	113,050	146,513	33,463	29.6
Moncton	111,535	119,561	8,027	7.2
Guelph	104,204	114,311	10,106	9.7
Brantford	102,305	109,805	7,501	7.3
Peterborough	101,198	105,572	4,374	4.3
Belleville	100,293	107,645	7,352	7.3
Sault Ste. Marie	91,419	100,714	9,295	10.2
Nanaimo	89,337	112,492	23,155	25.9
Sarnia-Clearwater	88,918	90,128	1,210	1.4
Kamloops	80,194	99,456	19,262	24.0
Prince George	77,108	89,048	11,940	15.5
Saint-Jean-sur-Richelieu	76,994	90,129	13,136	17.1
Fredericton	76,524	83,878	7,354	9.6
Chilliwack	74,089	95,021	20,931	28.3
North Bay	66,637	72,132	5,496	8.2
Lethbridge	66,215	74,277	8,062	12.2
Granby	64,175	71,530	7,356	11.5
Drummondville	63,943	69,885	5,943	9.3
Red Deer	63,354	71,240	7,886	12.4
Shawinigan	61,949	62,109	159	0.3
Charlottetown	60,668	65,607	4,939	8.1
Saint-Jerome	59,981	71,779	11,799	19.7
Medicine Hat	58,355	67,141	8,786	15.1
Cornwall	55,748	58,592	2,844	5.1
Saint-Hyacinthe	51,139	52,383	1,243	2.4
Sub-Total	20,272,862	22,268,828	1,995,966	9.8
All Other	8,760,595	9,357,638	597,043	6.8
Canada	29,033,457	31,626,466	2,593,009	8.9

Source: Strategic Projections Inc.

Section C: Impact of Demographic Changes on the Labour Force and Implications for Small- to Medium-Sized Enterprises

Traditionally small- to medium-sized businesses have been defined by the number of persons employed, though sales or assets are frequently used as well. Most often the definition chosen is dictated by data availability (Ekos Research Associates, 1996). As our review is primarily concerned with the impacts of demographic change on the small- to medium-sized business sector, our analysis is based on data sources reflecting firm size by the number of persons employed.

Measuring job growth among small- to medium-sized business over time is difficult for several reasons. Typically growth is measured by comparing cross-sectional snapshots of employment by firm size at two different points in time. Such comparisons can lead to false conclusions about the contribution of small firms to growth since the small firm sector's share of total employment could rise even if total employment among small firms has not grown if large firms have downsized enough to shift into the small firm category (Ekos Research Associates, 1996).

Longitudinal data sets -- which permits the tracking of firms as they start up, grow, decline and die over time -- help eliminate this problem by exposing the underlying dynamics of firms. Longitudinal data do not eliminate all problems, however. For example, since firms change size and therefore categories over time, it is not clear to which category they should be assigned. Furthermore, a rapidly restructuring economic environment -- where shifts in categories occur frequently -- can lead to more employment growth among smaller firms as larger firms down-size and small firms expand (Ekos Research Associates, 1996).

This problem can be partially eliminated by focusing only on firms that do not change size, by classifying firms according to their average size over periods greater than one year (Ekos Research Associates, 1996) and by measuring the changes over periods that capture the full business cycle.

Employment Growth and Small Firms in Canada

The apparent dominance of job growth among small- to medium-sized firms in the last decade and a half has led to an enormous amount of research. The major work in this area in Canada is that of Picot, Baldwin and Dupuy (1995). Their major findings include the following:

- for the commercial economy -- excluding health, education and government -- the gross and net employment change rates decreased with firm size over the period 1978 to 1992
- only the two smallest categories recorded positive net employment growth
- employment growth in existing small firms is no more rapid than in existing large firms; as a result, the growth in small firm employment comes from the creation of new small firms (based on an analysis of a cohort of continuing firms)
- in all industries small firms create more jobs, but their contribution is relatively greater among manufacturers and distributive services than in the fast-growing consumer and business service sectors; thus the shift to small firms is due more to a decline in average firm size within most industries than to growth in sectors dominated by small firms (in contrast to trends observed in the United States)

More recent research by Picot and Dupuy (1996) suggests the following:

- small businesses (those with fewer than 20 employees) created the majority of jobs between 1978 and 1993; they accounted for a disproportionate share of job gains and job losses, and most of the net rise in employment (thus confirming their earlier findings)
- but this does not mean all small firms created large numbers of jobs, or that job creation only occurred among small-firms
- interestingly, for any given year during the expanding 1980s, a small percentage (5 percent) of exceptionally fast-growing firms accounted for the bulk (43 percent) of all jobs created among small businesses
- moreover, job losses were also heavily concentrated among a few firms (3 percent account for 33 percent of the losses among small firms)

- so the high concentration of gains and losses within the sector raises questions about the "average" job creation rate within the small-business sector since there are few "typical" firms

- the small-business sector is not alone in job creation; in any given year in the 1980s the fastest growing large firms created a significant share of jobs, too; the fastest growing fifth of the largest firms outperformed two-thirds of the smallest firms in employment creation, growing an average of more than 13 percent per year and accounting for 18 percent of all job gains

- different firms display different growth rates at different times; so it may not be possible to ever identify firms that will continuously contribute the most to future job creation based solely on their past performance and size

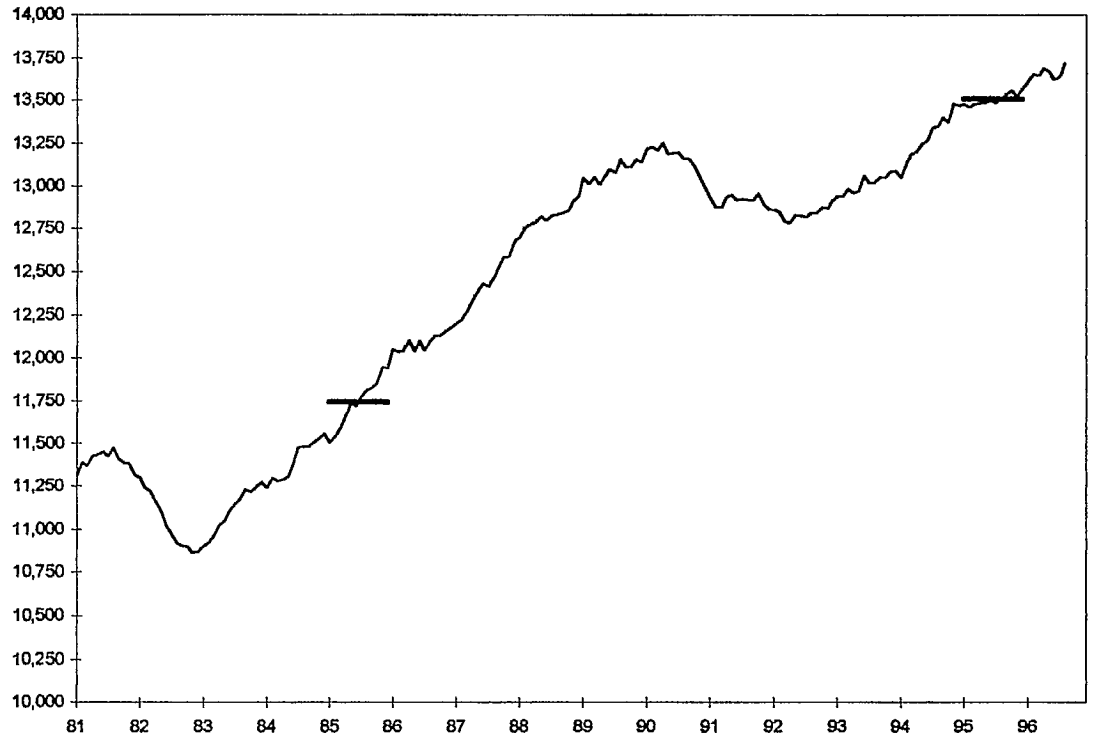
Demographic Change and the Labour Force

Demographers are primarily interested in the shifting age and gender composition of the population. Regrettably, there is limited information tying employment by age or gender to employment by firm size.

The Labour Force Survey (LFS) provides considerable information about the changing composition of employment in Canada over time by age and gender, but none regarding firm size. The LFS evidence is reviewed here by comparing shifts in the population, labour force, and employment over the period from 1985 to 1995. These two years were deliberately chosen as the basis for comparison because 1985 and 1995 both represent years in which the Canadian economy was at the same stage of the business cycle (that is some two years into an expansion following recessions during which sizable declines in employment had occurred). Because industries are impacted to differing degrees during expansions and downturns, comparisons over time must be made in a manner ensuring that longer-term structural -- rather than short-term cyclical -- shifts are identified.

The chart below illustrates the relative similarity of the years 1985 and 1995 within the context of overall employment growth over the last decade and a half.

Employment in Canada
Monthly, Seasonally Adjusted from January 1981 to August 1996
Annual Average for 1985 and 1995
Thousands of Persons



Source: *Labour Force Survey*, Statistics Canada

The LFS reveals the labour force source population by age and sex over the period 1985 to 1995 changed dramatically. For example:

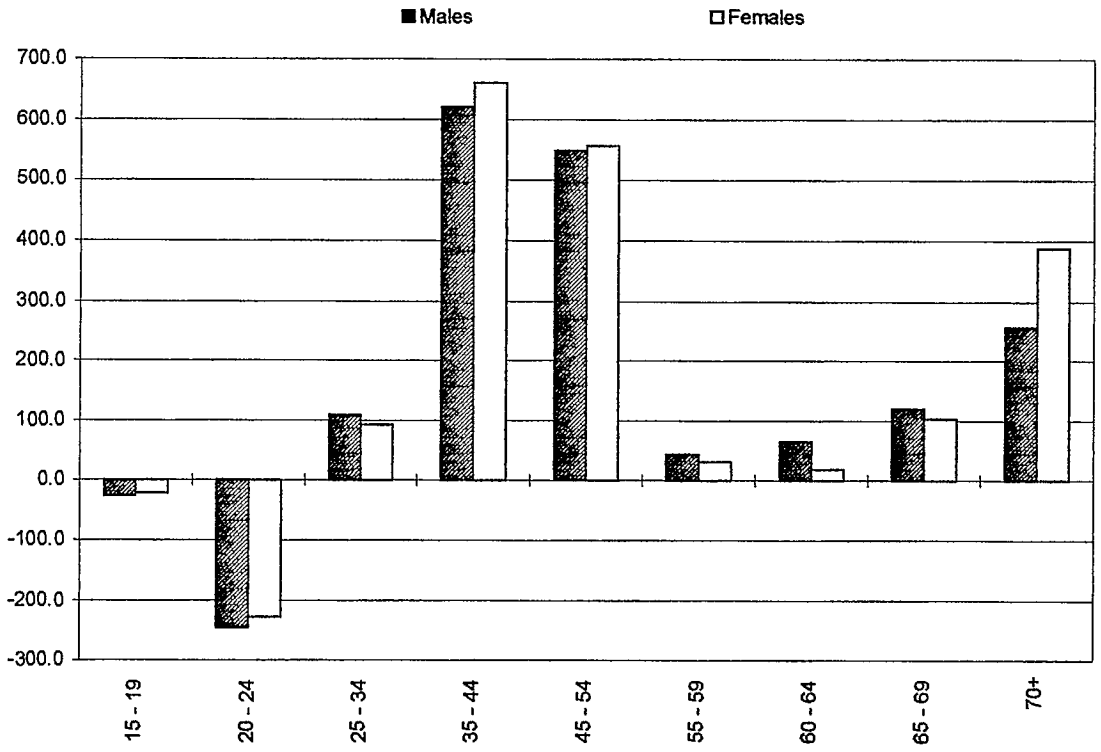
- the total labour force source population -- defined as all those over 15 years of age not living in an institution or on a reserve -- grew by 3.1 million persons, from 19.9 million in 1985 to 23.0 million in 1995

- source population growth varied significantly across the age spectrum; most of the growth will be among persons aged 35 to 44 or 45 to 54, with very little growth among any other group except those over 70; the source population among those aged 20 to 24 fell over this decade

- the source population changes were very similar for both males and females within each age category except among those over 70 where female growth was one half greater than that of males because females tend to live longer

These changes are illustrated in the following chart.

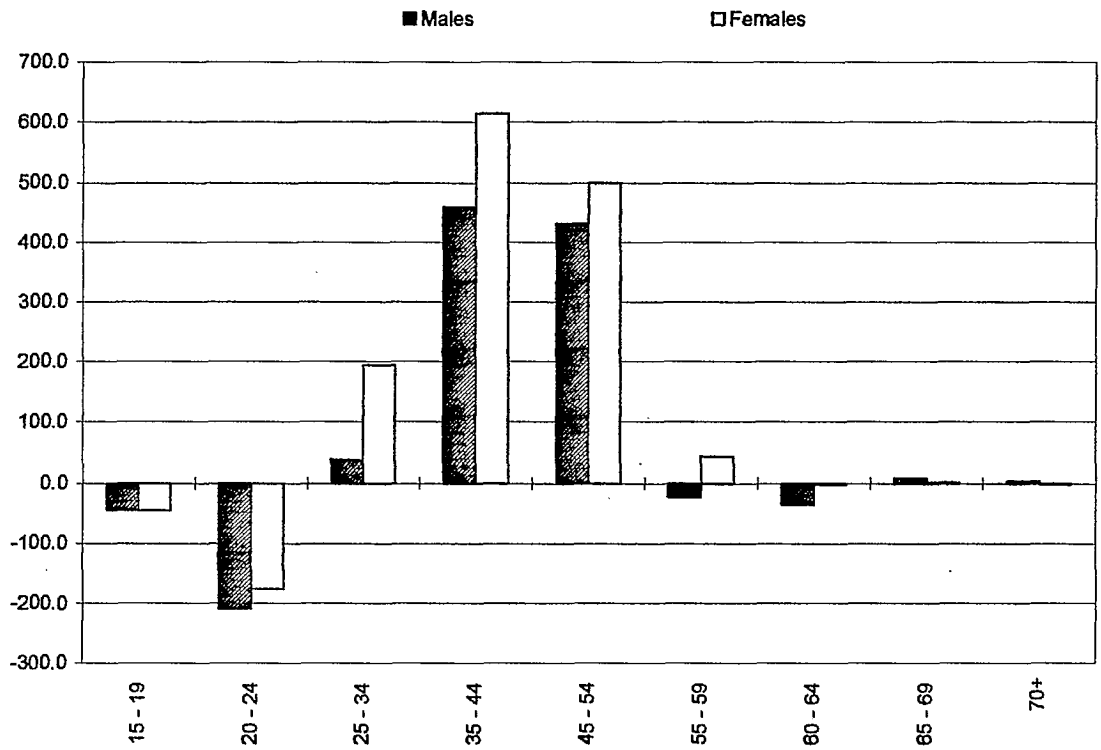
Labour Force Source Population
Change by Age and Sex from 1985 to 1995
Thousands of Persons



Source: *Labour Force Survey*, Statistics Canada

In view of these population shifts we would expect employment growth by age to follow similar patterns. They do, as illustrated in the chart below. But there are some noteworthy exceptions.

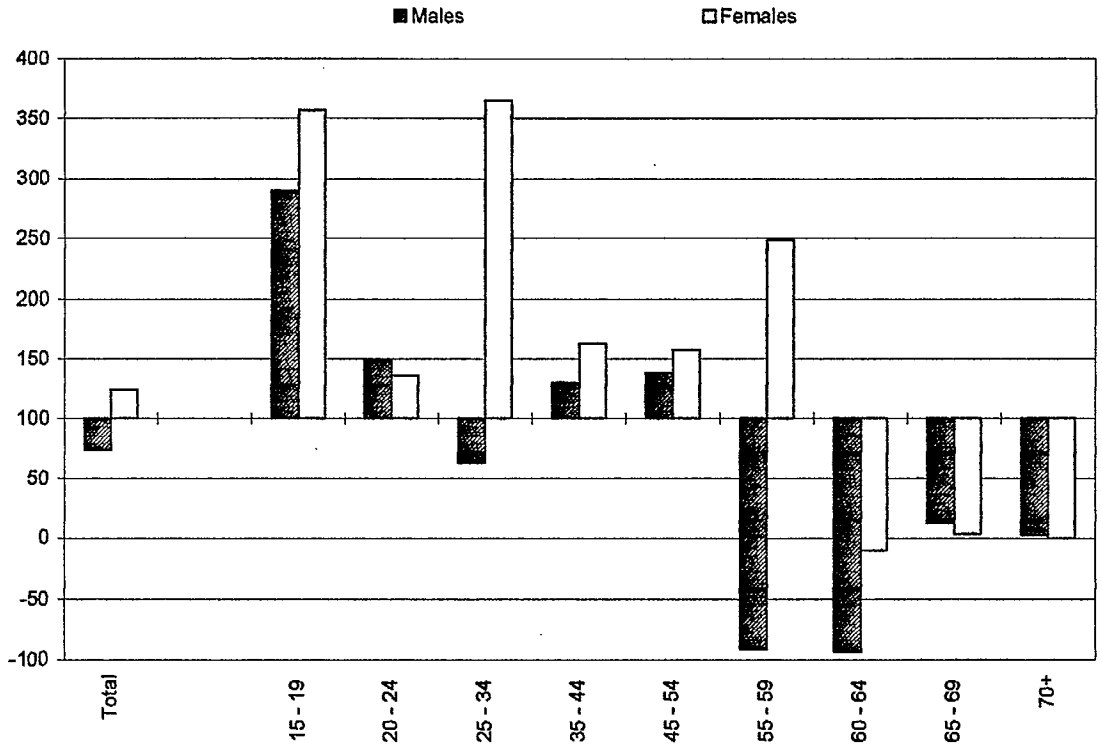
Employment
Change by Age and Sex from 1985 to 1995
Thousands of Persons



Source: *Labour Force Survey*, Statistics Canada

The exceptions become more obvious through the creation of a relative index comparing the percentage contribution to total employment growth by each age and sex category to the percentage contribution to total source population growth by each age and sex category. The relative contribution indices are illustrated in the following chart.

Indices of Relative Employment and Source Population Growth 1985 to 1995



Source: *Labour Force Survey*, Statistics Canada and Madison Avenue Demographics Group

The highlights of this chart include the following:

- the index for males as a group is 74 while that for females is 124; since the source population of both males and females grew in absolute terms by about the same amount between 1985 and 1995 these indices indicate females obtained disproportionally more jobs than males; if they had shared equally each would have an index of 100

- the index for females aged 15 to 19 is 357 while that for males in the same age group is 290; since the source population *declined* in this age group these very high indices indicate people aged 15 to 19 lost significantly more jobs than they should have, especially females

- the index for males aged 20 to 24 is 150 while that for females in the same age group is 136; since the source population of this group *also declined*, these indices indicate both males and females in this group lost jobs at a faster rate than should have been expected, though not quite as badly as among those 15 to 19

- the indices for both males and females over 60 years of age are less than 100; the source populations of these age groups grew significantly over the last decade; so each of these groups witnessed job growth slower than what should have been expected given the growth in their population bases; this is especially the case for males aged 60 to 64

- the source population among both males and females 25 to 34 years of age grew over the last decade; but the relative job creation index for males in this age group is just 63 while it is 365 for females, indicating that males in this age group lost out relatively while females in this group fared exceptionally better than should have been expected given the contribution of each to source population growth

- the indices among both males and females aged 35 to 44 and 45 to 54 all exceed 100, with the indices among females higher than among males within the same age group; since the source population of all of these people grew significantly between 1985 and 1995, these high indices reveal they fared relatively well by capturing more than their share of the growth in jobs over this period

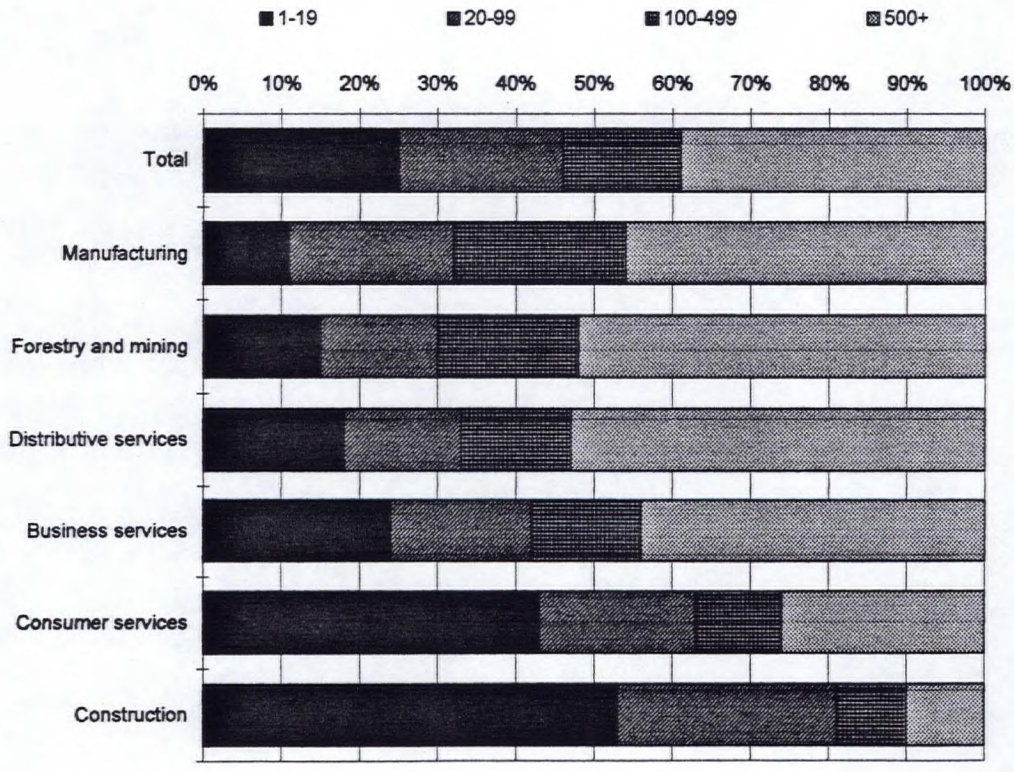
- among persons aged 55 to 59 -- an age group whose source population grew modestly between 1985 and 1995 -- only females captured more than their share of job growth; males in this age group fared exceptionally poorly

On balance this analysis suggests that -- of the 1.8 million gain in jobs in Canada over the last decade -- a disproprtionally large number were accounted for by males, and especially by females, between the ages of 35 and 54. Males aged 35 to 54 accounted for 0.9 million new jobs over this period while females aged 35 to 54 accounted for 1.1 million.

In part this dominance is explained by the fact that labour force participation rates among both the young and the elderly have tended to decline over the past decade while those among the middle-aged have continued to increase, especially among females.

There is surprisingly little information readily available for Canada indicating employment by size of firm, and what is available is not current. Rene Morisette (Autumn 1991) illustrates the number of hours worked in firms of a given size as a percent share of the total hours worked in that industry. The sample included almost 25,000 full-time paid worker jobs but it excluded workers in the agriculture, fishing and public service sectors (see chart below).

Employment by Firm Size and Major Industrial Groups
Percent Share of Total
1986



Source: Statistics Canada

The chart reveals the following:

- as of 1986 the small business sector -- those employing fewer than 20 persons -- accounted for 25 percent of all the jobs covered by the survey in Canada
- some 53 percent of the construction industry's jobs were found among small businesses that year
- small businesses were the next most important job providers in the consumer service sector at 43 percent and in the business services sector at 24 percent
- in the remaining industries -- distributive services (18 percent), forestry and mining (15 percent) and manufacturing (11 percent) -- the small business share of total employment fell below the economy-wide average of 25 percent by a wide margin

So a decade ago the major small-business intensive sectors were construction, consumer services and -- to a lesser extent -- business services.

It is important to note that while the LMAS data discussed above include the incorporated self-employed, they exclude the unincorporated self-employed. According to the Labour Force Survey, back in 1985 some 13.5 percent of all those with jobs in Canada were self-employed (30 percent of them incorporated and 70 percent unincorporated). By 1995 the share of self-employed had reached 15.4 percent of all jobs. Therefore, some 28.6 percent of the 1.8 million jobs created between 1985 and 1995 were among the self-employed. Of the 505,000 new self-employed jobs created over this period (see table below), 287,000 -- or 56.8 percent -- were among the unincorporated self-employed.

Total Employment and Self-Employment by Industry
Thousands of Persons
1985 and 1995

	Total 1985	Total 1995	Total Change	Self-Emp. 1985	Self-Emp. 1995	Self-Emp. Change	S-E Share 1985	S-E Share 1995	S-E Share Change
Total	11,742	13,506	1,764	1,574	2,079	505	13.4	15.4	28.6
Agriculture	482	431	-51	269	260	-9	55.8	60.5	n/a
Other primary industries	297	296	-1	38	48	10	13.0	16.3	n/a
Manufacturing	,064	2,061	-3	81	100	20	3.9	4.9	n/a
Construction	608	724	115	173	245	72	28.4	33.8	62.3
Trans.,Comm. other utilities	919	1,033	114	69	100	31	7.5	9.6	26.7
Trade	2,088	2,307	219	336	393	57	16.1	17.0	26.0
Finance, insurance, real estate	660	809	149	57	102	44	8.7	12.6	29.8
Service	3,795	5,036	1,241	551	832	281	14.5	16.5	22.6
Public administration	830	810	-20	0	0	0	0.0	0.0	0.0
Males	6,764	7,397	633	1,136	1,404	268	16.8	19.0	42.3
Females	4,978	6,109	1,131	438	675	237	8.8	11.0	21.0

Source: *Labour Force Survey*, Statistics Canada

Furthermore, the table above reveals the following trends with respect to the self-employed (both incorporated and unincorporated) share of jobs in 1985 and 1995 and with respect to the change in jobs between 1985 and 1995 by industry and gender:

- in 1985 self-employment accounted for 55.8 percent of all the jobs in agriculture, 28.4 percent of those in construction, 16.1 percent of those in trade, 14.5 percent of those in services, 13.0 percent of those in other primary industries and less than 10 percent in all the rest (0 percent, of course, in the public sector)

- between 1985 and 1995 self-employment accounted for 62.3 percent of the total job gain in construction and between 25 and 30 percent of the job gains in finance, insurance and real estate, transportation, communications and other utilities, trade and services

- in 1985 some 16.8 percent of the jobs held by males were of the self-employed type, compared to 8.8 percent for females

- between 1985 and 1995 a very high 42.3 percent of the increase in jobs held by males were of the self-employed type compared to 21.1 percent of the increase in jobs held by females

So the gains in self-employment over the last decade were greatest in a relative sense in the services sector and among males. Note, however, the absolute increase in self-employment among males over this period – at 268,000 – was only slightly greater in than the increase in self-employment among females – at 237,000. And in absolute terms the biggest increases by industry were in the services sector -- up 281,000 -- followed by construction (72,000), trade (57,000) and finance (44,000).

The LFS provides employment information in considerably greater industrial detail than in the table above for all jobs among both genders. This detail appears in the table below.

Total Employment by Industry
Thousands of Persons
1985 and 1995

	1985	1995	Ch 85-95	% Ch 85-95	% Sh 1995
All Industries	**11,742**	**13,506**	**1,764**	**15.0**	**100.0**
Goods-producing industries	3,577	3,653	76	2.1	27.0
Service-producing industries	8,165	9,852	1,687	20.7	73.0
Primary	**1,074**	**1,022**	**-53**	**-4.9**	**7.6**
Agriculture	482	431	-51	-10.6	3.2
Other primary industries	297	296	-1	-0.3	2.2
Fishing and trapping	34	33	-1	-2.4	0.2
Logging and forestry	69	91	22	32.5	0.7
Mining, quarrying & oil wells	194	172	-22	-11.5	1.3
Manufacturing	**2,064**	**2,061**	**-3**	**-0.1**	**15.3**
Construction	**608**	**724**	**115**	**19.0**	**5.4**
Utilities	**919**	**1,033**	**114**	**12.4**	**7.6**
Transportation	516	561	45	8.8	4.2
Communications	276	329	53	19.4	2.4
Other utilities	127	142	16	12.3	1.1
Trade	**2,088**	**2,307**	**219**	**10.5**	**17.1**
Wholesale trade	536	608	72	13.3	4.5
Retail trade	1,551	1,699	147	9.5	12.6
Finance	**660**	**809**	**149**	**22.6**	**6.0**
Finance and insurance	449	541	92	20.5	4.0
Real estate, insurance agencies	211	268	57	27.0	2.0
Services	**3,795**	**5,036**	**1,241**	**32.7**	**37.3**
Business services	527	867	340	64.4	6.4
Educational services	768	944	176	23.0	7.0
Health and social services	1,012	1,340	328	32.4	9.9
Accommodation, food, beverages	664	861	197	29.6	6.4
Other service industries	825	1,025	200	24.3	7.6
Public administration	**830**	**810**	**-20**	**-2.4**	**6.0**

Source: *Labour Force Survey*, Statistics Canada

The above table reveals the following:

- looking at the broad industry aggregates the biggest job gains over the last decade occurred in the services sector (up 1.2 million, thus accounting for 70.4 percent of the total gain of 1.8 million), the trade sector (up 219,000), the finance, insurance and real estate sector (up 149,000) and the construction sector (up 115,000)

- looking at the more detailed industry groups the major gains occurred in business services (up 340,000), health and social services (up 328,000), other (mostly personal) services (up 200,000), accommodation, food and beverage services (up 197,000), educational services (up 176,000), retail trade (up 147,000), finance and insurance (up 92,000), wholesale trade (up 72,000), real estate and insurance agents (up 57,000) and communications (up 53,000)

- the primary and agricultural sectors lost ground over the last decade (down 53,000 and 3,000 respectively)

So the service sector dominated in the provision of most new jobs in Canada between 1985 and 1995.

Finally, the LFS also provides considerable detail regarding employment by industry by gender.

Employment by Industry by Gender
Percentage Shares of Total Employment
1985 and 1995

	Male 1985	Female 1985	Female Share 1985	Male 1995	Female 1995	Female Share 1995	Change Male 85-95	Change Female 85-95	Female Share 85-95
All Industries	**7,369.5**	**5,385.8**	**42.2**	**7,951.4**	**6,492.6**	**45.0**	**581.9**	**1,106.8**	**65.5**
Goods-producing industries	3,046.2	928.2	23.4	3,045.9	949.0	23.8	-0.3	20.8	101.5
Service-producing industries	4,323.3	4,457.6	50.8	4,905.5	5,543.6	53.1	582.2	1,086.0	65.1
Agriculture	361.7	152.6	29.7	307.1	147.9	32.5	-54.6	-4.7	7.9
Fishing and trapping	36.8	3.6	8.9	33.3	5.4	14.0	-3.5	1.8	-105.9
Logging and forestry	82.9	8.4	9.2	98.4	11.7	10.6	15.5	3.3	17.6
Mining, quarrying & oil wells	180.8	29.0	13.8	155.6	28.0	15.3	-25.2	-1.0	3.8
Manufacturing	1,615.5	634.9	28.2	1,570.2	630.2	28.6	-45.3	-4.7	9.4
Construction	659.9	76.0	10.3	768.8	89.9	10.5	108.9	13.9	11.3
Transportation	467.6	89.6	16.1	484.4	113.4	19.0	16.8	23.8	58.6
Communications	179.5	107.4	37.4	210.8	131.9	38.5	31.3	24.5	43.9
Other utilities	108.6	23.7	17.9	112.5	35.9	24.2	3.9	12.2	75.8
Wholesale trade	420.1	152.3	26.6	457.3	186.3	28.9	37.2	34.0	47.8
Retail trade	850.0	820.3	49.1	899.2	919.9	50.6	49.2	99.6	66.9
Finance and insurance	150.7	318.5	67.9	186.8	370.3	66.5	36.1	51.8	58.9
Real estate and insurance agencies	125.0	99.7	44.4	154.2	126.2	45.0	29.2	26.5	47.6
Business services	316.6	254.7	44.6	510.0	416.9	45.0	193.4	162.2	45.6
Educational services	337.5	461.7	57.8	370.4	616.0	62.4	32.9	154.3	82.4
Health and social services	241.9	812.0	77.0	281.8	1,099.7	79.6	39.9	287.7	87.8
Accommodation, food & beverage	320.3	446.9	58.3	406.7	542.6	57.2	86.4	95.7	52.6
Other service industries	374.6	546.2	59.3	469.8	646.4	57.9	95.2	100.2	51.3
Public administration	539.4	348.4	39.2	474.1	374.0	44.1	-65.3	25.6	-64.5

Source: *Labour Force Survey*, Statistics Canada

The table summarizes trends over the last decade in the male and female shares of employment by industry, revealing the following:

- over the last decade the share of jobs held by females increased from 42.2 percent to 45.0 percent as females assumed 65.5 percent of the 1.8 million new jobs created over this period

- females dominated the assumption of all the new jobs created in health and social services (87.8 percent), educational services (82.4 percent), utilities other than transportation or communications (75.8 percent), retail trade (66.9 percent), finance and insurance (58.9 percent), transportation (58.6 percent), accommodation, food and beverages (52.6 percent) and other (mostly personal)services (51.3 percent)

- females accounted for the lion's share of the job losses in public administration (64.5 percent)

This review of the evidence regarding small- and medium-sized job growth as it relates to demographic changes underway over the past decade and a half leads to the following conclusions:

- on a net basis, over time, small businesses have been major, but not the only, contributors to employment growth

- the unincorporated self-employed -- who accounted for almost 300,000 new jobs over the last decade -- and the quasi-public sector (health, education) are not included in the small-business job growth analysis undertaken by a number of researchers in recent years

- while it is true that different industries at different times contribute to overall job growth to different degrees, one is left with the clear impression that -- if the time span considered is long enough to eliminate the distorting effects of the business cycle -- small-business dominated industries contributed more than most to overall job creation over the last decade

The demographic shifts underway over the last decade have tended to support the small-business dominance of job creation. For example:

- persons aged 35 to 54 are more likely than either younger or older people to have accumulated the experience and savings required to start a new business, and the population within these age brackets grew more than that of most age groups over the last decade

- the continued rise in participation rates among females, especially among middle-aged females, has increased the share of two income families; this trend has helped decrease the financial risk involved for a family if one or both spouses start a new business

- this trend has been encouraged in the 1990s as larger firms downsized, eliminating many middle managers with the accumulated skills and wherewithal to turn to a business start-up as a career alternative

- the 35 to 54 age group, which has dominated population and employment growth, was born between 1940 and 1960 and matured at a time when technological change has dominated day to day life; these people, especially the younger half, have embraced new technologies like personal computers, fax machines, modems, cell phones and the like in reducing the costs involved in any business start-up

- continued low fertility rates have freed many females to pursue careers and business start-ups to an extent unheard of two decades ago

- rising education and affluence levels have resulted in a greater emphasis of the household budget on health, education, personal care, household renovations, travel, entertainment and dining out; these consumer spending trends have helped spawn the rapid growth in employment in these sectors, much of which has occurred through the start-up of new business enterprises (Strategic Projections Inc., 1995e)

We have obtained a customized tabulation of data from Statistics Canada's Survey of Labour Income and Dynamics (SLID) which reveals the number of paid-worker jobs held by people by age group between the ages of 16 and 69 by the size of firm during the reference year 1993. The age groups cover those aged 16 to 19, 20 to 24, 25 to 29, etc. through to 65 to 69. The size of firm covers those employing fewer than 20 persons, 20 to 99 persons, 100 to 499 persons, 500 to 999 persons and 1,000 and over. We also obtained the data by age and industry of occupation.

SLID is a longitudinal survey. Ultimately, therefore, it will permit analysis of the underlying dynamics of employment by age of employee by firm size. Unfortunately, 1993 was the first year for the survey, so only one year's worth of data is available at this time.

The table below summarizes the results of the survey for 1993 based on size and age. The table reveals the number of positions in each age category by size of firm and the same information in index form where the distribution of positions within each firm size by age is compared to the distribution of all positions across all firms. So, for example, the index of 128 under the age category 16-19 among firms employing fewer than 20 persons reveals that such firms in 1993 were 28 percent more likely to employ people aged 16 to 19 than employers in general.

Survey of Labour Income and Dynamics 1993
Positions Held by Age by Size of Firm

	Total	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Thousands												
<20	6,451	556	767	748	963	897	748	578	489	369	251	85
20-99	2,713	194	420	418	417	342	319	240	157	109	74	24
100-499	2,156	120	276	270	371	279	281	212	172	91	59	
500-999	1,388	80	189	175	192	198	196	138	112	70	30	
1,000+	4,830	223	589	653	752	670	657	533	374	238	109	32
Don't know	534	45	107	70	80	49	62	42	27	43		
Total	18,073	1,216	2,349	2,334	2,775	2,435	2,262	1,743	1,331	921	533	173

	Total	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Index												
<20	100	128	91	90	97	103	93	93	103	112	132	138
20-99	100	106	119	119	100	94	94	92	79	79	92	92
100-499	100	83	98	97	112	96	104	102	108	83	93	0
500-999	100	86	105	98	90	106	113	103	110	99	73	0
1,000+	100	69	94	105	101	103	109	114	105	97	77	69
Don't know	100	125	154	102	98	68	93	82	69	158	0	0
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Statistics Canada, *Survey of Labour Income and Dynamics 1993.*

The table above reveals the following:

- 37 percent of the people with positions -- irrespective of age -- are employed by firms employing fewer than 20 people
- firms employing fewer than 20 people are far more likely to employ persons aged 16 to 19 or persons over the age of 55, especially over the age of 60, than are employers in general
- firms employing 20 to 99 persons are far more likely to employ people in the 20 to 29 age range than are other firms, and are less likely to employ people aged 50 to 59

- firms employing 100 to 499 persons, or 500 to 999 persons, tend to employ people by age approximating the distribution among employers in general, though there is a slight tendency away from the young and the elderly

- firms employing more than 1,000 persons have a slight bias in the direction of persons aged 40 to 49 and, in a relative sense, they shy away from the very young and the very old

The table below provides data on positions held in 1993 by age and industry. The following observations can be made about four sectors in which SMEs account for the majority of positions -- construction, business services, retail and accommodation and food:

- the construction results are inconsistent across the age groups, but suggest a slight bias toward persons in their 30s

- the business service industry tends to hire persons aged 25 to 50 and not the very young

- the retail and accommodation/food sectors reveal a significant bias towards persons under the age of 30

Survey of Labour Income and Dynamics 1993
Positions Held by Age by Industry

	Total	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Thousands												
Agriculture	557	69	43	59	68	63	55	39	49	44	46	22
Other primary	393	10	36	57	71	54	51	40	33	20	17	
Manufacturing	2,464	76	233	301	414	400	334	271	203	163	63	
Construction	1,090	40	114	141	211	176	124	116	68	62	30	
Transportation	652		52	71	130	81	110	66	66	42	19	
Communication	543		56	83	110	90	71	65	34	19		
Wholesale trade	815	35	108	93	131	106	110	75	64	46	29	
Retail trade	2,266	298	486	313	304	253	177	182	104	101	39	
Finance	1,002		111	149	140	171	154	69	77	54	39	
Business services	1,078	34	113	190	154	161	151	126	71	28	33	
Government	1,190	50	97	122	223	186	173	134	86	70	35	
Education	1,374	33	136	148	168	148	245	212	154	72	48	
Health, social	1,692	22	169	233	276	248	253	164	161	82	66	
Accommodation, food	1,305	281	351	176	131	85	99	68	48	37		
Other	1,460	218	205	159	221	190	130	110	110	71	37	
Don't know	194	16	40	40	22	24						
Total	18,073	1,216	2,349	2,334	2,775	2,435	2,262	1,743	1,331	921	533	173

	Total	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Index												
Agriculture	100	184	59	82	80	84	79	73	119	155	280	413
Other primary	100	38	70	112	118	102	104	106	114	100	147	0
Manufacturing	100	46	73	95	109	120	108	114	112	130	87	0
Construction	100	55	80	100	126	120	91	110	85	112	93	0
Transportation	100	0	61	84	130	92	135	105	137	126	99	0
Communication	100	0	79	118	132	123	104	124	85	69	0	0
Wholesale trade	100	64	102	88	105	97	108	95	107	111	121	0
Retail trade	100	195	165	107	87	83	62	83	62	87	58	0
Finance	100	0	85	115	91	127	123	71	104	106	132	0
Business services	100	47	81	136	93	111	112	121	89	51	104	0
Government	100	62	63	79	122	116	116	117	98	115	100	0
Education	100	36	76	83	80	80	142	160	152	103	118	0
Health, social	100	19	77	107	106	109	119	101	129	95	132	0
Accommodation, food	100	320	207	104	65	48	61	54	50	56	0	0
Other	100	222	108	84	99	97	71	78	102	95	86	0
Don't know	100	123	159	160	74	92	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Statistics Canada, *Survey of Labour Income and Dynamics 1993.*

A number of implications arise from the data:

- there may be insufficient workers for firms in the retail and food/accommodation sectors that depend heavily on persons under the age of 30; the smaller firms in these sectors – those employing fewer than 100 people – are particularly dependent on these age groups

- the construction sector -- characterized by firms employing fewer than 100 persons and a bias toward workers in their 30s – faces the prospect of recruiting from an age cohort that is decreasing; it also must retrain an aging work force, especially in the use of computers; the retraining challenge will be substantial given the relatively low mean level of education of workers in this sector and their lower level of computer literacy

- the age profile of the business service sector – the fastest growing of all the industry groups -- approximates that of the boom generation and its industry size profile is close to the norm for all industries; as a result this sector does not appear to face a supply problem; however, as technology is utilized more extensively in this sector the challenge will be to maintain the literacy levels of its aging work force over the next decade

Section D: Other Implications for Small- to Medium-Sized Enterprises

Section D reviews several other demographically related issues that will challenge small- to medium-sized enterprises in the next ten years.

Residential Construction

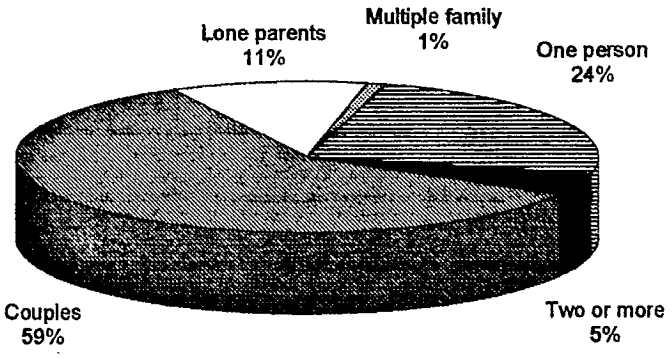
In relative terms the construction sector accounts for the largest share of SMEs. The underlying demographic changes have significant implications for the residential segment of this important industry.

The baby boom generation tore through the rental market in the 1970s and the housing market during the 1980s to the delight of landlords and home builders, respectively. Although the baby boom is now largely housed, given the depth of the recession of the early 1990s there is a considerable backlog of new homes required to meet the needs of the back-end of the baby boom generation. There will also be activity in the trade-up and renovation markets as the early boomers face the reality of dealing with teenagers, live-in parents, and home businesses under the same roof. However, the main cohort entering the housing market over the next ten years is the much smaller baby bust generation. The last segment of the bust generation and front end of the echo generation will move into the rental market.

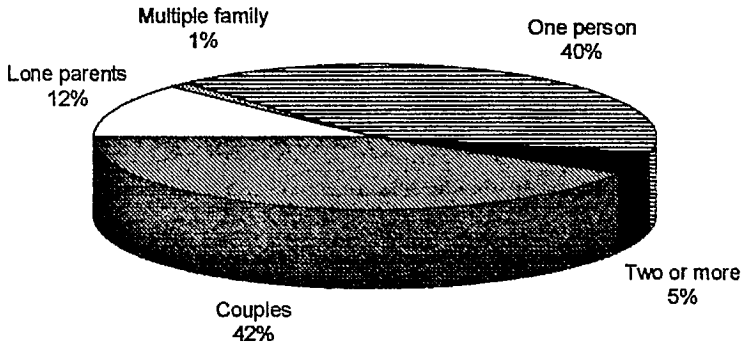
Our projections show that – on a net basis -- significant increases in dwelling requirements will occur among age groups 45 and older. In terms of household type the greatest increases will be in couples and single persons (see chart below). Both the growth in the absolute number of households and household size will decline in response to population aging.

Households in Canada by Type

Percentage Distribution by Type in 1996



Percentage Distribution of Change by Type 1996 to 2006



Source: Strategic Projections Inc.

Between 1996 and 2006 we project that both rented and owned shelter expenditures will grow less quickly than households. The gap will be largest for rented shelter. Spending on shelter other than the primary residence will grow considerably faster than households, particularly in the vacation home and motel categories (Strategic Projections Inc., 1995e).

The "Home Work" Phenomenon

As noted earlier, self-employment is an increasingly popular career option. This option is enhanced by the aging of the population, as well as by the affordability of information technology, particularly the fax machine and the computer.

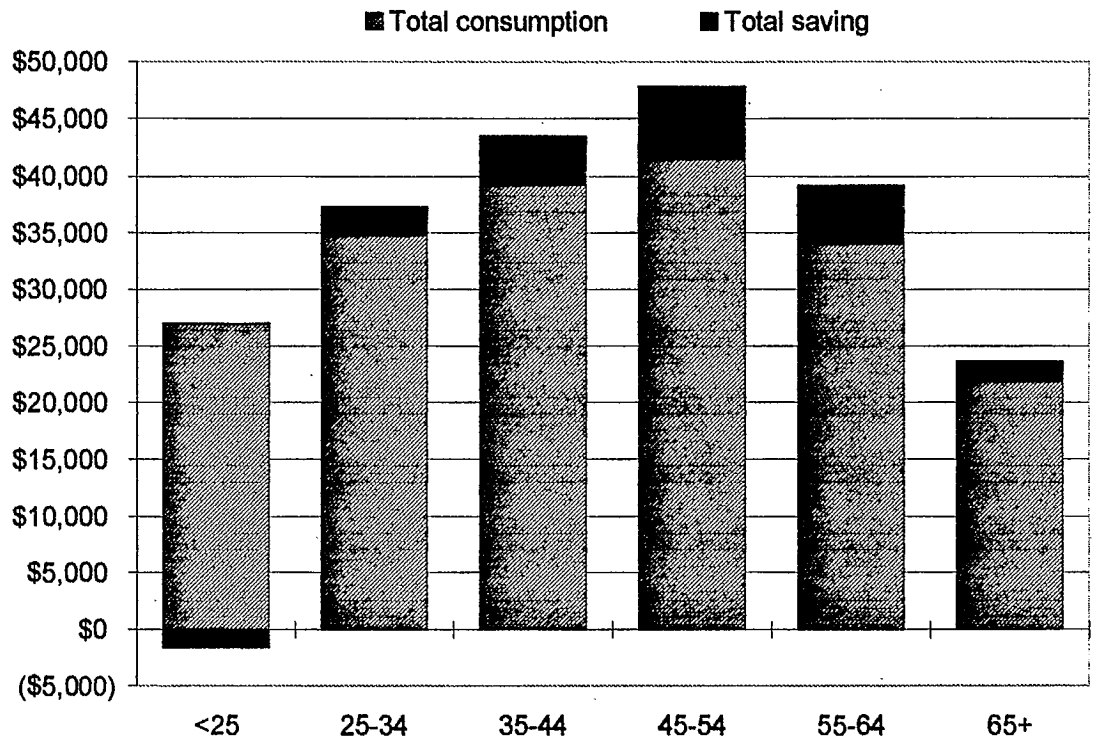
By 1991 743,00 non-farm workers worked at home. Two-thirds were "tele-commuters" (and therefore likely employed by a large corporation) and one-third were self-employed. Although most of the home workers were men, woman had embraced this option at a faster rate (69 versus 29 percent) between 1981 and 1991 (Nadwodny, 1996).

The aging of the population will reinforce this trend towards working at home (Nadwodny, 1996). In turn, this will expand the economic significance of the SME sector.

Quality and Service

The consumption of a "younger" population (under 50 years) is mostly focused on the output of the primary and secondary sectors of the economy. The demand for durable goods such as houses, automobiles, and refrigerators as well as for food and alcoholic beverages is high. The front end of the baby boom is about to enter a period when saving for retirement and the consumption of particular types of services such as for travel, leisure or health services will be paramount. Therefore, the "service economy" – in which SMEs have a substantial presence – will become an even more prominent feature of our marketplace. As the baby boom ages into its 50s and 40s during the next ten years, the marketplace will be serving a consumer that places greater value on quality and service. This trend reflects the observation that the older consumer increasingly has the discretionary income but not the time to conduct a comprehensive search for the best combination of price, quality, and service. Data provided by Statistics Canada confirm that household income, consumption, and savings peak in the late 40s to early 50s (see chart below).

Average Disposable Income Components by Age of Household Maintainer
Consumption and Saving
1992



Source: *Family Expenditure Survey 1992*, Statistics Canada

There is other evidence supporting our hypothesis regarding the increasing importance of quality and service in the results of a March 1996 survey of 8,800 Canadians conducted by A.C. Nielson for the Consumers' Association of Canada and the National Quality Institute. This survey is the first of its kind to be conducted in Canada. Nearly all respondents stated that quality is important and two-thirds are willing to pay more to obtain better goods and services. The highest marks were awarded to pharmacies (93 percent), credit unions, and small retailers; govemment departments, cable TV companies, and Canada Post received the lowest marks.

The evidence would suggest that SMEs – which are more labour intensive and less reliant on technology than large firms – are better positioned to meet the challenge of providing higher levels of quality and service.

Consumer Spending Trends of an Aging Society

Our previous research for Industry Canada's Office of Consumer Affairs (Strategic Projections Inc., 1995e) identified a list of "winners" and "losers" during two projected time periods: 1996 - 2006 and 2006 - 2016. The results were arrived at by two methods of analysis. The first assumes that age is the most important driver of consumer spending; the benchmark of market success is whether projected expenditures on a good or service will grow at a rate that exceeds the average annual rate of household growth. Over 400 individual goods and services were analysed to determine the projected consumer preferences of Canada's aging population. Secondly, some 130 items were analysed on the assumption that the key driver is real disposable (after-tax) household income growth; the benchmark is whether a good or service is growing faster or slower than the average annual rate of income growth.

Projecting consumer spending on the basis of age and household income, respectively, does produce to some extent different lists of specific goods and services that are "winners" and "losers" during the next ten to twenty years. The winners include a wide range of personal and household services (from hairdressing and travel to lawn care and renovations) predominantly provided by SMEs.

Education and Training

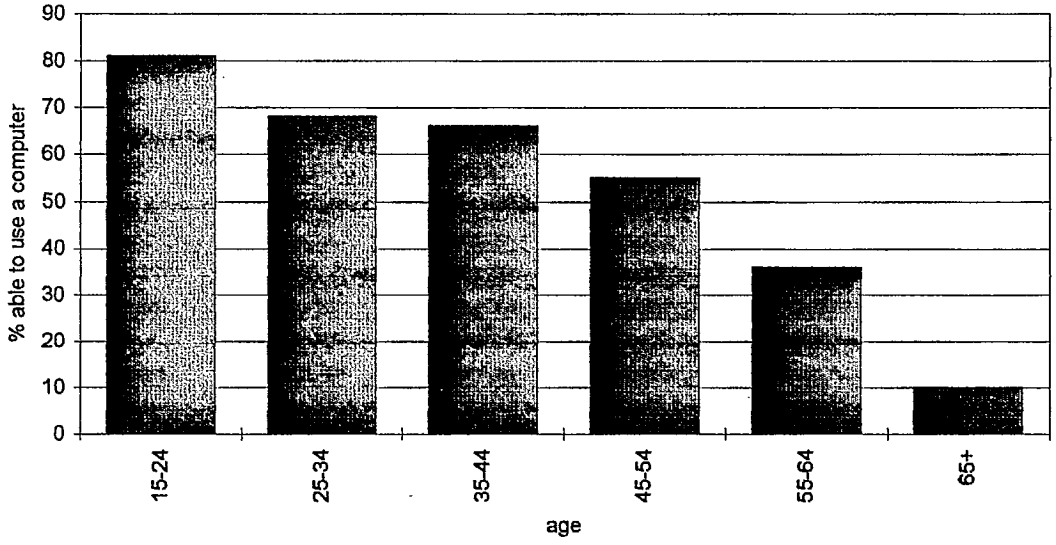
Demographic studies of selected trades in the Ontario construction industry reveal a labour force that is currently older than the population at large (Strategic Projections Inc., 1995a). SMEs in the construction sector face a potential shortage of tradespersons (see, for example, Ontario Construction Secretariat, 1996). During the post-war period, the youth cohort supplied the candidates for apprenticeship, and immigrants, mostly from Europe, supplemented the ranks of journeypersons. Both of these groups will be in short supply in the future with significant implications for labour force education and training.

Computer Literacy

Longitudinal data available from Statistics Canada show that computer literacy is related directly to household income and inversely to age (see chart below). 1989 data revealed a substantial drop in literacy levels for persons age 45 and over. 1994 data found that the drop off point had shifted to age 55 but only 55 percent of respondents aged 45 - 54 could use computers (versus 38 percent in 1989).

We demonstrated earlier that firms with fewer than 20 employees are relatively more reliant on both the youngest and the oldest workers. This poses a dual challenge to these firms. They face a declining population of those best equipped to work with computers (i.e. the young), and they face the need to assist older workers in adapting to the increasing use of information technology.

Computer Literacy by Age
1994



Source: Statistics Canada

Section E: Conclusion

Our analysis demographic trends in Canada stresses the primacy of age as an explanatory variable. The utility of the age variable is linked to a population distribution that is a consequence of an extended (and continuing) period of low fertility and increasing life expectancy. Thus, the absolute and relative sizes of baby boom generation and the smaller bust and echo generations behind it have a discernible impact on economic behaviour throughout the life cycle.

Notwithstanding the explanatory power of demographics, leaders in both government and business have generally eschewed its use in their planning and decision-making processes. This tendency may reflect either a low level of knowledge regarding demographic trends and their implications or a preference for a short-term perspective. Whatever the reason for this neglect, our general prescription is that Canada's government and business leaders must pay greater heed to demographic analysis as they develop labour market and industrial policies during the next ten years and beyond.

In this paper we have shown that demographic changes – particularly with respect to their impacts on the labour force – reinforce the trend toward an increased share of economic activity stemming from the SME sector while posing particular challenges to the SME sector in areas such as customer service, training and computer literacy.

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Technical Note

Readers will note that 1996 population estimates in this paper differ slightly from recent reports in the popular media. This difference is explained as follows:

Population by age and sex are sourced from the Census of Canada for each of 1981, 1986, and 1991. No attempt has been made to revise these figures to reflect national estimates produced by Statistics Canada to reflect estimates of the census undercount by age and sex or for shifting the annual date of estimation from June 1st to July 1st. Figures for the inter-censal years (1982 to 1985 and 1987 to 1990) are interpolated by Strategic Projections Inc. Figures for 1992 to 1995 are estimated by Strategic Projections Inc. tied to national post-censal estimates of population growth published by Statistics Canada based on administrative files. Figures for 1996 to 2021 are as projected by Strategic Projections Inc. (1997).

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