

## DEMOGRAPHIC CHANGE AND THE CANADIAN ECONOMY: AN OVERVIEW

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*Résumé* — Le but de cet article est d'explorer les corrélations entre la dynamique de la population et l'économie canadienne, et de discuter des répercussions sur la politique publique. Cette étude examine les tendances démographiques récentes et indique que quelques-unes de ces tendances peuvent être projetées avec une certaine assurance jusqu'à la fin du siècle. Il faut s'attendre à ce que le taux de croissance de la population et de la main-d'oeuvre continue à baisser, ce qu'un vieillissement additionnel de la population et de la main-d'oeuvre survienne et ce qu'une proportion des membres assez âgés de la population augmente alors que la proportion des jeunes membres baisse. De plus, si les tendances actuelles continuent, le taux de participation de la main-d'oeuvre féminine peut continuer à augmenter. Ces tendances démographiques affecteront l'économie à des égards complexes. Une main-d'oeuvre vieillissante dont la croissance est lente risque d'influencer la flexibilité et la productivité du marché du travail, et la capacité de rajustement de l'économie. La présence des femmes dans la main-d'oeuvre et la migration intérieure et internationale peuvent rendre le processus de rajustement facile mais les frais de rajustement peuvent s'avérer hauts, particulièrement sur le plan des programmes du marché du travail tels que la formation, la législation sur l'assistance en mobilité et sur le salaire égal, aussi bien que les services sociaux tels que la protection infantile. Cependant, il y aura de plus grandes exigences sur les dépenses gouvernementales en ce qui concerne les pensions et les soins médicaux aux âgés. L'étude amène à conclure que bien qu'il y ait une compréhension acceptable des corrélations démographiques-économiques au niveau macro, il reste toujours un nombre de lacunes en connaissance aux niveaux sectoriaux, régionaux

et domestiques qui limitent notre capacité à développer des politiques appropriées. L'étude suggère des domaines pour davantage de recherches pour s'attaquer à ces lacunes.

*Abstract* — The purpose of this paper is to explore the interrelationships between demographic change and the Canadian economy, and to discuss the implications for public policy. The paper discusses recent demographic trends and indicates that some of these trends can be projected with reasonable confidence to the end of the century. It is expected that the rate of growth of the population and labour force will continue to decline, that further aging of the population and labour force will occur and that the proportion of elderly members of the population will increase as the proportion of young members decreases. Furthermore, if current trends continue, the rate of female labour force participation may continue to increase. These demographic trends will affect the economy in complex ways. An aging and more slowly growing labour force is likely to influence labour-market flexibility and productivity, and the capacity of the economy to adjust. The adjustment process may be facilitated by the presence of women in the labour force and by internal and international migration, but the costs of adjustment may be high, particularly in terms of labour-market programs such as training, mobility assistance and equal pay legislation, as well as social services such as child care. At the same time, there will be greater demands on government expenditure for pensions and health care for the elderly. The paper concludes that while there is a reasonable understanding of demographic-economic interrelations at the macro level, there remain a number of gaps in knowledge at the sectoral, regional and household levels which limit our capacity to develop appropriate policies. The paper suggests areas for further research to address these gaps.

*Key Words* — **demographic change, Canadian economy, labour-market adjustment, public policy**

### *Introduction*

This overview is concerned with the relationship between demographic change and the economy, and is based on 12 studies conducted or commissioned by the Institute for Research on Public Policy in connection with Health and Welfare Canada's Review of Demography and its Implications for Economic and Social Policy (The Demographic Review). While the issues discussed in this paper are related to a much more extensive body of literature, the purpose of this overview is not to review this literature, but to synthesize

the 12 papers designed specifically for the Demographic Review and to discuss implications for public policy and further research.

The opening section sets the stage for a discussion of demographic-economic interrelations by briefly describing some of the current and future challenges facing the Canadian economy and the importance of demographic change in this context. The second part reviews major recent demographic trends at the aggregate level, with particular emphasis on emerging developments over the past decade. The next section examines the changing composition of the population and the labour force, in terms of broad, macro-level trends that influence the overall economy, as well as more detailed elements, including the demographic profiles of the labour force engaged in different occupations. The fourth part assesses the behavioural aspects of one particularly dramatic demographic change — increased female labour force participation — and relates this not only to fertility and social change but also to economic developments over the past decade.

The fifth section provides projections of the population and labour force from 1986 to 2036, focusing on expected trends to the end of the century. The next section assesses the implications of recent and projected demographic changes for the economy in the late 1980s and the 1990s, particularly the potential economic adjustment problems associated with a labour force that is aging and growing more slowly, and the effects of demographic forces on the demand for public and private goods and services. (It should be noted that the discussion of economic adjustment in this overview focuses on the reallocation of labour, which is necessitated by economic change. It is recognized that the overall process of economic adjustment is more complex and includes industrial restructuring as well as the reallocation of capital. However, consideration of these broader issues is beyond the scope of this paper.) Finally, the concluding part of the overview describes the major gaps in our understanding of demographic-economic interrelations and suggests areas for further research.

This overview demonstrates that there is a good understanding of recent demographic trends in Canada and that some of these trends can be projected with reasonable confidence to the end of the century. Thus, it is expected that the rate of growth of the population and labour force will continue to decline, that further aging of the population and labour force will occur, and that the proportion of elderly members of the population will increase as the proportion of young members decreases. Furthermore, at an overall level, there is some understanding of the likely implications of these trends for the Canadian economy, at least in terms of broad measures such as dependency ratios. By contrast, there is very limited understanding of demographic-economic interrelations at more disaggregated sectoral, regional and household levels.

*Demographic-Economic Interrelations: The Canadian Context*

Over the past decade, the national economy has been characterized by declining growth in productivity and rising unemployment. The 1986 Annual Review of the Economic Council of Canada points out that some improvements have occurred since the 1981-82 recession; however, productivity growth remains minimal, and unemployment – particularly for young adults – remains high. Underlying these macro-level indicators of economic performance are a number of structural changes at the regional and industrial level, including (a) the decline in resource-producing and agricultural industries and regions as prices for primary commodities such as oil, gas and grain have fallen; (b) the rapid pace of technological change, which, in certain manufacturing industries, has resulted in large capital investments that increase productivity but have relatively little impact on employment; and (c) the growing importance of the service sector of the economy.

At the same time, the 1970s and 1980s have witnessed the increasing integration and interdependence of the global economy, which is characterized by higher levels of trade and a more complex range of trading relations, accelerated technology transfer, and substantially greater international capital flows. To an increasing extent, international competitiveness has become linked with domestic economic growth.

These stresses on the Canadian economy have been accompanied by major demographic changes. Particularly important are the maturing of the large and relatively well-educated baby-boom generation, which has now reached labour force age; declining fertility since the early 1960s which first slowed the rate of growth of the population and is now affecting the labour force; the gradual aging of the population, along with a growing proportion of the elderly who are dependent on publicly provided income and services; the increasing labour force participation of women, particularly in the service sector; dramatically changing family structures, with two-parent, one-earner, two-child households no longer the norm; and major fluctuations in gross immigration levels, which were relatively high in the open-door policy years of the 1950s and 1960s and much lower in the first half of the 1980s.

The interrelationships between these demographic and economic trends are complex, and the implications of demographic change are potentially very significant, particularly in terms of the economy's capacity to be competitive and productive. To what extent will the Canadian labour force be able to adjust in a changing economic environment? Will the progression of the baby-boom generation through the labour-market, at least over the next 10 to 15 years, enhance labour productivity and economic growth? Or, will the expected returns

to past investments in the education and training of the baby-boom generation be eroded if such investments are inappropriate to future needs or if the recent (and continuing) unemployment experience of these individuals prevents them from gaining the necessary experience?

Furthermore, will the capacity of the economy to adapt be influenced by the dramatic slowdown in the growth of the labour force and the smaller number of young labour-market entrants who will be available in the late 1980s and 1990s? What are the implications of these labour force trends for labour adjustment policies, such as training and mobility assistance? Finally, what role might immigration play, not only in augmenting the size of the labour force, but also in facilitating adjustment by providing new labour-market entrants with particular skills?

#### *Recent Demographic Trends at the Aggregate Level*

The annual rate of population growth has declined steadily, from three per cent in 1957 at the height of the baby-boom, to less than one per cent in 1984. During the past decade, natural increase accounted for over 76 per cent of annual population growth, while net immigration accounted for 22 per cent. Total fertility rates declined over this period, from approximately 1.8 children per woman in 1979 to 1.69 in 1984. Net annual immigration, on the other hand, fluctuated from a low of 22,800 to a high of 97,900 during the same period. As a result, the relative contribution of natural increase and net immigration to average annual population growth varied from year to year (Seward, 1987, Table 2).

These demographic trends have had a major impact on the size and rate of growth of the labour force. The rapid pace of labour force growth witnessed in the 1970s changed dramatically in the 1980s (Table 1). Between 1975 and 1980, the labour force grew at an average of three per cent per annum. Two-thirds of this growth was attributable to source population (domestic and net immigration) growth and one-third to increases in participation rates. It is interesting to note that while the average annual rate of growth in participation rates of the total population was one per cent over this period, participation by women grew by 2.6 per cent, while participation by men showed no growth at all.

The period 1980-85 saw a decline in the rate of average annual labour force growth to 1.8 per cent. This was due to a slowdown in the rate of growth in the source population to 1.4 per cent, mainly because of the much smaller cohorts following the baby-boom generation into the labour force; an addi-

TABLE 1. COMPONENTS OF LABOUR-MARKET GROWTH,  
CANADA 1975-85

	1975	Level <sup>1</sup> 1980	1985	Growth <sup>2</sup> (% p.a.)	
				1975-80	1980-85
<b>BOTH SEXES:</b>					
Source Population	16.323	18.053	19.372	2.0	1.4
Participation Rate (%)	61.1	64.1	65.2	1.0	0.3
Labour Force	9.974	11.573	12.639	3.0	1.8
Employment	9.284	10.708	11.311	2.9	1.1
Unemployment	0.690	0.865	1.328	4.6	9.0
Unemployment Rate (%)	6.9	7.5	10.3	1.7	6.6
<b>MALES:</b>					
Source Population	8.026	8.847	9.468	2.0	1.4
Participation Rate (%)	78.4	78.4	76.7	0.0	-0.4
Labour Force	6.294	6.935	7.258	2.0	0.9
Employment	5.903	6.459	6.508	1.8	0.2
Unemployment	0.391	0.476	0.750	4.0	9.5
Unemployment Rate (%)	6.2	6.9	10.7	2.2	9.2
<b>FEMALES:</b>					
Source Population	8.297	9.206	9.904	2.1	1.5
Participation Rate (%)	44.4	50.4	54.3	2.6	1.5
Labour Force	3.680	4.638	5.382	4.7	3.0
Employment	3.381	4.249	4.804	4.7	2.5
Unemployment	0.299	0.389	0.578	5.4	8.2
Unemployment Rate (%)	8.1	8.4	10.5	0.7	4.6

Notes: 1. All levels in millions of persons unless otherwise indicated.  
2. Average annual rate of growth.

Source: Foot, D.K. 1987 (b). Table 2.

tional factor was the slower growth of participation rates, which averaged only 0.3 per cent annually during this period. This decline in the growth of participation rates was caused, at least in part, by the economic recession of the early 1980s. Once again, it is interesting to note that the average annual growth in participation rates for women (1.5 per cent) was significantly higher than that for men (-0.4 per cent).

### *The Changing Composition of the Population and the Labour Force*

Over the past two decades, there have been major shifts in the composition of the population and labour force. These include the gradual aging of the population and the much more recent aging of the labour force, resulting in rapid growth of the two younger age groups (15-24 years and 25-34 years) over the period 1975-80. By the early 1980s, however, the majority of these youth had matured into young adults, and the post-baby-boom cohorts entering the labour-market were much smaller. Therefore, the most rapid growth of the labour force over the period 1980-85 was in the older groups — those aged 25-34 and 35-44 (Table 2).

At the same time, there have been changes in the gender composition of the labour force as a result of the increased labour force participation of women. Whereas in 1975 males and females accounted for 63.1 per cent and 36.9 per cent of the labour force respectively, by 1985 the figure had fallen to 57.4 per cent for men, while the proportion of the labour force made up of women had increased to 42.6 per cent (Foot, 1987b, Table 6).

Underlying these broad compositional changes in the population and labour force are considerable variations in the demographic profiles of the labour forces in particular occupations. For example, the most highly skilled and most highly educated occupational group — the managerial, professional and technical category — was dominated by men in 1981, and a relatively higher proportion of immigrant men than non-immigrant men were in this group (Seward, 1987, Chart 1). Women, by contrast, were over-represented in clerical, sales and service occupations, and a relatively large proportion of immigrant women were in the processing, machining, product fabricating and assembling category — generally associated with low-skill, low-pay jobs (Seward, 1987, Chart 2). There are also occupational variations associated with different ethnic groups, as evidenced, for example, by the dominance of Italian men in the construction industry or the segregation of West Indian women in domestic occupations (Kalbach, 1987).

TABLE 2. LABOUR-FORCE SOURCE POPULATION BY AGE,  
CANADA 1975-85

	Population (millions)			Growth (%)	
	1975	1980	1985	1975-80	1980-85
<b>BOTH SEXES:</b>					
15-24 Years	4.297	4.554	4.244	1.2	-1.4
25-34 Years	3.428	4.027	4.410	3.3	1.8
35-44 Years	2.516	2.819	3.488	2.3	4.4
45-54 Years	2.420	2.454	2.498	0.3	0.4
55-64 Years	1.854	2.085	2.294	2.4	1.9
65+ Years	1.808	2.115	2.437	3.2	2.9
Total	16.323	18.053	19.372	2.0	1.4
Median Age (Years)	36.7	36.6	38.0	-0.1	0.8

Source: Foot, D.K. 1987 (b). Table 3.

*The Behavioural Aspects of Demographic Change:  
Female Labour Force Participation*

One of the most striking demographic trends in recent decades has been the dramatic increase in women's labour force participation, especially that of married women of childbearing age (assumed to be ages 20-44), which increased from 29.3 per cent in 1966, when the fertility rate was almost three children per woman, to 70.4 per cent in 1986, when the fertility rate was less than 1.7 (Townson, 1987). The 1970s also witnessed the decline in the proportion of households with one earner only (generally the male), from 32 per cent of all families in 1971 to 16 per cent in 1981. Over the same period, two-earner families as a proportion of all families increased from 36 per cent to 49 per cent, and represented the most common type of household by 1981 (Table 3).

Research on the social and economic determinants of female labour force participation has stressed the importance of fertility, as well as education, di-



TABLE 3. FAMILY TYPES IN CANADA

	1961	1971	1981
	%	%	%
<b>Husband-and-wife families</b>			
One-earner couples <sup>a</sup>	65	32	16
Two-earner couples <sup>b</sup>	14	36	49
Other families <sup>c</sup>	16	23	24
<b>Single-parent families<sup>d</sup></b>	6	9	11
<b>Total</b>	100	100	100

**Notes:** Totals may not add to 100% because of rounding.

- a. One-earner couples refer to married couples, with or without children, in which only the husband is an income earner.
- b. Two-earner couples refer to married couples, with or without children, in which both spouses are income-earners.
- c. Other families include husband-wife families in which neither spouse is an income earner and families with more than two income earners.
- d. Single parents refer to single adults, either male or female, with at least one child. The adult need not be an "income earner", i.e., includes single parents on government support.

**Source:** Townson, M. 1987. Table 3

voice rates, changing social values, economic need and the availability of paid employment as explanatory variables. While it is not the purpose of this article to review this literature, it is useful to mention briefly two of the more provocative explanations for women's increasing participation — economic need and the availability of paid work.

Economic need appears to have a major influence on women's labour force participation. The number of single-parent households has increased steadily over the past two decades (Table 3). Since most of these are headed by women,

an increasing number of women are now the sole support of their families. But even in two-parent households, two incomes are often deemed necessary to support the family. In households with children under six where the wife did not work outside the home, the average total income was approximately \$29,000 in 1984. By contrast, families with children in the same age category in which both the husband and wife were in the labour force in 1984 had an average income of almost \$41,000 (Table 4).

Perhaps most interesting is the hypothesis that the availability of paid work has attracted women to the labour force in increasing numbers. During the period 1975-85, the vast majority of jobs created were in the tertiary or service sector; within this sector, the most rapidly growing industry was community, business and personal services. These areas of greatest employment growth were also those where the majority of women found employment. While there was a total increase of approximately two million jobs in the service sector between 1976 and 1986, over 1.3 million, or approximately two-thirds, of these new jobs were filled by women (calculations based on Townson, 1987, Table 5).

TABLE 4. FAMILY INCOME OF HUSBAND-AND-WIFE  
FAMILIES WITH YOUNG CHILDREN AND LABOUR FORCE  
PARTICIPATION OF WIVES, 1984

	Families with children under 6 years		Families without children under 6 years	
	Wife in labour force	Wife not in labour force	Wife in labour force	Wife not in labour force
Average husband's income	\$26,341	\$27,307	\$26,872	\$23,051
Median husband's income	\$25,398	\$26,928	\$24,790	\$18,711
Average family income	\$40,537	\$28,974	\$44,998	\$29,964

**Source:** Townson, M. 1987. Table 20.

Over the past decade, part-time work has expanded more rapidly than full-time work, and women accounted for 72 per cent of all part-time workers in 1985. Furthermore, 80 per cent of all women who had part-time jobs in 1986 worked in two categories within the service sector: trade and community, business and personal service (Townson, 1987). Thus, the most rapidly growing type of work (part-time) in the most rapidly growing parts of the economy has also been the source of employment growth for women. Whether the availability of such jobs attracted women to the labour force, or whether the service sector, which relies to a significant extent on part-time employment, was able to expand because of the availability of more women in the labour force, remains an unanswered question. It may well be that both trends have reinforced each other.

### *Projections of the Future Population and Labour Force*

A wide range of projections of the future population and labour force have been developed by government departments, especially Statistics Canada, and by individual academics. For example, Denton and Spencer (1987a, 1987b) prepared projections to the year 2036 using several scenarios or different sets of assumptions regarding future fertility, mortality and net immigration levels. With the possible exception of the "high fertility" projection (in which the total fertility rate is assumed to rise in equal annual increments from 1.7 births per woman to three by 1996, remaining at that level thereafter), the general population and labour force patterns to 2036 are broadly similar to those established in the 1970s and 1980s. While it is difficult to have confidence in projections over several decades into the future, shorter timeframes permit more realistic scenarios. At least until the end of the century, it is likely that the population and labour force will age gradually; the rate of growth of the population and the labour force will decline (although both will remain positive); and whereas the total population and labour-force dependency ratios will decline, the population dependency ratios will increase for the elderly population and decrease for the young.

What are the major possibilities for error in these estimates to the end of the century? First, much higher fertility rates could have an impact on the rate of population growth and aging and on dependency ratios, but they would not directly affect the labour-force source population, because there is a time-lag between birth and labour-market entrance. However, if higher fertility led to declines in female labour force participation, it would indirectly affect the size of the labour-market. Second, participation rates of men, women and youth

might differ from the assumptions in the medium projection. For example, female participation rates may increase at a more rapid rate or at a slower rate than was evident in the past decade. Similarly, discouraged youth who had dropped out of the labour force might re-enter if economic conditions improved. Third, much higher or lower levels of gross immigration would have a direct impact on the labour force, both by changing the size of the source population and because immigrants tend to have higher labour-force participation rates than non-immigrants (Seward, 1987). This assumes particular relevance in view of the federal government's current policy of increasing immigration levels gradually; levels have been set at 115,000 to 125,000 for 1987 and may increase further after 1987 (Seward, 1987). Fourth, different levels of emigration from Canada would alter the size and nature of the labour force, as well as the supply of particular skills.

Thus, there may be surprises in population and labour force trends, even in the short period remaining before the end of the century. While there can be relative certainty about some demographic trends, such as the number of people who will reach 65 by the end of the century (unless, of course, there is significant increase in the immigration of older people), there is considerable uncertainty regarding other trends. Notwithstanding these limitations, available demographic projections are useful in providing a starting point for exploring the possible implications of demographic change for the Canadian economy in the future.

*The Implications of Demographic Change for the Canadian Economy:  
The Late 1980s and the 1990s*

Demographic variables have an influence on both the supply and the demand sides of the economy (Figure 1). From a supply perspective, the rate of growth and structure of the population have direct effects on the size, rate of growth and composition of the labour force. The labour force, in turn, along with capital and technology, is a key element in the overall productive capacity of the economy. Demographic variables also affect several aspects of demand, including government expenditures, private consumption and saving, public and private investment, and exports and imports. These, in turn, affect the derived demand for labour.

The relationship between demographic and economic variables is not unidirectional. As we have seen, the emergence of the service sector may have been an important factor in increasing the labour force participation of women over the past decade. As well, structural change at the regional level has un-

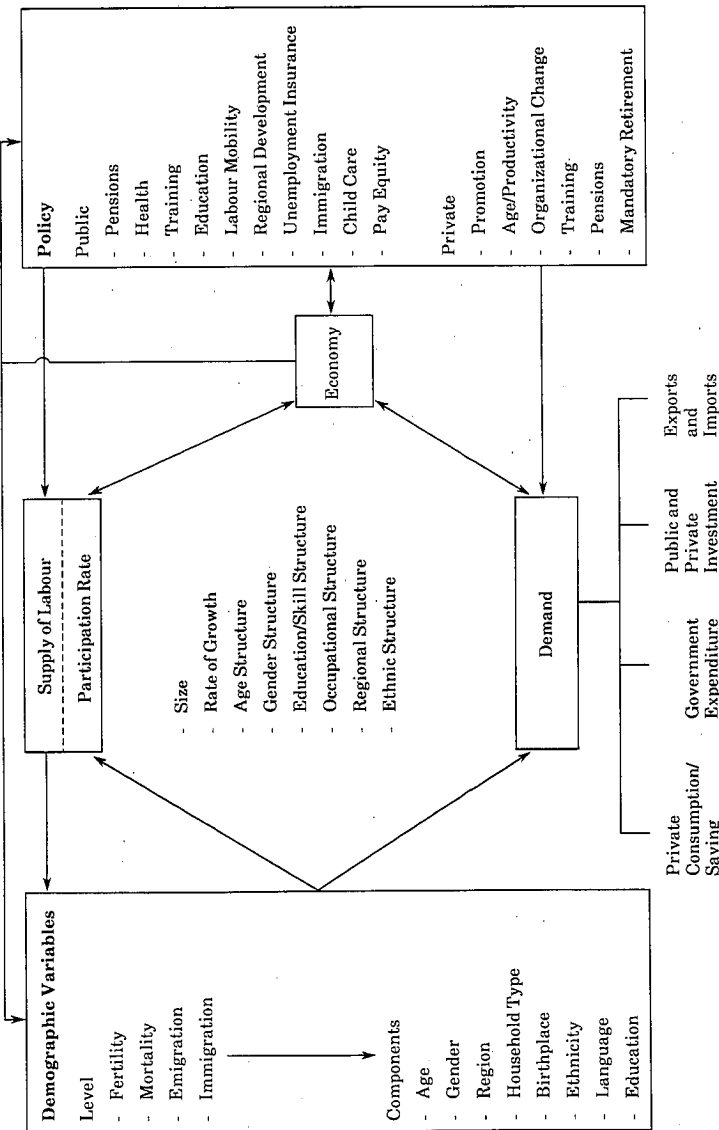


FIGURE 1. MAJOR RELATIONSHIPS BETWEEN DEMOGRAPHIC AND ECONOMIC VARIABLES

doubtedly stimulated internal migration flows. Finally, public and private policy initiatives affect, and are affected by, economic and demographic variables. For example, immigration policy in recent decades has affected immigration levels, which have had an impact on the size and composition of the labour force. To a great extent, however, immigration policy has been formulated on the basis of economic conditions, particularly labour-market needs.

Given the significance of these demographic-economic interrelations, what are the implications of recent and projected demographic trends for the Canadian economy in the late 1980s and 1990s? In particular, to what extent will these demographic trends impede or assist the process of economic adjustment, and what are some of the implications for public policy?

#### The Supply Side: Labour-Market Flexibility, Adaptability and Productivity

A labour force that is growing more slowly will mean fewer young labour-market entrants in the late 1980s and the 1990s. In 1980, there were over three million youth in the Canadian labour-market, representing more than one-quarter of the labour force. By 1985, their share had dropped to 22.6 per cent. By the end of the century, given current participation rates, their share might fall to 17 per cent (Foot, 1987b). This decline in the relative number of young labour-market entrants could lead to a labour force that is less flexible and mobile from a geographical, occupational and industrial perspective.

To a certain extent, however, the smaller number of new labour-market entrants could be offset, at least until the end of the century, by expected gains to be reaped from the presence in the labour force of the large, gradually aging, and relatively well-educated baby-boom generation. Major investments were made in the education of these cohorts, and one would logically expect a pay-off from such an investment, particularly as workers gain on-the-job experience. Thus, "age-related productivity gains may act as an offset to the reduction in numbers associated with slower labour force growth" (Denton and Spencer, 1987b:10).

Four caveats should be noted in discussing the potential productivity gains associated with the presence of the baby-boom generation in the labour force. First, the education obtained by the current labour force in the 1950s and 1960s may well be inappropriate in the late 1980s and 1990s, particularly given the changing economic environment and technological change. Furthermore, the returns to such investments already appear lower than originally expected, as the supply of individuals with higher education has grown. Second, training and retraining in order to update skills and facilitate adjustment are of critical importance. Third, the expected productivity gains associated with on-the-job

experience may not be fully realized, given the high youth and young adult unemployment rates that have characterized the past decade and still prevail. Fourth, the aging process may make the baby-boom labour force less mobile — from both an occupational and a geographic perspective — thereby impeding the adjustment process.

In considering the flexibility and productivity of the labour force, it is important to recognize that there are major differences in the demographic profiles of particular occupations. A number of occupations with older labour forces — such as elementary education and farming — are also occupations that are already facing the need to adjust (Denton and Spencer, 1987a, 1987b). In the case of the elementary teaching profession, smaller cohorts of young children will diminish the need for teachers. While some will retire, a large number of older women may be displaced. Similarly, the agricultural industry is already under pressure as the small family farms that employ many older workers can no longer remain viable. To what extent will these workers, whose training may be dated and restricted to one occupation, be able to adapt successfully and find new employment? Also, how will the quality of education be affected by a teaching labour force whose skills might be outdated?

The demographic profiles of occupations also vary with respect to gender. The vast majority of women are employed in the service sector. As hypothesized earlier, it is possible that the expansion of the service sector has been facilitated by the availability of women in the work force. The growing importance of women in the labour force, however, is already creating greater pressure to provide adequate and affordable child care, as well as the accelerated introduction of labour-market policies such as affirmative action and equal pay legislation. With respect to child care, it should be noted that although there are significant costs involved in providing adequate assistance, the expansion of child-care services will also generate employment, particularly for women.

Given the extent to which demographic factors complicate adjustment in the overall economy and particular occupations, what role can internal migration and immigration play in increasing flexibility? As elaborated by Grant and Vanderkamp (1987), internal migration has responded historically to regional and industrial imbalances resulting from such forces as technological change, new trading patterns and changes in the prices of commodities. However, the adequacy of this response is understood relatively poorly, particularly in terms of the contribution internal migration makes to filling particular labour shortages. Looking to the future, it is difficult to predict whether internal migration will remain at levels experienced historically, especially as the overall labour force ages and, presumably, becomes less mobile. Also, cer-

tain groups of the population — such as francophones — have tended to be less mobile than other groups (Lachapelle, 1987). This may impede adjustment in predominantly francophone regions and provinces, especially if such regions are also faced with the prospect of key industries in decline. An important example may be the adjustment difficulties posed by the changing textile industry in Quebec.

The potential advantages associated with immigration as a means of facilitating adjustment may assume significant importance in the future. In the past, immigration flows have made an important contribution to the overall size and rate of growth of the labour force, not only by increasing the size of the labour force population, but also because labour-force participation rates are higher for immigrants than for non-immigrants. Furthermore, immigration has had a positive effect on the structure of the labour force. Largely as a result of selection criteria introduced in the late 1960s and reinforced since then, immigrants tend to be better educated and more highly skilled than non-immigrants. Related to this, immigrants are often over-represented in occupations that require high skill levels and that have been characterized historically by labour shortages (Seward, 1987).

The role of immigration in increasing the rate of growth of the labour force assumes special importance in the late 1980s and the 1990s, when the rate of growth will be slowing. Also, because many immigrants are more highly trained and educated than non-immigrants, their occupational mobility may be higher, and they may be able to fill specific labour shortages as they emerge, particularly in the short run while the domestic labour force is being trained and in the normal time-lag before internal migration responds to regional labour supply and demand discrepancies. Thus, immigration has potentially important short-term and long-term implications for the economy.

So far, we have discussed the implications of demographic change in terms of the overall labour force and with respect to variations across occupations. However, it is also important to examine the implications of these demographic trends, particularly the aging of the labour force, for individual employees in terms of their personal mobility, promotion prospects and job satisfaction. The promotion and mobility prospects of individuals may be affected negatively as the baby-boom generation ages. Referring to their own previous work, Denton and Spencer (1987b) report the findings of a preliminary investigation of this phenomenon and conclude that the age of reaching middle rank is already increasing and is expected to continue to increase by several years by the end of the century; in the case of senior rank, the age will begin to increase after 1991. Thus, as the large baby-boom generation ages, its promotion prospects will be delayed as it "clogs up" the labour force. More limited



personal promotion prospects may lead to increased discontent in the labour force in the years ahead. "This discontent may make redeployment of existing resources more difficult, or it could facilitate such redeployment as employees move in an attempt to seek promotional prospects." (Foot, 1987b:9). To a certain extent, organizations and management styles may have to adapt in order to provide job satisfaction when upward mobility is more limited. For example, more organizations may encourage early retirement in order to facilitate the upward mobility of younger employees.

#### The Demand Side: Aggregate Demand, Changing Consumption Patterns and Dependency Burdens

It is possible that a decline in the rate of population growth might have a depressing effect on overall aggregate demand. What is not clear, is what effect this would have on measures of economic growth such as per capita income. For example, several empirical studies have used Canadian macro-economic models to assess the economic impact of increases or decreases in population size as affected by different levels of immigration flows (reported on by Bodkin and Marwah, 1987 and Seward, 1987). Although the studies vary in methodology and results and suffer from various gaps, the overall conclusion of the majority of the studies is that while higher levels of immigration (and therefore larger populations) increase demand at the aggregate level in terms of investment and real gross expenditure, they cause measures of intensive growth, including real income per capita and real wages, to decline. It is worth pointing out, however, that the latter effects are small and could probably be offset by fiscal or monetary measures. Thus, the likely economic effects of a declining rate of population growth in the 1980s and 1990s are not entirely clear. Furthermore, while the rate of growth of the population will decline, it will remain positive until at least the end of the century. It is unlikely, therefore, that this aspect of demographic change will make much difference in the medium term.

Perhaps more important is the changing composition of the population and its impact on private and public consumption patterns. While it is intuitively logical to expect that the aging of the population will lead to changes in private consumption patterns, the effects of age distribution have been difficult to detect empirically using econometric demand studies. Much better understood is the likely impact of the aging of the population on public expenditures. A number of studies have projected the likely effect on overall government expenditures of the declining demand for services, such as education for the decreasing youth population, and the accelerating demand for

other services, such as health care and pensions for the increasing number of elderly people. The general conclusion of these studies is that overall cost to the public sector appears manageable, at least until the turn of the century, but the federal level of government will bear a disproportionate share of the costs (Foot, 1987a). This is because the most burdensome items — income transfers to the elderly — are primarily the responsibility of the federal level of government. The implications of these trends for federal revenues are only beginning to be explored, and therefore it is difficult to assess the net impact of population aging on federal deficits (Foot, 1987a).

Analyses of the impact of the changing age-structure of the population are frequently couched in discussions of dependency ratios. As discussed above, the total population and labour force dependency ratios are likely to decline by the end of the century, with the increasing elderly dependency ratio being more than offset — at least in a numerical sense — by the decreasing youth dependency ratio. Since the taxable base of the population will remain large as a result of the presence of the baby-boom generation in the labour force, it would appear that the overall dependency ratio, at least to the end of the century, will not be onerous and in fact will be lower than levels experienced in Canada in earlier decades. At a superficial level, this conclusion appears reassuring. However, as Foot (1987a) has pointed out, this traditional approach to assessing dependency ratios makes a number of assumptions that may have to be questioned: first, that on a per capita basis, expenditures on the young are the same as those on the elderly; second, that all members of the working age population are gainfully employed and do not depend on public resources; and third, that resources can be transferred readily from the young to the elderly.

Other aspects of population composition besides age affect the demand side of the economy. For example, recent research has demonstrated that there are differences in the consumption and saving patterns of immigrants and non-immigrants in Canada. Reporting on his own previous research using expenditure and income survey data for 1982, Marr (1987) concludes that immigrants allocate a significantly higher proportion of their income to food and shelter and less to clothing. Furthermore, the more recent the time of immigration, the higher the proportion of income devoted to expenditures on food, shelter, household items, clothing and transport. Thus, immigrants would appear to stimulate demand in different ways than non-immigrants. If the current government policy of increasing immigration levels is successful, the different spending patterns of immigrants may have a modest impact on particular sectors of the economy in the years ahead.

In summary, demographic change will affect the economy in complex ways in the late 1980s and the 1990s. The impact on labour-market flexibility and adaptability is likely to be mixed, as the slower rate of growth of the labour force may be offset by the potential productivity gains associated with the presence of the aging baby-boom generation. The adjustment process may be facilitated by the presence of women in the labour force and by internal and international migration. However, what is clear is that the costs of adjustment may be significant, particularly in terms of labour-market policies such as training, mobility assistance and equal pay legislation, as well as social services such as child care. Furthermore, the ease and cost of labour-market adjustment will vary significantly across occupations and regions. Finally, these labour-market adjustments will be complicated by different demand patterns associated with changing population composition, which themselves will put pressure on the economy to adjust.

### *Conclusions and Implications for Future Research*

This paper has endeavoured to describe major recent and projected demographic trends to assess their potential implications for the Canadian economy to the end of the century. While there is a good general understanding of demographic-economic interrelations at the macro level, there remain a number of uncertainties and critical gaps in knowledge which limit our capacity to draw implications for public policy. For example, what is the relationship between employment, unemployment and the labour force participation of different demographic groups? What specific adjustment problems are likely to be faced in different regions and sectors of the economy? How is the nature of work changing, and what are the implications of higher levels of female labour force participation? What is the significance of the changing nature of the family? And finally, what role do population movements – immigration, emigration and internal migration – play in an economy faced with the need for continual adjustment and adaptation? These questions suggest the need for further research in the following areas:

1. *Employment, Unemployment and Labour Force Participation.* What is the relationship between sectoral and regional shifts in employment and unemployment and the participation rates of different demographic groups – men, women, youth and immigrants of different ethnic backgrounds? What is the nature of the relationship between the expansion of the service sector and the increase in female labour force participation?

2. *The Capacity to Adjust.* Which industries and occupations are likely to face the most serious adjustment consequences in coming years, and to what extent will inter-occupational and geographic mobility be affected by the demographic profiles of the labour forces of these industries and occupations? What are the implications of these adjustment needs for public policy in the areas of education, training and mobility assistance?

3. *The Changing Nature of Work.* What are the economic and social implications of the increasing importance of part-time work, especially in the service sector? How are individuals and organizations adapting to the "clogging-up" of promotion prospects associated with the aging of the baby boom generation? To what extent will the presence of more women in the labour force modify management and decision-making structures within organizations? Are new concepts such as work sharing useful mechanisms for dealing with unemployment?

4. *Equality in the Economy.* What are the costs and benefits associated with the implementation of affirmative action and equal pay legislation, as well as the provision of more substantial assistance for adequate child care?

5. *The Changing Family.* What are the implications of changing family structure for the organization of paid and domestic work? Is the relationship between fertility levels and female labour force participation changing, as reflected in the different work patterns of different generations of women?

6. *The Economic and Social Impact of Immigration.* What role does immigration play in particular regional and occupational labour markets, and to what extent can it facilitate adjustment? What are the direct and indirect employment consequences of immigration? How are Canadian institutions adapting to larger numbers of immigrants, particularly from Third World countries?

7. *The Nature and Economic Impact of Emigration.* What is the impact of emigration on regional and sectoral markets, as well as on particular occupations and skills. What is the nature of Canadian emigration flows, particularly to the United States? And what proportion of emigrants were previously immigrants to Canada?

8. *The Role of Internal Migration in Facilitating Adjustment.* What impact does migration have on sending and receiving communities? What is the relationship between internal migration and immigration in facilitating adjustment? To what extent have social programs such as unemployment insurance influenced migration patterns?

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