Current Demographic Analysis

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Fertility in Canada: From Baby-boom to Baby-bust

Canada

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Preface

Changes of unprecedented proportions are taking place in the dynamics of population growth in Canada. The rapidly expanding growth of the 1950's has since given way to a much slower rate of increase. Indeed, if the present demographic conditions prevail, a no-growth situation may be reached by the turn of the century. The slowdown in population growth and large-scale shifts in the age structure are certain to have far-reaching economic and social implications.

At the heart of demographic changes are wide swings in the fertility rate. From almost four births per woman at the height of the post-war baby-boom, the total fertility rate has fallen to an all-time low of 1.7 births. Couples now tend to have children later in life and more may forgo parenting altogether. The reconciliation of motherhood and employment outside the home is emerging as a major social issue.

This report presents a synthesis of the knowledge of current fertility in Canada.

Martin B. Wilk
Chief Statistician of Canada

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The author is indebted to a number of people from Statistics Canada, particularly, Ivan Fellegi, Bruce Petrie, and Edward Pryor for their many valuable comments, and to his collegues from the Demography Division, Jean Dumas, M.V. George, Judy Harrington (now with CIDA), Jeanine Perreault and Bali Ram, for their generous support. Thanks to Deirdre Gillieson, from Health Division, for reviewing the section on Abortion and to Chris Taylor from Employment and Immigration Canada for reviewing the section on Implications for Immigration. Research support received from Judith McSkimmings and Lawrence Wise is gratefully acknowledged.

This study has been written with a general audience in mind and as such required special editorial attention on the part of Jonina Wood, who is to be commended for the vigorous application of her craft. Appreciation is also expressed to Text Production Services and Design and Audio-Visual Services. In closing, the author would be remiss in not mentioning the skilful secretarial work of Reina A. Dubé.

While acknowledging all these contributions, the responsibility for any remaining imperfections in the work lies with the author.

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WHY STUDY FERTILITY?

The rate of fertility has fallen so low in Canada that the replacement of the present generations is no longer assured. Canadians now have fewer children, later in their lives and more may choose to forgo parenthood altogether. Changes of unprecedented proportions are taking place in the dynamics of population growth, the age structure and family and household formation. Fertility is the single most important demographic factor underlying these changes. Neither mortality nor migration, the other two components of population growth, have had a comparable influence.

Age Structure

In the last five decades, historical relationships between various age segments have been dramatically upset. The quiet past, characterized by a relatively stable age structure, has given way to the tumultuous present, dominated by large scale structural shifts. Following a period of steady growth in the 1940s and 1950s, there has been a sharp decline in the proportion of children under 15 years of age. In 1961, these children accounted for 34% of the population. By 1981, they accounted for a much diminished 24%. Their number has shrunk, from 6,192,000 in 1961 to 5,481,000 in 1981. The disruptive effects on the school system produced by the expansion and contraction of this group are all too evident in the now redundant educational facilities that they have left behind as a monument to their passing. But, if this is not enough, their opposite numbers at the other end of the age spectrum are about to place a different set of demands upon society.

The proportion of senior citizens over 65 years of age has shown a steady increase, from 7.6% in 1961 to 9.6% in 1981. According to Statistics Canada projections, senior citizens may account for 12% of the population by the turn of the century.[1] Their numbers have grown from 1,390,000 in 1961 to 2,280,000 in 1981 - a rate of increase twice that of the population as a whole. Already, there is public concern that this aging of the population may place considerable strain on welfare and health delivery systems as well as pension funds.[2]

It would be wrong to suppose, however, that the effects of the observed shifts are confined exclusively to the under 15 and over 65 year age groups. The labour force is being affected by a swing away from historical relationships between workers of junior and senior ages. Between 1961 and 1981, the number of workers 20-34 years of age, compared to the number of workers 35-64 years of age, jumped from 66% to 86% as the baby-boom began to move through adulthood. The combined effects of the relatively large numbers of younger workers and the scarcity of jobs resulting from adverse economic conditions has been hard on them. Not only is there fierce competition for

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[1] Statistics Canada, *Population Projections for Canada and the Provinces, 1976-2001*, Catalogue 91-520, Ottawa 1980.

[2] Foot, David K., *Canada's Population Outlook: Demographic Futures and Economic Challenges*, The Canadian Institute for Economic Policy Series, Toronto 1982.

the available jobs, but also, once the job is secured, the opportunities for career advancement are less promising than they were in former times. If we look down the road to the 1990s, we see that the Canadian economy may be faced with shrinking cohorts of young workers - the legacy of our low fertility of the past 15 years - followed later, in the second decade of the 21st century by swelling numbers of post-war baby-boom retirees.

At the heart of these shifts in the age structure are wide swings in the levels of the fertility rate. The shock waves emanating from these changes have been sharply felt in many areas of national life: education, the labour market, housing, consumption patterns and health services.

Population Growth

Along with the large-scale shifts in the age composition of the Canadian population there have been major variations in its rate of growth. In the baby-boom years of the 1950s, Canada's population was growing at what now appears a phenomenal rate for a developed country - 3% per year. This was followed by a period of gradual reduction, down to slightly over 1% in recent years. If the present low fertility rate of 1.7 births per woman continues, the prospect of zero growth or even a declining population is no longer a matter of speculation; it could well become a fact. For the present, the population growth is being sustained by immigration and the relatively large number of couples of childbearing age despite their individual low fertility. But, in the long run, fertility remains the dominant factor of demographic growth. Even if longevity could be further extended, this by itself would add very little to the size of the population. Under the present mortality conditions, almost everyone can expect to live beyond the normal age of childbearing and hence any further increase in life expectancy would add very little to the number of potential parents.

Family Formation and the Economics of Choice

Fertility is viewed as a major factor in the formation of families and households, their size and age structure. The presence or absence of children may affect marital stability and the chances for remarriage of divorced or widowed men and women. The number of siblings and the timing of their births are believed to have a bearing on child-socialization and on the interaction between generations as well as on family finance and women's labour force participation.

Central to the current debates on fertility is the issue of the dual role of woman as mother and wage earner. Increasingly, women are faced with the competing demands of job and family and must find ways to reconcile both these pursuits. The **opportunity-cost** of childbearing has acquired a real significance for many of them as work outside the home becomes a way of life or an economic necessity. For some the choice is between working and delaying or even forgoing childbearing altogether.[3]

[3] For an insightful discussion of this question see Burch, T. (ed.), *Demographic Behaviour*, Westview Press, Boulder, Colorado 1980.

Admittedly, these are not the only issues that have stimulated interest in the study of Canadian fertility, but they are of sufficient importance to serve as a focal point of the study.

Outline of the Study

This study begins with an examination, in Chapter I, of the present trends in fertility to demonstrate that the prevailing baby-bust is a process in which practically all segments of Canadian society are involved. In this connection, particular attention is given to the fertility experience of French Canadians and Canadian Indians. An international comparison reveals that the low fertility is characteristic of all industrialized countries.

Chapter II goes beyond this macro-presentaton of fertility to look at emerging patterns in the age of childbearing, childspacing and parity distribution. Such procreative features as older parenting, the shift toward a family size centred on two children, the increase in childlessness and the rise in the incidence of out-of-wedlock births are discussed.

Chapter III examines the means by which Canadians achieve the number of children they desire and the timing and spacing associated with childbearing. Particular note is made of sterilization, increasingly used as a method of birth control, as well as of abortion, an issue which attracts a great deal of public attention.

In Chapter IV, trends in marriage and divorce as well as the incidence of unwanted and unplanned births are examined as possible factors underlying the observed decline in fertility. Changes in sex roles, the status of children and the economic situation are considered as background for understanding the widespread preference among Canadians for smaller families.

Chapter V ventures beyond the present status of fertility to discern the direction of its possible future course. Anticipation of future trends is critical to planning strategies for the nation's future, whether they involve immigration policy or the allocation of public funds among competing national priorities.

A range of fertility scenarios is outlined in Chapter VI and their demographic implications are explored by means of a population growth model. The exercise reveals how deeply variations in fertility affect the growth and age structure of the population and, beyond it, families and households.

Finally, Chapter VII reviews public reactions in some of the countries where fertility has fallen to or below the replacement level. As well, it reports on the actions taken in a number of countries, more notably in Eastern Europe, to redress the sagging birth rate and assesses the effectiveness of these pronatalist actions.

I. LEVELS AND TRENDS IN FERTILITY: FROM BABY-BOOM TO BABY-BUST

Current Fertility Rate: An All-time Low

At the peak of the post-war baby-boom in 1959, the crude birth rate was 27.4 births per 1,000 persons. By 1978, it had fallen to 15.3 and has remained more or less at that level to this day. In terms of the total fertility rate, the number of births per woman fell from about 3.9 to 1.7 over these same two decades (see Appendix Table 1.1). Canada has gone from a baby-boom to a baby-bust.

The phenomenon of baby-bust can be demonstrated by means of yet a different set of indicators. Consider, for example, the generations of women born in 1935 and 1955 respectively. The former came of childbearing age in the 1950s' baby-boom, the latter during the 1970s' baby-bust. While the former generation had 1,630 births per 1,000 women by age 25, the latter achieved only about half that number by the same age (Table 1.1). Taking into account fertility to date and the shifts in the age pattern of childbearing among more recent cohorts, it has been projected that the youngest of them may end up with a family size of less than two children on the average.[4] A similar average is obtained when women are asked how big they expect their families to be. According to the 1976 Fertility Survey in Quebec, women who married between 1966 and 1971 expected to have an average of 2.1 to 2.3 children.[5] Of course, the actual average number of births may well be below these figures as not all women will marry and have children.

TABLE 1.1 Cumulative Fertility Rates Per 1,000 Women for Selected Birth Cohorts, Canada

Women born in	Aged 15 in	Cumulative fertility rates up to age						
		15	20	25	30	35	40	45
1930	1945	3	356	1,461	2,526	3,158	3,368	3,394
1935	1950	4	435	1,630	2,595	2,988	3,100	3,113
1940	1955	6	497	1,656	2,346	2,634	2,707	
1945	1960	7	408	1,201	1,783	2,035		
1950	1965	6	325	986	1,589			
1955	1970	7	276	877				
1960	1975	7	220					

Source: Statistics Canada, Health Division, Unpublished data.

This radical downward shift in childbearing was largely unexpected by demographers. Indeed, who at the height of the baby-boom would have

[4] See note in Appendix for procedures used to project the completed fertility of the recent cohorts.

[5] Henripin, J., P.M. Huot, E. Lapierre-Adamcyk and N. Marcil-Gratton, *Les enfants qu'on n'a plus au Québec*, University of Montreal Press, Montreal 1981, p. 7.

predicted that the total fertility rate would fall below the level (2.1 births per woman) required just to ensure that the parent generation is fully replaced? A replacement level fertility might have been considered desirable by those concerned with urban congestion, the depletion of non-renewable resources and the adverse pressure of a continually growing population on the environment.[6] But few might have advocated a sub-replacement level as a goal for our society.

A Cross-sectional and Longitudinal Vision of Fertility

There are basically two different ways of measuring fertility. One is **cross-sectional**, the other is **longitudinal**. A measure of the first type, frequently used in this study, is **the total fertility rate** which represents the average number of children that would be born to women, if they survive through their reproductive years and bear children in accordance with the age-specific fertility rates observed in a given year. Thus, the total fertility rate takes a cross-sectional "snap shot" of fertility at a given point in time involving many generations of women who are at various stages of childbearing. When we say that the total fertility rate observed in 1982 is 1.7, this number refers to the average number of children that would be born to a hypothetical cohort of women, if they were to experience at various ages the fertility observed in Canada during that year.

The longitudinal approach refers to the reproductive experience of a real cohort or generation of women born in a given period of time. The **completed** or **lifetime fertility** represents the actual number of births that a given cohort of women has over its reproductive life. One can thus study the fertility of women born, say, in 1940, and follow them along as they age, right up to the end of their reproductive life. In doing so one can focus on the **tempo** or **timing** and on the **level** of their childbearing. The former refers to the age and the intervals at which women give birth to their children, the latter refers to the number of children they bear over their life. A major limitation of the longitudinal measurement of cohort fertility is that completed records are not available until women have reached the end of their reproductive years.

Figure 1.1 compares the behaviour of the total fertility rate, as a cross-sectional period measurement, and the completed fertility of the cohorts of women born in the specified years. To make them comparable they had to be "lagged" by 27 years, a length of time approximately equivalent to the average age at which women give birth to their children. One can see that although both move in unison, the total fertility rate exhibits a wider range of fluctuations than the cohort completed fertility rate. The deviations of the former from the latter reflect shifts in the cohort's timing of births.

With a total fertility rate of almost four births per woman at its peak years, the baby-boom was the outcome of three kinds of shifts in cohort fertility.

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[6] This was indeed the goal behind the North American ZPG movement (Zero Population Growth).

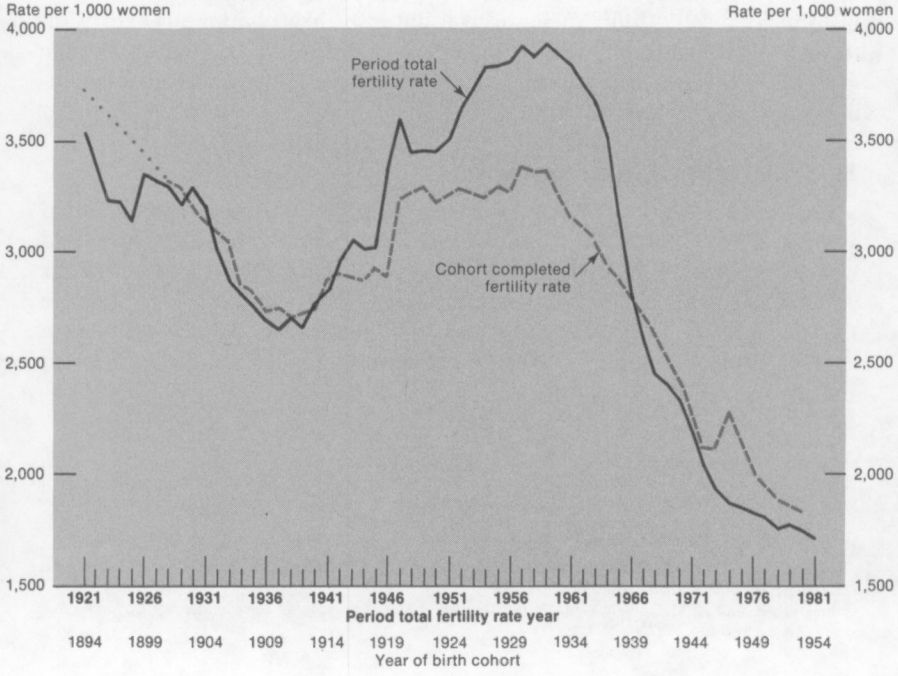
First, there was an increase in the family size, that is the number of offspring per woman. Second, there was a tendency to bear children at increasingly younger ages and at shorter intervals. Third, there was an element of making up for delays in childbearing caused by the war. These shifts in the timing of births explain why the total fertility rate was much higher than the cohort completed fertility rate during the baby-boom period.

Then, in the 1960s, came the baby-bust. Although most of the cohorts born roughly between the mid-1940s and mid-1960s are still in their childbearing years, a few tentative conclusions are in order. First, these women are having fewer children and second, they are having them later in life and at longer intervals. As a result, their fertility rates are down sharply. Some of them may have merely been postponing births, and if they do in fact "catch up" later on, the completed fertility rate could be somewhat higher than the currently observed total fertility rate of 1.7 births per woman.

The Overall Convergence Toward a Low Fertility Level

Canada is now experiencing the second low fertility cycle of its comparatively short history. The first took place between the two world wars and reached its nadir during the Great Depression of the 1930s. The second began at the turn of the 1960s and still continues. There are, however, major differences

Figure 1.1.
Period Total Fertility Rate, 1921-1981 and Completed Fertility Rate for Cohorts 1894-1953, Canada



Source: Appendix Table 1.1

between the two lows. First, both cycles differ considerably in magnitude. In the 1930s the fertility rate fell to only 2.6 births per woman, a high rate when compared to the present. Second, the 1930s' low is usually seen by demographers as the continuation of an historical downward trend which began at the end of the 19th century, whereas the current low is a sharp reversal of a major upward trend. Third, and more important, the make-up of the two cycles is quite different. In the 1930s there was a polarization of couples into two groups, those with relatively large numbers of children, and those with only one or no children. Despite the fact that during the 1930s roughly as many as 20% of women had no children, the number of those with large families was sufficient to maintain the fertility rate at well above the replacement level.[7] Today there has been an overall adjustment toward significantly lower childbearing targets. Unlike the 1930s, when low fertility was largely confined to social groups with a higher than average income and education, the present trend is found in all social strata, ethnic and linguistic groups both in rural and urban areas.[8]

The regional variations in the birth rate have narrowed significantly in comparison to the situation before World War II. The coefficient of variation of the total fertility rate between the provinces has been halved from 0.20 to 0.10. Not all differentials have disappeared. Labour force participation, education and other so-called acquired characteristics are still significant factors in shaping attitudes and behaviour toward procreation.[9] But a greater homogeneity is expected throughout Canada in the years to come as the effects of ascribed characteristics such as ethnicity, language and religion tend to lessen. Fertility is no longer the major factor it once was in accounting for regional and cultural differences in the dynamics of population growth. Some populations, which historically owe not only their survival but also their continuous expansion to their high birth rates, can no longer rely on this source of demographic growth. In this connection, the fertility of francophones and Canadian Indians deserves special attention.

The French Canadian Experience

For many decades Quebec's birth rate remained well above the national average. During the 1930s, it still substantially exceeded that of Ontario and British Columbia, and while subsequently its edge over these provinces diminished, it was not lost until the end of the post-war baby-boom (Figure 1.2). Since 1957, Quebec's fertility rate went down from 4.0 births per woman to 1.7 in 1974, at the time the lowest ever recorded among Canadian provinces, and to 1.5 in 1983.

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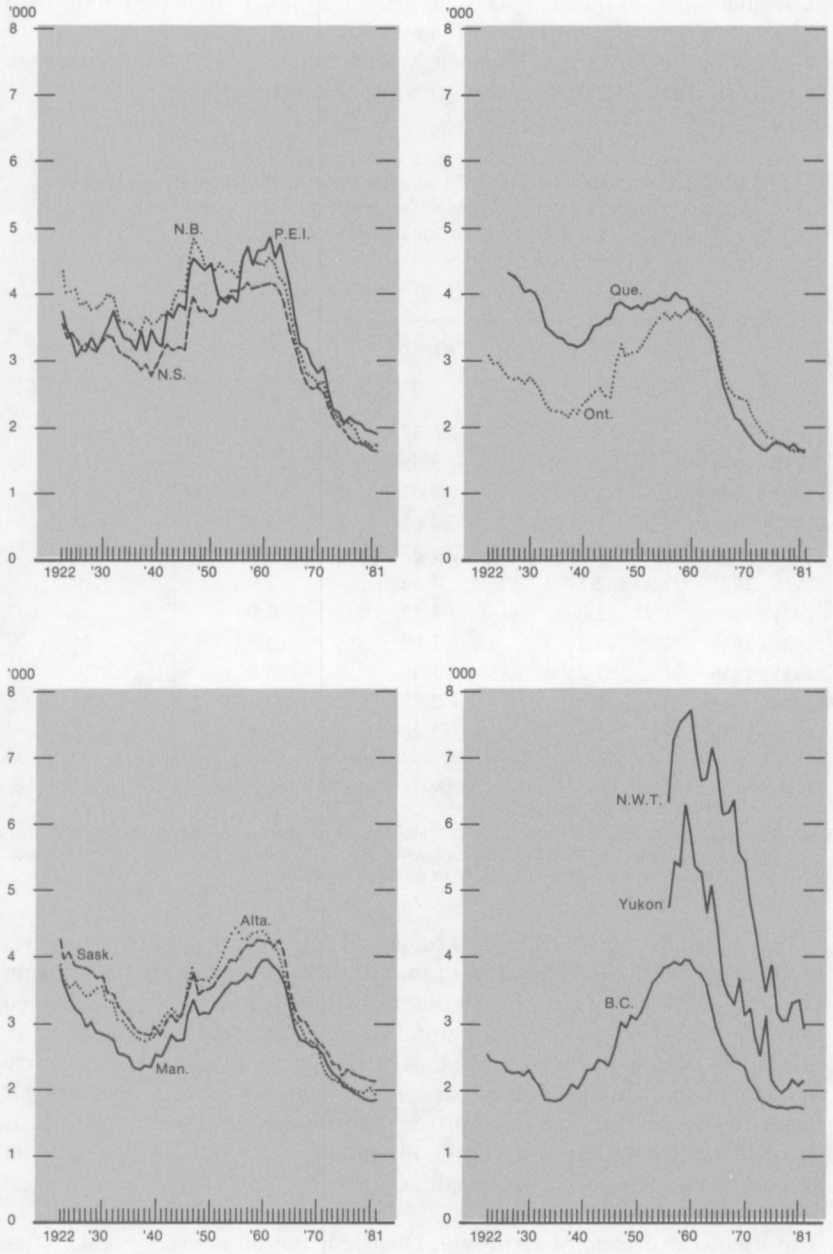
[7] Indeed, the net reproductive rate in 1932 was 1.3, as against 0.8 in 1981. The net reproductive rate indicates the average number of female children born to a cohort of women, taking into account the prevailing fertility and mortality in a given year. It takes a net reproductive rate equal to 1.0 in order to ensure the replacement of the mothers' generation by their daughters' generation.

[8] Collishaw, N., *Fertility in Canada*, 1971 Census Profile Studies, Statistics Canada, Catalogue 99-706. Balakrishnan, T.R., G.E. Ebanks and C.F. Grindstaff, *Patterns of Fertility in Canada, 1971*, Census Analytical Studies, Statistics Canada, Catalogue 99-759.

[9] Beaujot; R. and K. McQuillan, *Growth and Dualism - The Demographic Development of Canadian Society*, Gage, Toronto 1982.

Figure 1.2
Total Fertility Rate per 1,000 Women, Provinces and Territories, 1922-1981



Source: Appendix Table 1.3

Another way of comparing the childbearing experience of anglophones and francophones is to look at the average number of children in each successive cohort. This is what is done in Table 1.2, where it is found that French Canadian women born before 1896 had, on the average, more than six children during the course of their childbearing years; for those born in the period 1936 to 1941, this figure declined to less than three. In contrast, the average number of offspring for anglophone women was much lower for the older cohorts and has fluctuated little over the generations considered.

TABLE 1.2 Average Number of Children Born to Women Ever-married by Mother Tongue, Canada, Generations of Women Born Before 1896 up to 1941 - 1946

Generations	Mother tongue			
	English	French	Other	All languages
Before 1896	3.23	6.37	4.70	4.04
1896 - 1901	2.90	5.58	3.81	3.65
1901 - 1906	2.69	5.05	3.46	3.39
1906 - 1911	2.58	4.61	3.17	3.15
1911 - 1916	2.68	4.33	3.03	3.11
1916 - 1921	2.87	4.13	2.92	3.19
1921 - 1926	3.09	4.12	2.90	3.32
1926 - 1931	3.29	3.92	3.08	3.41
1931 - 1936	3.25	3.48	3.01	3.26
1936 - 1941[1]	2.88	2.83	2.76	2.84
1941 - 1946[1]	2.35	2.23	2.43	2.33

[1] The fertility of these women was not complete in 1981; women born between 1941 - 1946, for example, would be 35-40 years old in 1981.

Source: *1961 Census of Canada*, (Catalogue 98-508, Table H9) for generations born before 1916, *1971 Census of Canada* (Catalogue 92-751, Table 33) for generations born between 1926 and 1961 and *1981 Census of Canada*, (Catalogue 92-906, Table 4) for following generations.

Data based on the 1981 Census (Table 1.3) confirm the relatively low level of Quebec's fertility compared with that of other provinces. If we focus on ever-married women 15 to 35 years old, that is, those who chiefly contributed to the births in the last decade, we find that Quebec has the lowest number of children per woman in these age brackets. French Canadian women marry somewhat later than their counterparts in most of the other provinces and this fact partly accounts for the lower procreation at younger ages. But given their childbearing to date, they may eventually end up with a smaller than national average family size, if not the smallest.

In itself, the decline of fertility in Quebec is not an unusual event. After all, similar declines are taking place in other provinces and in many other highly industrialized countries. Yet, the magnitude and the speed of the changes in

TABLE 1.3 Number of Children Ever-born per 1,000 Ever-married Women for Younger Age Groups of Mothers by Province, 1981

Province	15 - 19	20 - 24	25 - 29	30 - 34
Newfoundland	924	1,114	1,748	2,394
Prince Edward Island	752	956	1,577	2,170
Nova Scotia	552	839	1,422	1,994
New Brunswick	610	895	1,515	2,145
Quebec	309	548	1,190	1,788
Ontario	428	684	1,247	1,833
Manitoba	572	790	1,389	2,028
Saskatchewan	571	934	1,632	2,263
Alberta	416	698	1,306	1,972
British Columbia	373	671	1,230	1,778
Yukon	547	490	1,246	1,965
Northwest Territories	813	1,291	1,743	2,602
Canada	**429**	**687**	**1,285**	**1,880**

Source: Statistics Canada, *1981 Census of Canada,* Catalogue 92-906, Vol. 1, Table 1.

Quebec and generally among francophones is startling. Réjean Lachapelle and Jacques Henripin, two observers of the demographic scene in Quebec, offer the following comments on this phenomenon:

> Perhaps the most unforeseen discovery is that Quebec has become an area of under-fertility for all three language groups. In the case of anglophones and allophones, this can be at least partly explained by the fact that the majority of them live in the Montreal region, but the low fertility of francophones living in Quebec, even outside Montreal, is most surprising. There is one possible explanation: it might be advanced that as long as French Quebeckers lived in obedience to the dictates of their specific culture, they were led to have many children. This culture was strongly impregnated with Catholicism, gave little importance to schooling but a great deal to family life and, above all, gave little encouragement to those seeking social and financial success. As French Quebeckers opened their minds to a more modern concept of life, they may have been inspired to place new goals and new satisfactions above having children. Or the explanation may be even more prosaic: their recent access to material comfort may have changed them more radically than would have been the case with other groups who were better able to defend themselves and who were armed with a moral code based on something other than a discarded religion. These are more questions than statements or even hypotheses, but we must be satisfied with them, for the moment. They are products of imagination, and we must not yield to the temptation to carry them too far.[10]

[10] Lachapelle, R. and J. Henripin, *The Demolinguistic Situation in Canada, Past Trends and Future Prospects,* The Institute for Research on Public Policy, Montreal 1982, pp. 116-117.

Yet, whatever the underlying reasons may be, the reduction in the reproductive level of francophones is bound to affect the dynamics of their growth and hence their share in Canada's population. From the 1850s to the 1950s, French Canadians represented about 30% of Canada's total population. During that period, their fertility was so high that it compensated not only for international immigration, which favoured the English-speaking population, but also for some of the losses incurred through assimilation. As a result of the recent shifts in fertility, the century-long French-English demolinguistic equilibrium has now been upset. In 1951, the proportion of Canadians whose **mother tongue** was French stood at 29.0%. By 1961, it had dropped to 28.1%, then to 26.9% in 1971, to 26.0% in 1976 and finally to 25.7% by 1981. Lachapelle and Henripin project that the proportion of the population made up of French Canadians may fall within a range of 21% to 24% by the turn of the century.[11] Quebec's share of Canada's total population was nearly 30% in 1951; by the year 2001, Statistics Canada projects its share may fall as low as 24.5%.[12]

Canada's Indians: Transition from Traditional High to Modern Low

The experience of Canada's Indians has in some ways been more dramatic than that of the French Canadians. In the years preceding World War II, the crude birth rate stood at 40 per 1,000 population Indians, that is, those who maintain their status under the Indian Act. By 1960, it had risen to about 47 per 1,000, but then it plummeted to about 28 per 1,000 in the late 1970s (Figure 1.3), or from almost seven to about 3.5 births per woman. The decline in birth rate can also be inferred from the child/population ratio based on census data. The ratio of children under five years of age to the total Indian population (status and non-status) fell from about 19% in 1961 to 16% in 1971 and 13% in 1981, a reduction of 32% in 20 years. Since during the same period there was a substantial reduction in child mortality, these ratios understate the actual decline in birth rate. Further evidence of fertility decline is set out in Table 1.4. The average number of children born to ever-married women 20 to 24 years of age fell from 2.3 in 1961 to 1.9 in 1971 and 1.5 in 1981. In contrast, the childless ever-married women in the same age category went up from 11% in 1961 to 18% in 1971 and 25% in 1981.

In a previous study, this writer attributed the increase in fertility among Canadian Indians to a number of factors associated with the initial stage of modernization.[13] Improvement in health conditions meant a better chance of a mother's survival through childbearing and, according to some evidence, a reduction in miscarriages and still-births. The government's policy of resettling semi-nomadic Indians into larger, more stable communities may have further reduced these risks as Indian women began to lead more comfortable lives and modern gynecological services became more accessible to them. Also,

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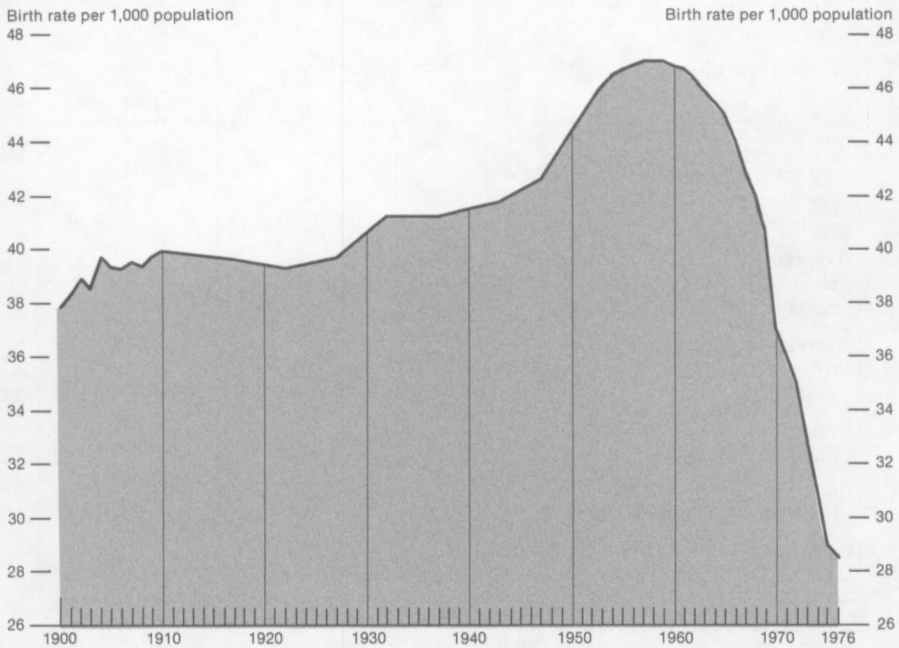
[11] Lachapelle, R. and J. Henripin, *loc. cit.*, p. 308.

[12] Statistics Canada, *Population Projections for Canada and the Provinces, 1976-2001*, Catalogue 91-520, Occasional.

[13] Romaniuk, A., Increase in Natural Fertility During the Early Stages of Modernization: Canadian Indians Case Study, *Demography*, Vol. 18, No. 2, May 1981.

Figure 1.3
Estimates of Crude Birth Rates for Canadian Registered Indians, 1900-1976



Source: Romaniuk, A. The Current Decline of Fertility Among Canadian Indians: How large is this Decline? Its Causes and Implications, Indian Demographic Workshop: Implications for Policy and Planning, Ottawa, 1980, p. 30

prolonged conjugal separation occurred less frequently as the men were no longer compelled to engage in such traditional activities as hunting and trapping. Improvement in nutrition, associated with sedentism, has probably resulted in earlier menarche and later amenorrhea and consequently in a longer reproductive period.[14] But of greater consequence were changes in lactation habits. In traditional Indian societies, women breastfed their children for long periods of time and breastfeeding is known to have an inhibiting effect on fecundity. With modernization and the increasing availability of milk and modern infant diet, Indian women gave up breastfeeding and resorted to bottlefeeding on a massive scale. This resulted in a higher pregnancy rate and shorter birth intervals.[15]

The descending phase of Indian fertility began in the 1960s, but has so far received little attention from researchers. Indians seem to be behaving more and more like Canadians as a whole with respect to procreation, adopting the smaller family norms prevailing in our society and resorting increasingly to birth control. They have apparently entered what demographers refer to as demographic transition, that is, the shift from a traditional high to a low fertility typical of modern society. But, little is known about the determinants of their demographic transition, the extent to which they resort to abortion or the specific methods of contraception they use to curtail their family size.

[14] Roth, Eric A., Sedentism and Changing Fertility Patterns in Northern Athapascan Isolate, *Journal of Human Evolution*, Vol. 10, 1981.

[15] Romaniuk, A., *loc. cit.*

TABLE 1.4 Variation in Fertility of Indian Population as Measured by Selected Indices, Based on the 1961, 1971 and 1981 Censuses

Type of measurement	Censuses			Ratio of	
	1961[1]	1971[1]	1981[2]	$\frac{1971}{1961}$	$\frac{1981}{1961}$
Average number of children born to ever-married women 15-19 years old	1.262	1.058	0.771	0.84	0.61
Average number of children born to ever-married women 20-24 years old	2.267	1.881	1.494	0.83	0.66
Average number of children born to ever-married women 25-29 years old	3.786	3.169	2.280	0.84	0.60
Percentage of childless ever-married women 15-19 years old	24.09	30.62	42.56	1.27	1.77
Percentage of childless ever-married women 20-24 years old	11.04	17.66	24.65	1.60	2.23
Children 0-4 years old as percentage of Total Population	18.76	15.67	12.79	0.84	0.68

[1] Includes Band and Non-band Indians.
In 1961 and 1971 Métis were included only if they lived on reserves.
[2] Includes Status and Non-status Indians.

Source: Statistics Canada, *1961 Census,* Volume 4.1 Population Sample, Income, Migration, Fertility Table H4.
Statistics Canada, *1971 Census,* Volume 1.5, Population, Characteristics of Women Ever-married by Number of Children Born, Catalogue 92-751, Table 31.
Statistics Canada, *1981 Census,* tabulations.

This fertility decline will profoundly alter the dynamics of growth of the Indian people as a distinct ethno-cultural entity. According to the 1981 Census, there were about half a million native people in Canada: 368,000 Indians, 25,000 Inuit and 98,000 Métis. So-called "status" Indians (most of whom live on reserves) account for 293,000, while the remaining 75,000 are "non-status" Indians. The 1941 Census found there were only 118,000 native Indians (status and non-status).[16] A comparison of these figures suggests that the Indian population grew at a very high rate over the last 40 years or so and will continue to expand, although more slowly, for some time. In spite of the sharp drop, the Indian birth rate is still almost twice that of Canada as a whole and will benefit in the years to come from the relatively large proportion of women of childbearing age.

Along with a slowdown in population growth, declining fertility will bring about consequent shifts in the age structure. The proportion of children will diminish and the proportion of adults will increase. With these shifts, the demographically-driven demand on the educational system will subside and

[16] Priest, G., Briefing for Users of Native Peoples Data, *Statistics Canada Daily,* February 1, 1983.

the pressure on the labour market will escalate.[17] The creation of job opportunities, to meet the needs of the growing numbers of these prospective workers, will probably be one of the major challenges that society will have to face in the case of native people.

Other areas, such as housing must be considered.[18] As larger groups of young people move into the age of family formation, there will be a growing demand for housing. The present housing shortage could become even more acute and planners will find themselves having to consider these developing demographic tides in their assessment of future housing needs.

Finally, one could speculate about the possible effects of declining fertility on the kinship network of traditional Indian society. In the past, the elderly and the needy turned to their kin for moral and material support. Current demographic transformations combined with the individualistic proclivities of modern society may change this. If sufficient jobs and housing are not generated on the reserves, the young could well respond by leaving their homes for opportunities farther afield. This, along with a much diminished kinship network, may create a gap in family support systems.

International Perspective

Low fertility is by no means a phenomenon confined to Canada or to the North American continent, but a far-ranging one, typical of economically advanced countries (Figure 1.4, Appendix Table 1.2). Denmark and the Federal Republic of Germany have registered the lowest rate (1.4), and they are followed very closely by other Western European and Scandinavian countries. A somewhat higher reproductive profile has been maintained in Southern Europe, but, there too, the gap is closing quickly; for example, Italy's fertility rate dropped to 1.6 in 1981. In the United States, Australia and New Zealand, the trends are very similar to those in Canada. Still, Canada's birth rate ranks the lowest of the four. Japan, which experienced sub-replacement fertility early in the 1960s, well ahead of Western industrialized countries, after a slight recovery during the 1970s, has slipped to an all-time low of 1.8 since 1979.

Low fertility is also manifest throughout Eastern Europe. In the Soviet Union, the total fertility rate stood at 2.3 as recently as 1979-1980, but here, wide national and ethnic disparities are hidden in the figures. In the Asian Soviet republics, with their sizeable Moslem populations, the fertility rate is high, while in Russia, the Baltic countries, Byelorussia and the Ukraine, it stood in recent years at 1.8 to 2.0. Hungary, Romania and Czechoslovakia have also experienced a sub-replacement fertility level at one point or another over the last two decades.

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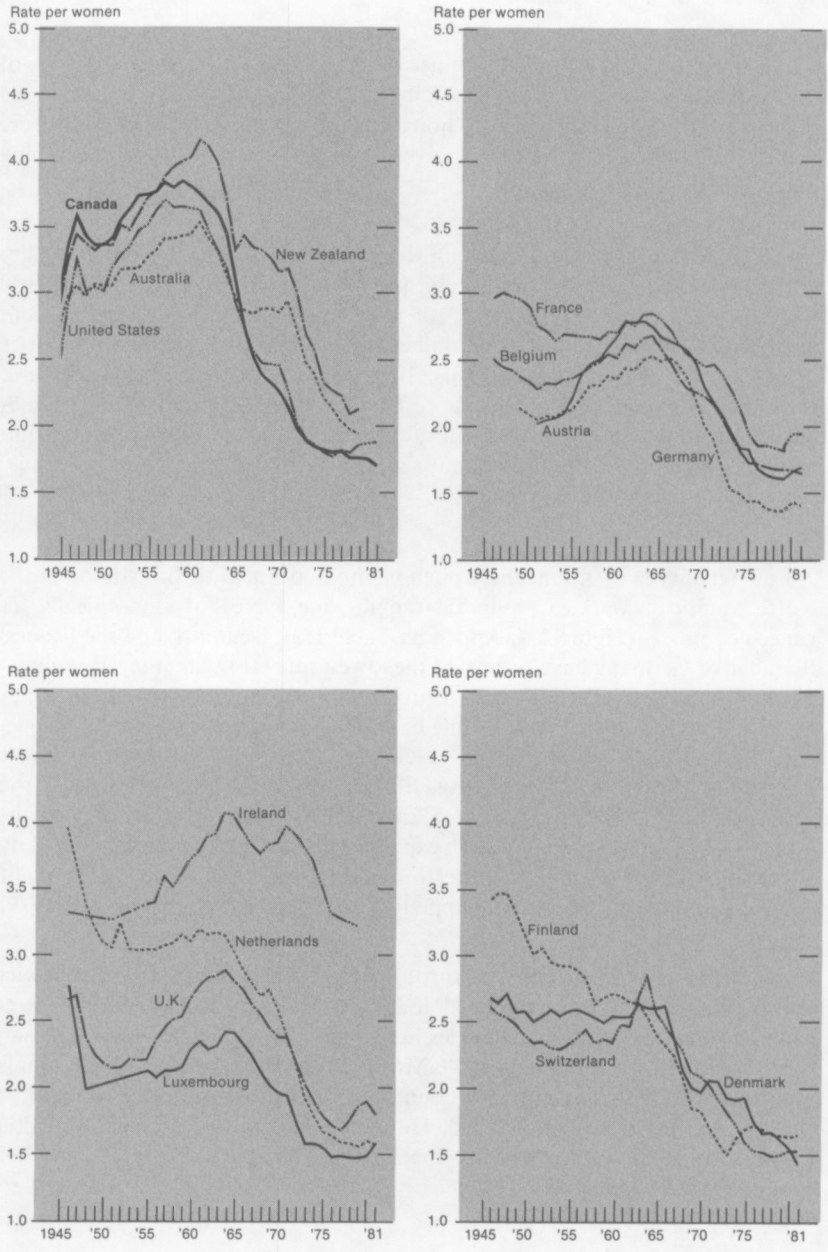
[17] Siggner, A.J., *An Overview of Demographic, Social and Economic Conditions Among Canada's Registered Indian Population*, Indian and Northern Affairs Canada, September 10, 1979.
[18] Siggner, A.J., *ibid.*

Figure 1.4(a)

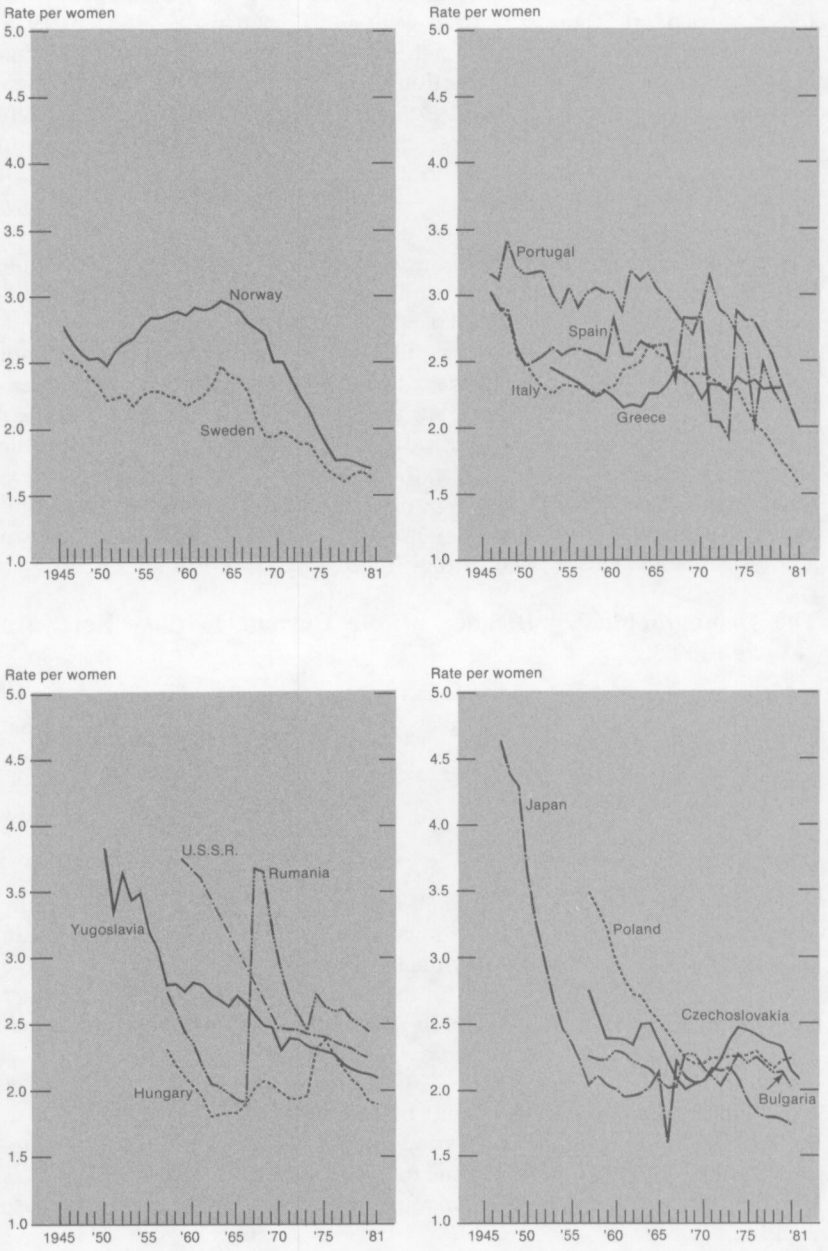
Total Fertility Rate, Selected Industrialized Countries, 1945-1981



Source: Appendix Tables 1.2

Figure 1.4(b)

Total Fertility Rate, Selected Industrialized Countries, 1945-1981



Source: Appendix Tables 1.2

To counter these trends, in many Eastern European countries the existing legislation on abortion and divorce has been made much more restrictive and a number of pro-natalist incentives, such as more generous family allowances and special work arrangements for mothers, have been introduced.[19] In Czechoslovakia, the total fertility rate went up from 2.0 in 1968 to 2.5 by 1974. In Romania, the rate jumped from 1.9 to 3.7 between 1966 and 1967, that is, immediately after access to abortion had been severely curtailed. Yet, fertility resumed its downward trend shortly after these pro-natalist policies were introduced. Thus, fertility fell from 2.5 in 1974 to 2.1 by 1981 in Czechoslovakia, from 3.7 in 1967 to 2.4 by 1981 in Romania and from 2.4 in 1975 to 1.9 by 1981 in Hungary.

Although there are variations in the level and the timing of fertility decline between countries and regions, the similarities are more striking than the differences. The magnitude and speed of the decline in fertility has been astounding throughout the industrialized world. The phenomenon has occurred not only in the open, pluralistic societies of the West, but also in the highly centralized states of Eastern Europe, suggesting that there are common causes transcending the prevailing political and economic systems. Both the Democratic Republic of Germany and the Federal Republic of Germany exhibited, until recent years, similar fertility patterns. Yet, apart from a common cultural origin, these two states are completely different in their political and economic systems as well as their family and abortion laws.[20]

The Demographic Significance of the Current Fertility Rate: An Elucidation

Much has already been made of the fact that the current fertility rate is insufficient to ensure the complete replacement of existing generations. But what does this really mean? What is the potential demographic legacy of sub-replacement fertility? These questions require some close scrutiny in order to better comprehend the short-and long-term implications of the present low fertility in Canada.

The fact that fertility is now at a sub-replacement level does not necessarily mean that a decline in the population is imminent. Indeed, were it to remain at its present level, the Canadian population would continue to grow until the turn of the century. By that time, in the absence of any migration, another two million individuals will have been added to Canada's population, bringing it close to the 26.5 million mark.

Such growth in population, in spite of declining fertility rates, is explained by what demographers call **population growth momentum**. Just as the immense weight of a train will continue to bear it onward long after the brakes have been applied, so the Canadian population will continue to expand because

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[19] For further details see Chapter VII.

[20] Institut National d'Études Démographiques, *Rapport au Gouvernement: L'effet des mesures de politique démographique sur l'évolution de la fécondité, Natalité et Politique Démographique*, Cahier no. 76, Presses universitaires de France, 1976, p. 16.

of the growth momentum built into its age structure. The driving force behind this expansion is the great number of women in the baby-boom generations who will be passing through childbearing until the turn of the century and thus, by their sheer number, compensate for the low fertility of individual women. Once the age structure has adjusted itself to the prevailing low fertility and the growth momentum has run its course, the population will decline at a rate commensurate with the fertility and mortality levels in effect.

The demographic characteristics of a population, which has experienced a fertility rate of 1.7 births per woman over a protracted period of time, are summarized in Table 1.5. In such a population there would be twice as many deaths as births and its size would shrink by almost 1% annually. During the baby-boom years of the 1950s, the average age of the population hovered around 29. If the current level of fertility persists, the average age will be about 45. The proportion of senior citizens will have risen to 25% from their present level of 9.5% and the 1961 level of 7.6%. In contrast, the proportion of young people under age 20 will have greatly diminished to 20% from their 1961 level of 42%.

TABLE 1.5 Demographic Characteristics of a Population With a Total Fertility Rate of 1.7 Births Per Woman and a Life Expectation of 75.2 Years, Canada

Demographic characteristics	The future with constant low fertility	End of the baby-boom period (1961)[1]
Age distribution		
0 - 19	19.91 %	41.80 %
20 - 64	55.33 %	50.57 %
65 +	24.76 %	7.63 %
Average age of population	44.95 years	29.56 years
Birth rate	9.04 per 1,000	26.1 per 1,000
Death rate	18.77 " "	7.7 " "
Natural growth rate	-9.72 " "	18.4 " "

[1] The values in this column are those for the 1961 population and are intended to illustrate the characteristics of the population prior to the onset of the current fertility decline.

Note: The values indicated reflect the age structure and growth rates that would ultimately be achieved if the Canadian population, as of the 1981 Census, were to be subjected to a constant age schedule of fertility (equivalent to the current 1.7 births per woman) and mortality (equivalent to the currently observed life expectancy of 75.2 years). It would take several decades for the Canadian population to approach asymptotically what demographers call a stable population possessing the above-stated age distribution and population growth rates.

Source: Statistics Canada, Demography Division, *Special Projection.*

No one can say how fertility will evolve in the future. Nor is this the appropriate forum for speculations about the institutional and social adjustments that would be required in the long run, in the event of a declining population. It suffices to say that these adjustments would be quite different from those operating in a time of demographic expansion. The purpose here is merely to show the potential demographic legacy of a sub-replacement level fertility. The demographic implications of different possible fertility scenarios are described in Chapter VI.

II. EMERGING REPRODUCTIVE PATTERNS

The preceding chapter dealt with the aggregate level of fertility. This chapter goes a step beyond to explore the patterns of procreative behaviour that eventually led to the present levels of fertility. More specifically, it examines changes in the age pattern and the timing of fertility, childspacing, parity distribution and marital versus non-marital fertility.

The analysis reveals a major departure from the childbearing patterns that prevailed during the baby-boom period. There is a tendency now to bear children somewhat later in life and space them further apart. More couples than in the past become first-time parents later in their lives. Also, there are major shifts in the parity distribution, that is, women's distribution by their family size. While large families have virtually disappeared, most couples now elect to have just two children, and those remaining childless, although still a minority, seem to be on the increase. Finally, while marital fertility rates have gone down, the incidence of births among unmarried women has increased.

The Age and Timing of Childbearing

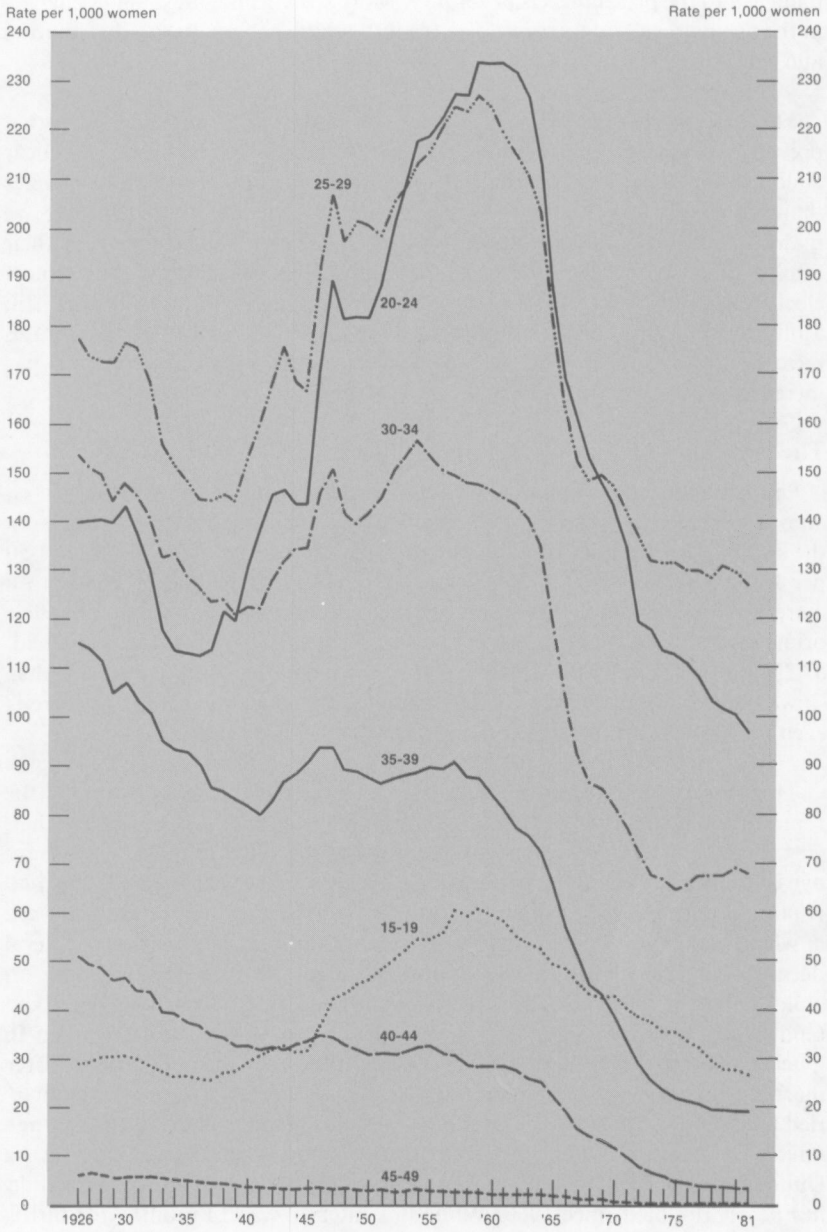
Fertility rates at the upper and lower bounds of childbearing ages, that is, among young women and middle-aged women, have dipped dramatically. In the 1920s, for example, the number of births to women aged 40-44 was 50 per 1,000. In the 1950s, it dropped to 30 births per 1,000 and recently to a mere three births per 1,000. At the same time, the rate for women in their prime reproductive years (20 to 24) also took a sharp dive from its 1959 peak of 234 per 1,000 to 97 per 1,000 in 1981. On the other hand, the decline has slowed down among women in their middle reproductive years, and there is even a slight upturn among those 30-34 years old (Figure 2.1).

The upward shift in the timing of births is another recent feature of the reproductive behaviour of Canadians. Women now wait longer to have their first child and space subsequent children further apart. In the 1960s, the average age of mothers at the birth of their first child was 23.5 years. In 1980, it had risen to nearly 25 years (Figure 2.2). Thus, the downward trend in the age at which women begin to form their families, that had held sway over several decades, has been reversed. Although there are no Canada-wide data on childspacing, those available for Quebec and the United States reveal marked tendencies toward wider intervals between births. For example, women in Quebec married between 1951 and 1960 had their first birth 23 months after marriage on the average; that period extended to 28 months for women married between 1966 and 1970. Over the same two marriage periods, the average interval between first and second births went from 32 to 43 months.[21] In the United States, the median interval from marriage to the birth of the first child has nearly doubled since 1960. While this interval was 14 months for births

[21] Festy, Patrick, La fécondité des mariages au Québec, d'après l'enquête famille de 1971, *Population*, Vol. 31, No. 4-5, July/October 1976, pp. 875-900.

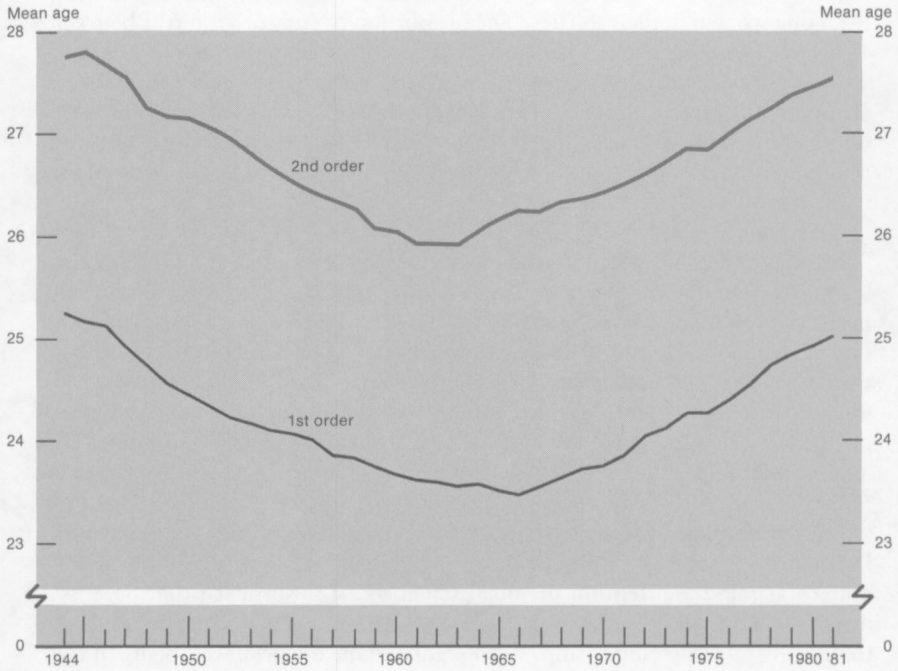
Figure 2.1

Age Specific Fertility Rate Per 1,000 Women, Canada, 1926-1981



Source: Appendix Table 2.1

Figure 2.2.
Mean Age of Mother at Birth of First and Second Child



Source: Appendix Table 2.4

TABLE 2.1 Average Birth Intervals in Months by Birth Order for Specified Marriage Cohorts, Quebec

Interval	Marriage cohorts		
	1951 - 1960	1961 - 1965	1966 - 1970
Marriage, 1st birth	22.6	21.4	28.3
1st - 2nd birth	32.8	34.8	42.7
2nd - 3rd birth	38.0	44.6	52.7
3rd - 4th birth	34.9	39.1	57.2

Source: Festy, Patrick, La fécondité des mariages au Québec, d'après l'enquête famille de 1971, *Population*, Vol. 31, No. 4-5, July/October 1976, pp. 875-900.

occurring in the period 1960 to 1964, it climbed to about 24 months in the period 1975 to 1978. Likewise, the median interval separating first and second births lengthened from 25 months to 32 months for the corresponding periods.[22]

[22] U.S. Bureau of the Census, *Current Population Report No. 1341*, October 1978, p. 20.

As noted earlier, women previously began childbearing in their early twenties, but now a growing number of them are waiting until their late twenties or even early thirties. The number of first-time mothers increased significantly among women in their thirties. The proportion of first-order births between 1970 and 1982 rose from 14% to 26% in the 30-34 age group, from 9% to 19% in the 35-39 age group and from 7% to 16% in the 40-44 age bracket. However, this trend should not necessarily be associated with a "catching up" on postponed births. As Grindstaff points out, "these women are 'catching up' in a particular sense, that of having a child, but not in terms of numbers of children".[23]

Although there is little information on the socio-economic status of couples who have their children later in life, they have now captured the attention of both researchers and popular writers. It is believed that these late first-time parents are more likely to be financially well off, "career-oriented city dwellers who reject the common assumption that you 'pay' for a baby by 'giving up' other ambitions".[24] As Grindstaff comments "these couples have their babies on their own terms, when they can afford to have them both economically and emotionally".[25]

Later parenting is a major departure from the patterns which prevailed during the baby-boom. Its implications for individuals and society are only beginning to attract the attention of social scientists. It is surmised that parents' age may affect childrearing and child socialization but there is little research to demonstrate the relationship. With regard to the material well-being of the family, it is argued that late childbearers are more likely to be settled in jobs and careers and are "better able to handle the competing demands of work and parenthood".[26] The extension of adulthood without parenting provides more time for personal and professional fulfillment. A noteworthy consequence of later childbearing is the emergence of an extended period between childhood and adulthood which represents a new stage in the life course of many people. Associated with it is a growing population of adults who "live residentially and economically apart from what has traditionally been termed a family but have not yet started a family of their own".[27] Greater frequency of cohabitation is yet another of its correlates. With the trends toward later childbearing, there is a renewed interest in the age-associated infecundity and potential health hazard for mother and child.[28] Lately epidemiologists have been puzzled by the observed association between the incidence of late age first-time births and that of breast cancer and they are trying to determine whether the association is real and what the mediating carcenogenic mechanism

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[23] Grindstaff, C.F., Catching Up: The Fertility of Women Over 30 Years of Age, Canada in the 1970s, paper presented at the *Annual Meeting of the Canadian Population Society*, Ottawa, 1982.

[24] Webb, J., Bringing Up Baby - Later, *Macleans*, May 4, 1981, p. 46.

[25] Grindstaff, C.F., *loc. cit.*

[26] Wilkie, Jane Riblett, The Trends Toward Delayed Parenthood, *Journal of Marriage and the Family*, Vol. 43, No. 3, August 1981, pp. 583-591.

[27] Wilkie, Jane Riblett, *loc cit.*, pp. 583-591.

[28] Leridon, H., Stérilité, hypofertilité et infécondité en France, *Population*, Vol. 37, No. 4-5, July/October 1982.

could be.[29] From a demographic point of view, later parenting may mean smaller family size and it is with this aspect that the next section deals.

Changes in Parity Distribution

There are considerable differences in the number of children women elect to have. How the parity distribution, that is the distribution of women by the number of children they have or expect, has altered with the generations can be seen from Tables 2.2 and 2.3 for Canada and Quebec respectively. For generations still in their childbearing years, the expected parity distribution has been obtained by projecting the remaining fertility for each parity in the case of Canada (see footnotes to Table 2.2). Surveys in which respondents were asked to report how many children they intended to have provide the relevent data in the case of Quebec.

TABLE 2.2 Percentage Distribution of Ever-married Women Who Have Reached the End of Childbearing by Number of Children Born, Canada

Period of birth of women (approximately)	0	1	2	3	4	5	6+	Average number of children per ever-married women
Prior to 1876[1]	12.83	9.23	11.08	10.86	9.99	8.65	36.89	4.818
1877 - 1886[1]	13.20	11.16	13.46	12.31	10.38	8.16	31.01	4.398
1887 - 1896[1]	12.31	12.36	15.44	13.32	10.55	7.96	27.77	4.167
1897 - 1901[1]*	12.62	14.11	17.31	13.85	10.30	7.52	24.04	3.795
1902 - 1906[2]	15.48	14.99	19.04	14.40	9.90	6.81	19.38	3.385
1907 - 1911[2]	15.25	15.76	21.32	14.92	9.76	6.56	16.43	3.154
1912 - 1916[2]	13.12	15.12	22.48	16.82	10.85	6.75	14.87	3.110
1917 - 1921[2]	11.77	13.14	22.41	17.96	12.24	7.66	14.83	3.189
1922 - 1926[2]	9.59	11.26	22.00	19.62	13.96	8.45	15.12	3.315
1927 - 1931[3]	8.35	9.43	21.23	20.80	15.43	9.47	15.29	3.407
1932 - 1936[3]	7.20	8.98	22.88	22.89	16.53	9.30	12.22	3.260
1937 - 1941[3]**	7.34	9.64	28.52	24.83	14.92	7.26	7.49	2.934
1942 - 1946[3]***	9.31	12.83	38.00	23.62	9.87	3.57	2.79	2.405

[1] Based on the 1981 *Census of Canada*, Vol. III, Table 51.
[2] Based on the 1971 *Census of Canada*, Catalogue 98-508, Bul. 4.1-7, Table G1.
[3] Based on the 1981 *Census of Canada*, Catalogue 92-906, Vol. 1, Table 2.
* Age 40-44 in 1941.
** The estimates have been produced by first calculating the ratio of the proportion of women aged 50-54 in 1981 having a given number of children, to the women aged 40-44 in 1971 having the same number of children. The proportion of women aged 35-39 in 1981 is then multiplied by this ratio and the result adjusted on the basis of 100 per cent.
*** The estimates have been produced by first calculating the ratio of the proportion of women aged 45-49 in 1981 having a given number of children, to the women aged 35-39 in 1971 having the same number of children. The proportion of women aged 35-39 in 1981 is then multiplied by this ratio and the result adjusted on the basis of 100 per cent.

It can be seen that there has been a sharp decline in higher parity fertility. For example, close to 40% of married women born prior to 1876 had at least six children. Today, barely 5% have or expect to have as many; large families have virtually disappeared.

[29] Shulman, E., D. Nagnur and A.M. Malhotra, Cancer Prevention in Canada: The Changing Pattern of Maternal Age at First Full-Term Birth and the Implications for Breast Cancer Control, paper presented at the *34th Annual Meeting of Ontario Public Health Association*, Toronto, 1983.

TABLE 2.3 Percentage Distribution of Ever-married Women by Total Number of Children Ever-born or Expected, Birth Cohorts 1906 - 1950 and Marriage Cohorts 1920 - 1971, Quebec

Birth or marriage cohorts	Number of children								Number of cases
	0	1	2	3	4	5+	Total	Mean	
Birth cohorts									
1906 - 1911[1]	17.7	12.9	15.5	12.3	9.4	32.2	100	3.7	
1911 - 1916[1]	15.4	12.6	16.8	14.1	10.5	30.6	100	3.6	
1916 - 1921[1]	12.7	11.6	17.3	14.9	11.9	31.6	100	3.7	
1921 - 1926[1]	9.8	10.6	17.7	16.9	13.8	31.2	100	3.8	
1926 - 1931[1]	8.4	10.0	19.4	18.9	15.4	28.0	100	3.6	
Expected									
1931 - 1935[2]	9.5	7.4	18.1	22.8	15.2	27.0	100	3.5	117
1936 - 1940[2]	1.8	8.5	38.2	24.5	13.2	13.8	100	2.9	163
1941 - 1945[3]	5.5	7.1	41.5	31.5	9.0	5.4	100	2.5	150
1946 - 1950[3]	1.4	9.1	36.1	36.1	15.9	1.5	100	2.7	65
Marriage cohorts									
Expected									
1920 - 1945[2]	9.8	10.9	17.4	11.7	11.4	38.7	100	4.3	316
1946 - 1950[2]	7.4	10.1	16.5	11.4	20.9	33.7	100	3.9	151
1951 - 1955[2]	8.0	8.5	18.9	21.5	14.3	28.9	100	3.4	160
1956 - 1960[2]	8.2	5.0	23.2	28.0	19.0	16.6	100	3.0	239
1961 - 1965[3]	2.5	8.6	41.7	33.2	7.2	6.8	100	2.6	165
1966 - 1971[3]	5.8	9.1	45.5	24.8	13.1	1.8	100	2.4	127

[1] Number of children ever-born alive according to the 1971 Census.
[2] Expected family size according to the 1971 survey.
[3] Expected family size according to the 1976 survey.

Source: Statistics Canada, Canada 1971 Census, Bulletin Catalogue 92-751, 1.5-11. Henripin, J. et al, *Les enfants qu'on n'a plus au Québec,* University of Montreal Press, Montreal 1981, Table 1.3, p. 32.

By contrast, the proportion of those who expect to have only two children has dramatically increased. For instance, in Quebec, 45% of those women who married between 1966 and 1971 said they expected to have only two children. The proportion is even higher among married women in the United States, 56% having indicated their intention to have only two children. The swing toward a family structure heavily centred on two children underscores greater homogeneity in the procreative behaviour of couples taking place in society.

Another interesting shift concerns those who are or expect to remain permanently childless. About 17% of Canadian ever-married women born early in this century were childless. This figure diminished to an all-time low in the range of 5% to 7% for those born between 1937 and 1944 who entered their childbearing years in the late baby-boom period. Data for younger generations suggest a reversal in the trend, with childlessness becoming more frequent again. The emerging trends in childlessness are socially and demographically important and warrant a closer look in the next section.

Is Childlessness on the Rise?

There has been a considerable increase in childlessness among younger married women. The proportion of ever-married women aged 20-24 who have not

yet had any children rose from 26% in 1961 to 42% in 1971, then to 54% in 1981. Similarly, for women aged 25-29 years, the proportion rose from 14% to 21% and to 30%, for the same years. Among the 30-34 year olds, 14% were childless in 1981 as against 9% in 1971.[30]

Yet, it is difficult to interpret these trends. One can only speculate to what extent they reflect simply a postponement of births, rather than the determination on the part of certain women to remain permanently childless. Some may forego motherhood for the sake of a career or because of a marriage breakdown. Others may be overtaken by age-associated sterility, i.e., the gradual decline in fecundity related to advanced age. The question is, how many women will end up permanently childless? In trying to answer this question two sets of data may be helpful. The first set is based on the surveys carried out in Quebec and the United States on women's birth intentions. The second is based on a projection of the fertility rate of a cohort of women giving birth to their first child.

In the 1976 Quebec survey, about 2.5% of the women interviewed, who were married between 1961 and 1965, said that they did not intend to have any children.[31] But this figure rose to 5.8% for those married between 1966 and 1971. Almost 10% of those married between 1971 and 1975 said they do not plan to have children, according to a 1980 survey (Table 4.1). An American survey of 1981 indicates the percentage of married women in the 18 to 34 age group who expected to forgo maternity rose from 1.7% in 1967 to 5.3% in 1976 and 6.1% in 1981.[32] But when all women are considered, married and single, 11% of the 18 to 34 year olds neither had, nor intended to have, children (Table 2.4). The proportion stood at 15% for college-educated women. How many of these anticipations will actually come to pass remains to be seen. It can, however, be argued that prospective surveys tend to understate the childlessness that women will actually experience as some repeated birth postponements may result in involuntary sterility.

Projections of the incomplete first birth fertility of women currently of childbearing age – the second set of data referred to earlier – yields significantly higher levels of childlessness (Table 2.5). Strohmenger and Lavoie projected that as many as 16% of young Canadian women may forgo maternity.[33] Bloom and Pebley have projected for the USA that as many as 25% of recent cohorts of white women might forego maternity.[34] [35] This is quite a jump, surpassing the previous record level of 21% incurred by the 1908 cohort that attained its peak reproductive years during the Great Depression.

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[30] *1961 Census of Canada*, Catalogue 98-508.
1971 Census of Canada, Catalogue 92-751.
1981 Census of Canada, Catalogue 92-906.

[31] Henripin, J., et al, *Les enfants qu'on a plus au Québec*, University of Montreal Press, Montreal 1981, Chapter 1.

[32] The U.S. Bureau of the Census, Fertility of American Women from 1981, *Current Population Report*, Series P-20, No. 378, June 1982.

[33] Strohmenger, C. and Y. Lavoie, L'infécondité au Canada: niveau et tendances, paper presented at *50ème Congrès de l'association Canadienne-française pour l'avancement des sciences*, 1982.

[34] Bloom, D.E. and A.R. Pebley, Voluntary Childlessness: A Review of the Evidences and Implications, *Population Research and Policy Review*, Elsevier Scientific Publishing Company, Amsterdam 1982.

[35] Bloom, David E., What's Happening to the Age at First Birth in the United States? A Study of Recent Cohorts, *Demography*, Vol. 19, No. 3, August 1982.

TABLE 2.4 Percentage of Women 18 to 34 Years Old Who Expect to Remain Childless, United States, 1981

Groups of women	Percentage of women
All races	
All marital classes	10.9
Women currently married	6.1
Women never married	20.5
White women	
All marital classes	11.2
Women currently married	6.3
Women never married	22.0
White women by years of school completed	
Not a high school graduate	6.5
High school graduate	10.4
College:	
1 to 3 years	12.1
4 years	16.4
5 years	20.2
White women by labour force status	
In labour force	14.1
Not in labour force	5.3

Source: U.S. Bureau of Census (1983), Fertility of American Women: June 1981, *Current Population Reports*, Series P-20, No. 378, Washington, D.C., 1983.

Current trends in contraception, family planning, family norms and emerging egalitarianism in sex roles, seem to favour the spread of intentional childlessness.[36] As women become more educated, acquire different skills and as the barriers to fields traditionally reserved for males are overcome, careers or other non-family activities are becoming meaningful alternatives to motherhood. Yet, some would argue that the importance of motherhood as a goal remains undiminished in our society. Just as fertility fluctuates at various periods, so does childlessness. Judith Blake, who has analyzed attitudes toward childlessness among Americans, has found that "there is a high level of concensus that non-parenthood is not an advantaged status".[37] Aside from the pleasure they bring, parents may consider children as social investments, who provide companionship, family ties, an extension of themselves and psychological and material support in old age.[38]

Nonetheless, all the evidence available points to a significant rise in voluntary childlessness in the years to come. Whether it will actually reach levels comparable to those of the Great Depression or even exceed them, as American

[36] Veevers, Jean, Voluntary Childlessness: A Review of Issues and Evidence, *Marriage and Family Review*, Vol. 2, No. 2, 1979.
[37] Blake, J., Is Zero Preferred? American Attitudes Toward Childlessness in the 1970s, *Journal of Marriage and the Family*, Vol. 41, No. 2, May 1979.
[38] Blake, J., *ibid.*

TABLE 2.5 Actual and Projected Proportion of Women Having First Births for Canada and the United States by Cohorts

Canada[1]			United States[2] (white only)		
Birth cohorts	Proportion		Birth cohorts	Proportion	
	1st birth	Childless		1st birth	Childless
	per cent			per cent	
1934 - 35	94.2	5.8	1936	92.0	8.0
1935 - 36	94.0	6.0	1937	91.4	8.6
1936 - 37	92.4	7.6	1938	90.9	9.1
1937 - 38	94.0	6.0	1939	90.8	9.2
1938 - 39	94.4	5.6	1940	90.3	9.7
1939 - 40	94.2	5.8	1941	89.8	10.2
1940 - 41	95.0	5.0	1942	89.3	10.7
1941 - 42	95.1	4.9	1943	88.4	11.6
1942 - 43	95.0	5.0	1944	87.5	12.5
1943 - 44	92.7	7.3	1945	86.3	13.7
1944 - 45	88.3	11.7	1946	86.0	14.0
1945 - 46	90.9	9.1	1947	85.3	14.7
1946 - 47	93.3	6.7	1948	83.8	16.2
1947 - 48	90.4	9.6	1949	81.2	18.8
1948 - 49	88.1	11.9	1950	79.2	20.8
1949 - 50	86.9	13.1	1951	78.1	21.9
1951 - 51	85.5	14.5	1952	77.4	22.6
1951 - 52	84.9	15.1	1953	76.3	23.7
1952 - 53	84.4	15.6	1954	74.0	26.0
			1955	71.4	28.6

[1] Strohmenger, C. and Y. Lavoie, Childlessness in Canada: Level and Trends, paper presented at the Annual Meeting of the *American Public Health Association*, Montreal, November 14-18, 1982.
[2] Bloom, David E., What's Happening to the Age at First Birth in the United States? A Study of Recent Cohorts, *Demography*, Vol. 19, No. 3, August 1982.

projections suggest, remains an open question. However, an important difference between those years and the present exists. Today, there are no longer sufficient births to offset those lost through voluntary childlessness. Rising childlessness, coupled with later childbearing and the virtual disappearance of large families, make low fertility a highly likely prospect for the foreseeable future. More than that, it may mean a fairly radical departure from prevailing procreative norms and possibly a redefinition of the function of marriage in society. It is increasingly acceptable to have a marriage without parenting or, as will be seen in the next section, to parent without marriage.

Out-of-wedlock Births

For the purpose of this study, "out-of-wedlock" refers to births which were classified in Canadian vital statistics as **illegitimate**, prior to 1974, and to births which have occurred to single, divorced or widowed women thereafter. Illegitimate births were those which occurred to parents who reported themselves as unmarried at the time of occurrence or registration of the birth. In Ontario, since 1949, the term **illegitimate** has applied to births to mothers who reported themselves as single. Since 1974, births are no longer classified in

TABLE 2.6 Births to Unmarried Women, Canada, 1951 - 1982[1]

Year	Number of births to unmarried women		Fertility rate per 1,000 unmarried women in the age groups[2]	
	All ages	15 - 19 ages	15 - 44	15 - 19 ages
1951	13,931	4,548	13.46	9.67
1952	14,652	4,671	14.18	9.79
1953	15,442	4,968	14.95	10.31
1954	16,212	5,200	15.69	10.56
1955	16,281	5,148	15.74	10.26
1956	16,839	5,544	16.22	10.83
1957	17,820	6,315	16.87	11.89
1958	18,245	6,492	16.99	11.73
1959	19,477	7,196	17.99	12.59
1960	19,592	7,300	17.83	12.26
1961	19,581	7,731	17.48	12.42
1962	21,610	7,849	18.63	11.89
1963	23,518	9,007	19.43	12.82
1964	25,584	9,820	20.20	13.18
1965	27,106	10,599	20.53	13.55
1966	28,343	11,601	20.59	14.23
1967	29,828	11,994	20.78	14.19
1968	31,433	12,770	21.16	14.68
1969	32,732	13,603	21.48	15.27
1970	34,177	15,016	21.84	16.44
1971	31,177	14,074	19.46	15.05
1972	29,621	13,856	18.05	14.45
1973	29,340	13,824	17.46	14.21
1974[3]	19,007	10,945[1]	11.01	11.01
1975[3]	26,551	14,460[2]	14.99	14.33
1976[3]	30,234	15,658[2]	16.67	15.24
1977	34,592	17,032	18.53	16.42
1978	36,065	17,003	18.80	16.24
1979	38,572	16,858	19.66	16.05
1980	41,813	17,348	20.85	16.55
1981	45,501	17,354	22.41	16.38
1982	56,286	18,045	23.89	17.31

[1] Newfoundland has been excluded from the calculations of the fertility rate for Canada. The not-stated births have been prorated. Since in the case of the Yukon and Northwest Territories no data were available for women aged 15 - 44, an estimate of their fertility rate was obtained using the data for total births. No data were available from which a similar estimate for the 15 - 19 age group could be derived.

[2] From 1974 on fertility rates have been calculated for births to single women only.

[3] Owing to the large number of not-stated births occurring in Quebec data for 1974 - 1976 the fertility rate for these years is unreliable.

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
Statistics Canada, *Revised Annual Estimates of Population by Marital Status, Age and Sex for Canada and the Provinces, 1971 - 76,* Catalogue 91-519, Occasional.

the vital statistics as **legitimate** or **illegitimate**, but by marital status of the mother at birth or registration of the child. These alterations in the classification criteria must be kept in mind when examining the trends in out-of-wedlock births.[39]

[39] Prior to 1974, the "not-stated" cases were not listed separately; they were assumed to be illegitimate. From 1974 onward, they have been listed separately and, for unknown reasons, represent a rather large proportion in the years 1974, 1975 and 1976, especially in Quebec.

The number of out-of-wedlock births more than tripled between 1951 and 1981 from about 14,000 to 44,500. In relation to all births, they grew from roughly 4% in the 1950s to 13% in 1981. The prevalence of pregnancy among unwed women was much higher than the out-of-wedlock births suggest. Indeed, there were as many therapeutic abortions as births among single women (Table 2.7). The combined number of births and therapeutic abortions to single women of all ages went up from 42,000 in 1974 to over 87,000 in 1981.

TABLE 2.7 Absolute Numbers of Births and Therapeutic Abortions to Single Women, by Age Group, Canada

	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	Total
Births							
1974	10,945	5,557	1,731	552	178	44	19,007
1975	14,461	8,196	2,728	853	256	58	26,552
1976	15,658	9,852	3,286	1,043	342	53	30,234
1977	16,991	11,693	4,022	1,371	368	65	39,510
1978	16,981	12,652	4,345	1,539	427	76	36,020
1979	16,851	14,107	5,257	1,816	443	71	38,545
1980	17,339	15,827	6,044	2,122	479	81	41,892
1981	17,348	17,740	7,131	2,559	613	94	45,485
1982	17,919	20,951	10,347	4,476	1,389	192	55,274
Therapeutic abortions							
1974	11,798	8,062	2,598	734	218	58	23,468
1975	13,948	9,512	3,250	975	266	78	28,029
1976	15,061	10,690	3,727	1,054	313	79	30,924
1977	16,055	11,850	4,036	1,322	381	70	33,714
1978	17,377	13,378	4,550	1,493	436	80	37,314
1979	18,177	14,934	5,213	1,789	483	70	40,666
1980	18,041	15,763	5,684	1,848	533	107	41,976
1981	17,041	15,992	5,955	2,129	649	124	41,890
Total							
1974	22,743	13,619	4,329	1,286	396	102	42,475
1975	28,409	17,708	5,978	1,828	522	136	54,581
1976	30,719	20,542	7,013	2,097	655	132	61,158
1977	33,046	23,543	8,058	2,693	749	135	68,224
1978	34,358	26,030	8,895	3,032	863	156	73,334
1979	35,028	29,041	10,470	3,605	926	141	79,211
1980	35,380	31,590	11,728	3,970	1,012	188	83,868
1981	34,389	33,732	13,086	4,688	1,262	218	87,375

Source: Statistics Canada, *Therapeutic Abortions*, Catalogue 82-211, Annual. Statistics Canada, *Vital Statistics, Births and Deaths*, Catalogue 84-204, Annual.

There are several factors, some demographic, others social, which may account for the rising number of births to unmarried women. As the baby-boom generations moved into childbearing, the number of young women at risk of having children out-of-wedlock increased substantially. The proportion of 15-19 year old women went up from 21% in 1951 to 28% in 1976. At the same time, unlike their older sisters, they married later, thus increasing the risk of out-of-wedlock pregnancy. The proportion of never-married women aged 20-24

went up from 40% in 1961 to 45% in 1976 and to 51% in 1981. Furthermore, unlike the rate of marital fertility which has declined sharply since 1960, the non-marital fertility rate didn't level off until about 1970 and has remained more or less stable since then (Table 2.6). The relatively high incidence of non-marital fertility in an age of highly effective contraception is either a reflection of greater sexual freedom and public acceptance of unwed motherhood or an indication that public information regarding birth control is still inadequate. The fact remains that, whether by choice or circumstance, motherhood outside of marriage is more prevalent than ever. Families headed by single never-married mothers went up from 3,481 in 1951 to 64,670 in 1981.

A sizeable proportion of out-of-wedlock births belongs to teenage mothers. The number of out-of-wedlock births to single women 15-19 years old has increased almost four times from about 4,500 in 1951 to over 17,000 in 1981. Over half of the births in this age category are now to unwed mothers, whereas in 1950 this figure stood at 18%. Unlike marital fertility, which has fallen sharply since 1960, the non-marital fertility rate in this age group has risen from about 10 per 1,000 in the 1950s to a plateau of about 16 per 1,000 in the last several years. The combined numbers of births and therapeutic abortions to single teenagers stood at nearly 23,000 in 1974 and at a little over 35,000 in 1980. A drop to slightly over 34,000 was registered in 1981 (Table 2.7).

Though there has been a levelling off and even a slight reduction in the number of out-of-wedlock pregnancies among teenagers, many still run the risk of non-marital conception despite the availability of highly effective contraceptives and probably a greater awareness of the biology of procreation now fostered by sex education. An American survey by Zelnik and Kantner showed that only about 20% of the pregnant white, unmarried American teenagers interviewed actually "wanted to" or "did not mind" becoming pregnant (Table 2.8). At the same time, although some 80% did not want to become pregnant, only 24% actually used contraceptives to prevent such an eventuality. Zelnik and Kantner found that there were a number of reasons for the lack of proper birth control on the part of these young American teenagers. While some thought they couldn't become pregnant because of their young age, others feared that contraception might affect their health. Still others felt that contraceptives would diminish the pleasure and spontaneity of sex and so they eventually ran the risk of pregnancy. Finally, a sizeable portion cited problems they had encountered in obtaining contraceptives.

Zelnik and Kantner concluded that:

> Organized family planning services and school sex education courses as now constituted are unlikely to solve the problem of adolescent pregnancy resulting from non use of contraception. The services are not getting to the teenagers until after they have been sexually active for some time; the school courses are not communicating the necessary information effectively. New and imaginative approaches are needed that take into account the increasingly early sexual experience of young people, the

TABLE 2.8 Per cent Distribution of Premarital First Pregnancies to Women Aged 15 - 19 at Interview Who Were Unmarried at the Outcome, for all Pregnancies and Pregnancies that Ended in Live Births, by Pregnancy Intention for White American Women, 1976 and 1971

Pregnancy intention and contraceptive use	1976	1971
Pregnancies	($N_1 = 86$)	($N = 77$)
All	100.0	100.0
Intended	19.3	18.2
Not intended	80.7	81.8
Used contraception	23.5	13.3
Did not use	76.5	86.7

Source: Zelnik, Melvin and John F. Kantner, First Pregnancies to Women Aged 15 - 19: 1976 and 1971, *Family Planning Perspectives*, Vol. 10, No. 1, January/February 1978, p. 14.

unplanned and sporadic nature of their sexual encounters and their ignorance about the risk of pregnancy.[40]

While there appears to have been some improvement in the prevention of unintended pregnancies in recent years among teenagers (to the extent this can be inferred from the diminishing number of abortions), the risk of teenage pregnancy remains high. There seems to be a gap between teenage sexual activity and the rate at which the current sex education and family planning programs are able to reach their potential users. The unmistakable fact is that many potential unwed teenage mothers must resort to abortion as a means of averting an unwanted birth. And even when they have the child and eventually marry, teenage mothers may still face various difficult situations associated with early childbearing. Its deleterious effects on the educational and occupational attainments of teenage mothers, their children's health and welfare, and their marital stability if they subsequently marry have been documented by various researchers.[41]

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[40] Zelnik, Melvin and John F. Kantner, Reasons for Non-use of Contraception by Sexually Active Women Aged 15-19, *Family Planning Perspectives*, Vol. 11, No. 5, September/October 1979, p. 293.

[41] Weeks, John R., *Teenage Marriages*, Greenwood Press, Connecticut and London, 1976.
Macklin, Eleanor D., Non traditional Family Forms: A Decade of Research, *Journal of Marriage and the Family*, Vol. 42, No. 4, November 1980.
Furstenberg, F., Burden and Benefits: The Impact of Early Childbearing on the Family, *Journal of Social Issues*, Vol. 36, No. 1, Winter 1980.
Russ-Eft, D., M. Sprenger and A. Beever, Antecedents of Adolescent Parenthood and Consequences at Age 30, *The Family Coordinator*, Vol. 28, No. 2, April 1979.
Grindstaff, C.F., Long Term Economic Consequences of Adolescent Marriage and Fertility, Statistics Canada (forthcoming).

III. BIRTH CONTROL IN CANADA

In the last two decades there have been major changes in the contraceptive practices of Canadians. There is much less reliance on traditional methods and much more use of such highly effective techniques as the intra-uterine device (IUD) and particularly the pill. The latest addition to an already impressive battery of contraception is sterilization, now increasingly used by Canadians. Unlike other forms of contraception, which can be interrupted and which, as such, are suitable for childspacing regulation, sterilization, because of its virtual irreversibility, is essentially a means of terminating procreation. Another significant milestone for birth control in Canada was the enactment of the 1969 Bill on Therapeutic Abortion which made abortion legal under certain conditions.

In this chapter, we present an overview of contraceptive methods in Canada, with particular attention to the use of sterilization and abortion. Surgical sterilization, a relatively new method of contraception, has attracted a great deal of attention in fertility literature. As for abortion, the issue remains highly controversial as debates between "pro-life" and "pro-choice" groups continue unabated.

An Overview of Contraceptive Methods

The data on contraception in Canada are scarce. There has only been one Canada-wide survey on the contraceptive methods used by Canadians and that was in 1976, under the sponsorship of the Committee on the Operation of the Abortion Law.[42] Earlier, in 1968, a fertility survey in Metro Toronto included questions on contraceptive practices. In Quebec there have been two surveys, one conducted in 1971 and then a repeat survey in 1976. The relevant data are presented in Table 3.1. The United States data for 1970 and 1976 have been added for comparison.

A few distinct trends in the methods of contraceptive practices, nevertheless, emerge from these fragmentary data. The Pill was by far the single most-used method in the Toronto area in 1968 with 43% of those surveyed using it. But an equally high percentage used more traditional means such as abstinence, withdrawal, condoms or the diaphragm. Only in 10% of the cases, had either husband or wife opted for sterilization. In the 1976 Canada-wide survey, 39% of the respondents said that they used the Pill and about 20% more traditional methods. The incidence of sterilization recorded by this latter survey was three times higher than that found in the Toronto survey of 1968.

There have been similar changes in Quebec. Between 1971 and 1976, the percentage of those who used the Pill fell from 38% to 25%. Periodic abstinence and symtothermic methods, which were practiced by 32% of women in 1971, dropped to 15.6% in 1976. Contraceptive sterilization, however, rose dramatically.

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[42] Justice Canada, *Report of the Committee on the Operation of the Abortion Law*, Catalogue J2-30/1977, Supply and Services Canada, Ottawa 1977.

TABLE 3.1 Percentage Distribution of Married Women [1] Using Contraception by Method of Contraception, Toronto 1968, Quebec 1971 and 1976, Canada 1976 and United States (Whites only) 1976

Contraceptive methods	Toronto[2] (1968) age, 18 - 45	Quebec (1971) age, less than 45	Quebec[3] (1976) age, 20 - 40	Canada (1976) age, 15+	United States (whites only) (1976) age, 15 - 44
Pill	43.2	38.1	28.8	39.2	32.8
Rhythm	9.0	32.0**	15.6**	6.1	5.1
Withdrawal	8.8	7.9	4.3	3.4	3.1
Condom	16.7	6.6	8.2	6.0	10.9
Diaphragm	9.5	4.2		2.2	4.4
I.U.D.	3.1	3.9	8.5	6.0	9.2
Douche	3.5	1.5			0.9
Jelly (cream)	3.4	2.2	1.1	2.5	4.2
Other		1.1	1.8	4.1	1.5
Sterilization					
Male	8.7*	1.0	10.0		14.1
Female	1.1*	1.5[5]	21.3[5]	30.5	14.0
Both sterilized			0.4		
Total	**107.0[4]**	**100.0**	**100.0**	**100.0**	**100.2**

[1] The sample of the Toronto study included women married only once.
[2] The distrtibution was modified only to take into account cases of sterilization.
[3] The sample for Quebec included women aged 20 - 40 in March 1976 who had been married for at least five years.
[4] The total exceeds 100% because of multiple use in some cases.
[5] Therapeutic sterilizations have been excluded from these calculations.

* Also includes operation either for birth control or other reasons.
** Includes both the rhythm and symptothermal methods.

Source: Toronto: Balakrishnan et al, *Fertility and Family Planning in a Canadian Metropolis,* Montreal and London, McGill-Queen's University Press, 1975, Table 34.

Quebec: Henripin, J. et al, *Les enfants qu'on n'a plus au Québec,* P.V.M., Montreal 1981, Tables 8.1 and 8.2.

Canada: Justice Canada, *Report of the Committee on the Operation of the Abortion Law,* Catalogue J2-30/1977, Supply and Services Canada, Ottawa 1977, p. 350, Table 14.6.

U.S. Dept. of Health and Human Services, *Contraceptive Utilization, United States 1976,* Series 23, No.7, March 1981 Table 1.

According to the Quebec fertility survey carried out in 1971, only 2.4% of women canvassed practicing contraception had chosen sterilization. Five years later, a repeat survey of the same women found a startling 18.6% had opted for sterilization for contraceptive reasons.[43] If the latter figure is adjusted to account for "therapeutic" sterilization, some of which is presumed to have been performed for contraceptive purposes, the figure jumps to an estimated 37.8% of couples who practiced contraception and 27.7% of all couples, regardless of whether they were practicing contraception or not.[44]

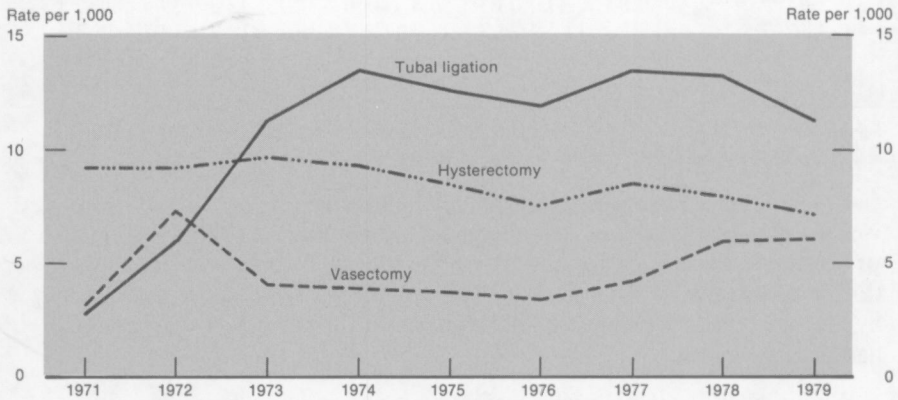
[43] Henripin, J., P.M. Huot, E. Lapierre-Adamcyk and N. Marcil-Gratton, *Les enfants qu'on n'a plus au Québec,* University of Montreal Press, Montreal 1981, pp. 248-294.
[44] Lapierre-Adamcyk, E. and N. Marcil-Gratton, *La stérilisation au Québec, 1971-1979,* rapport de recherche, University of Montreal Press, Montreal 1981, p. 164.

Given the growing importance of sterilization as a means of contraception in our society, more insight will be provided in the next section. The presentation is confined to Quebec because of the greater availability of the data for this province.

Sterilization: The Quebec Case

Information on sterilization in Quebec discussed in this section is drawn from two sources: the two demographic surveys carried out in 1971 and 1976 referred to earlier; and medical records kept by the *Régie de l'assurance-maladie du Québec*. These records have been analyzed for the period 1971-1979 and the results published in a report by Evelyne Lapierre-Adamcyk and Nicole Marcil-Gratton.[45]

Figure 3.1
Rate of Sterilization by Tubal Ligation, by Hysterectomy and by Vasectomy per 1,000 Women or per 1,000 Men Aged 15 Years and Over, 1971-1979



Source: Lapierre-Adamcyk, E., and N. Marcil-Gratton, La stérilisation au Québec, 1971-1979, rapport de recherche, University of Montreal, Montreal 1981

The measurement of the incidence of sterilization for purposes of contraception is not without complications. First, sterilization by and large is obtained through hysterectomy and tubal ligation, in the case of women, and by vasectomy in the case of men. The last two are performed for contraceptive reasons, whereas hysterectomy is usually performed for medical reasons, although before the advent of tubal ligation it may occasionally have been done for contraceptive purposes. In any event, whatever the reason, the end result is the termination of childbearing ability. Second, a tubal ligation may later be followed by a hysterectomy thus resulting in a possible double count. Although the authors of the report have done their best to eliminate double counts and apparently have minimized the errors in differentiating hysterectomy for medical and contraceptive purposes, the potential biases resulting from these two operations must be kept in mind when measuring the trends in contraceptive sterilization.

[45] Lapierre-Adamcyk, E., et al, *loc. cit.*

Figure 3.1 exhibits the rate of tubal ligation and hysterectomy and the rate of vasectomy per 1,000 women and men, respectively, over 15 years of age for the period 1971-1979, whereas Table 3.2 shows the rate of tubal ligation by age groups. The dramatic upsurge in tubal ligation in the first half of the 1970s was followed by a slowdown or even a decrease in its incidence. It is likely that these trends mirror shifts in the timing of sterilization, a "catch-up" movement generated by its growing popularity as a method of contraception, early in the 1970s, followed by a diminishing number of women left requiring such an operation, later in the decade.

TABLE 3.2 Rate of Sterilization by Tubal Ligation According to Selected Age Groups, Quebec, 1971 - 1979 (Per 1,000 Women)

Age groups	1971	1972	1973	1974	1975	1976	1977	1978	1979
15 - 19 years	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
20 - 24 "	0.7	1.2	1.5	2.2	2.3	2.3	2.9	3.2	3.1
25 - 29 "	4.7	8.3	13.9	18.4	19.0	19.2	23.0	24.2	21.6
30 - 34 "	9.8	22.4	39.7	48.5	45.9	42.9	50.5	48.3	40.3
35 - 39 "	9.8	22.7	43.3	50.4	45.0	38.1	42.8	39.4	37.2
40 - 44 "	4.5	12.5	24.7	27.2	22.7	19.1	19.9	19.7	15.3
Total, 15 - 44 years	**4.2**	**9.4**	**17.1**	**20.5**	**19.2**	**17.8**	**20.7**	**20.4**	**17.2**

Source: Lapierre-Adamcyk, E., and N. Marcil-Gratton, *La stérilisation au Québec, 1971 - 1979, Rapport de recherche,* University of Montreal Press, Montreal 1981.

The cumulative rates by age for women of a given cohort or generation provide yet another measure of the progression of sterilization (Table 3.3). Half of those over 40 years of age (the 1939 generation) had undergone tubal ligation or hysterectomy. Almost 40% of those born in 1944 had been sterilized by the time they reached their 35th birthday and 18% of the 1949 generation had been by age 30.

What strikes one in analyzing these data is not only the dramatic upsurge in the overall level of sterilization but also the fact that more younger women opt for it. Further evidence to this effect is found in Table 3.4. Only one in 25 women born in 1942 had undergone tubal ligation by age 30, compared to almost one in seven born in 1949. At age 27, less then 1% of those born in 1944 had undergone this procedure, whereas 6% had done so among those born in 1952. These examples provide a measure of the progression of sterilization among generations early in their childbearing life. A similar progression, though on a smaller scale, has been observed among young men.[46] Lapierre-Adamcyk and Marcil-Gratton find it surprising that with the panoply of effective contraceptives available, so many choose early in their lives a method regarded as irreversible and they ponder on the possible regrets which some of them may develop subsequently as circumstances change in their lives.[47] It is anticipated that the demand for surgical reversal procedures for tubal ligation and vasectomy will grow in the years to come.

[46] Lapierre-Adamcyk, E., et al, *loc. cit.*, pp. 67-70.
[47] Lapierre-Adamcyk, E., et al, *loc. cit.*, p. 64.

TABLE 3.3 Adjusted Rates[1] for Women Who Have Undergone Tubal Ligation or Hysterectomy, by 1980 for Selected Ages and Years of Birth

Year of birth	Cumulative rate per 1,000 women according to age attained		
	30 years of age	35 years of age	40 years of age
1931			166.0
1932			199.4
1933			264.8
1934			349.2
1935		112.0	380.6
1936		115.4	413.1
1937		140.6	424.6
1938		204.9	465.8
1939		265.8	509.0
1940	38.0	290.5	
1941	46.6	319.9	
1942	69.6	363.0	
1943	91.9	368.8	
1944	121.5	389.9	
1945	141.7		
1946	162.8		
1947	170.0		
1948	176.0		
1949	177.0		

[1] The adjustment takes into account cases of sterilization prior to 1971, and eliminates duplicate counting of women who have undergone both surgical interventions.
For generations born before 1940, the cumulative proportions by age 30 and occasionally, 35 cannot be precisely determined. These women were over 30 years of age (or over 35 depending on the case) in 1971, and only one global estimate of sterilization prior to that date has been established without taking into consideration age at the time of the intervention.

Source: Lapierre-Adamcyk, E. and N. Marcil-Gratton, *La stérilisation au Québec, 1971-1979, Rapport de recherche,* University of Montreal Press, Montreal 1981.

TABLE 3.4 Cumulative Rate at Selected Ages for Women Who Have Had Tubal Ligations, by Their Year of Birth

Year of birth	Cumulative rate per 1,000 women at age...								
	27	29	30	31	33	35	37	39	40
1937					7.1	57.4	155.8	223.5	251.3
1939				6.6	57.1	165.2	249.0	313.6	332.5
1942		14.6	40.1	85.1	176.9	279.1	347.7		
1944	7.8	49.9	91.6	134.7	230.5	313.5			
1947	37.3	98.6	148.6	193.8					
1949	49.0	116.1	154.0						
1952	59.5								

Source: Lapierre-Adamcyk, E., and N. Marcil-Gratton, *La stérilisation au Québec, 1971 - 1979, Rapport de recherche,* University of Montreal Press, Montreal 1981, p. 54

Sterilization in Quebec is much more common among women than men, the ratio being almost three to one (Table 3.5). This may be only a passing phenomenon, characteristic of the earlier stages of its implementation. A report of the American experience shows that couples who opt for sterilization choose about evenly between vasectomy and tubal ligation.[48]

TABLE 3.5 Rate of Tubal Ligation and Vasectomy per 1,000 Women and per 1,000 Men, 1973-1979

	1973	1974	1975	1976	1977	1978	1979
Women	11.3	13.5	12.6	11.8	13.5	13.2	11.1
Men	4.1	4.0	3.8	3.5	4.5	5.9	6.0

Source: Lapierre-Adamcyk, E. and N. Marcil-Gratton, *La stérilisation au Québec, 1971 - 1979, Rapport de recherche,* University of Montreal Press, Montreal 1981, p. 39.

Table 3.6, based on the fertility survey taken in 1976 in Quebec, provides additional demographic information on contraceptive sterilization. By and large, data from this survey confirm the age pattern of sterilization discussed earlier in the light of the data based on the current medical records. It is interesting to note that the preference for sterilization is by no means confined to mothers with a large number of offspring. Although about 45% of women who are sterilized had four or more children, a significant proportion, 24%, had two, and 10% had only one.

Further information in Table 3.7 from the 1976 survey reveals that the use of contraceptive sterilization has spread widely among people of all social strata, irrespective of their professional, religious or ethnic background. Nor does women's employment status make any difference, since about equal numbers, both in and out of the work force, have opted for this method of contraception.

Although the analysis focussed on Quebec, the phenomenon is by no means confined to Quebec. Tubal ligation is just as prevalent elsewhere in Canada (Figure 3.2). Canadians and particularly Quebeckers started later than the Americans in the practice of sterilization, but they now surpass them by quite a substantial margin.

The spread of sterilization as a contraceptive method implies a profound change in the attitudes of individuals toward procreation and the means of its control. Where sterilization was once viewed by a large segment of society as an extreme act, morally justifiable only when one's health was at stake, it is now becoming an increasingly preferred means of birth control.

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[48] Westoff, C.F. and J. McCarthy, Sterilization in the United States, *Family Planning Perspectives*, Vol. 11, No. 3, May/June 1979, p. 147.

TABLE 3.6 Percentage of Cases of Contraceptive Sterilization Based on the 1976 Fertility Survey in Quebec for Specified Groups

Demographic characteristics	Cases of contraceptive sterilization		Total number of cases of sterilization[1]
	Survey results	Adjusted results	
Total[2]	**20.4**	**27.7**	**31.1 (438)**
Age groups:			
20 - 24			(5)
25 - 29	13.9	16.3	17.1 (79)
30 - 34	20.2	23.2	26.8 (162)
35 - 39	24.9	35.8	41.9 (184)
Marriage cohorts:			
1966 - 1971	12.0	14.1	15.7 (143)
1961 - 1965	24.6	31.9	36.5 (183)
1956 - 1960	21.8	33.4	40.8 (93)
1951 - 1955	32.3	39.1	39.1 (19)
Number of live births:			
			2.4 (23)
1	1.5	10.1	13.6 (63)
2	15.8	24.4	26.8 (172)
3	35.2	39.9	42.3 (105)
4+	34.0	45.4	51.2 (75)

[1] The number of women on which the percentage are based is in parenthesis.
[2] For women aged 20 - 40 years in 1976 and married more than five years.

Source: Henripin, J., et al., *Les enfants qu'on n'a plus au Québec,* University of Montreal Press, Montreal 1981, Table 8.6, p. 270.

Abortion

Under the present law, abortion can be performed only if, in the opinion of a duly constituted therapeutic abortion committee, "the continuation of the pregnancy" of the female seeking abortion "would or would be likely to endanger her life or health. . .".[49] In 1975, the Canadian government set up a special committee to determine "whether the procedure provided in the Criminal Code for obtaining therapeutic abortion is operating equitably across Canada".[50] The Committee found that in practice, there are wide variations in the application of the law.[51]

Attitudes

There have been a few fertility surveys and public opinion polls conducted in Canada over the years to determine the attitudes toward abortion. The fertility survey carried out in Metropolitan Toronto in 1967 is probably the first survey of its kind in Canada to include questions on abortion. During the course of this survey 1,632 married women under 46 years of age were interviewed.

[49] *Criminal Code, Revised Statutes of Canada, 1970,* Chapter C-34, Section 251.
[50] Justice Canada, *loc. cit.*, p. 278.
[51] Justice Canada, *ibid.*

TABLE 3.7 Percentage of Cases of Contraceptive Sterilization for Specified Groups of Women of Various Social, Educational and Ethnic Backgrounds

Demographic characteristics	Cases of contraceptive sterilization		Total number of cases of sterilization[1]
	Survey results	Adjusted results	
Main source of income of husband:			
Farming, fishing	14.6	28.9	34.2 (39)
Labourer	21.4	30.5	33.9 (205)
Office worker	19.9	19.7	23.0 (48)
Middle management	15.3	21.6	24.1 (49)
Teachers, technicians	14.2	20.6	27.1 (53)
Upper management	45.3	45.3	45.3 (25)
Type of residence:			
Has lived on a farm	15.9	25.0	27.8 (125)
Small urban centres	20.7	28.0	31.9 (204)
Small and large urban centres	23.6	26.7	30.6 (59)
Always resident of a large city	24.2	32.8	35.2 (50)
Level of education of wife:			
0-8 years	18.5	30.4	34.4 (165)
9-11 years and more	19.4	25.7	28.2 (190)
College, university	24.4	24.8	29.4 (79)
Mother tongue of wife:			
French	20.9	28.0	31.7 (375)
English	31.9	34.4	38.1 (36)
Other	11.6	22.1	23.7 (25)
Religion of wife:			
Catholic	20.4	27.6	31.2 (402)
Non-Catholic	19.5	27.6	29.3 (36)

[1] The number of women on which the percentages are based is in parenthesis.

Source: Henripin, J., et al., *Les enfants qu'on a plus au Québec*, University of Montreal Press, Montreal 1981, Table 8.6, p. 270.

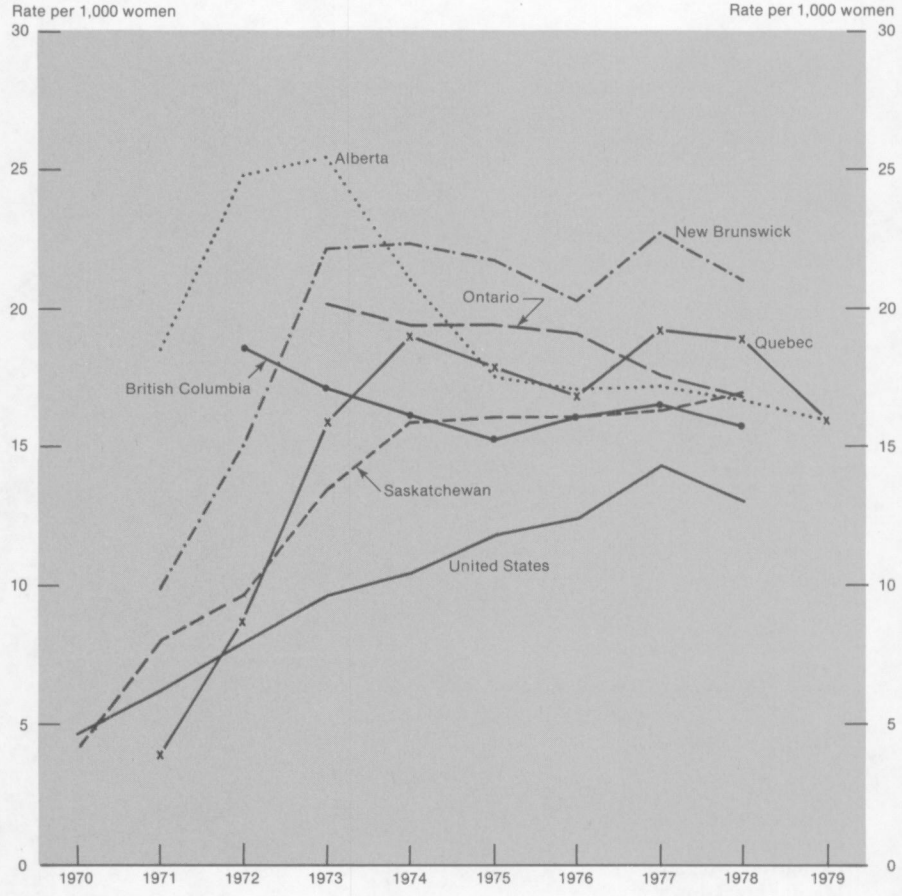
The data in Table 3.8 show an overwhelming approval of abortion where the mother's health is endangered, she is mentally ill, she has been raped or where there is a risk that she will give birth to a deformed or mentally-handicapped child. On the other hand, only 28% of the respondents endorsed abortion in a situation tantamount to abortion on request, and 68% expressed their opposition to it; the remaining 4% were unsure.[52]

Another survey, carried out in Toronto in 1975 included about 600 married men and 300 of their wives, 20 to 39 years of age. Although the rate of non-response (about 30% of males) was rather high, the authors felt that the data were statistically significant. The results summarized in Table 3.9 confirm earlier findings in Toronto with an increased majority endorsing abortions

[52] Balakrishnan, T.R., J.F. Kantner and J.D. Allingham, *Fertility and Family Planning in a Canadian Metropolis*, McGill-Queen's University Press, Montreal and London 1975.

Figure 3.2

Rate of Sterilization by Tubal Ligation, for Selected Canadian Provinces(1) and for the United States,(2) 1970-1979



(1) Per 1,000 women aged 15 to 49
(2) Per 1,000 women aged 15 to 44

Source: Lapierre-Adamcyk, E. and N. Marcil-Gratton, La stérilisation au Québec 1971-1979, rapport de recherche, University of Montreal, Montreal, December 1981, Figure V.1, p. 111. Center for Disease Control, Surgical Sterilization Surveillance; Tubal Sterilization 1970-1975 and Surgical Sterilization Surveillance: Tubal Sterilization 1976-1978, U.S. Department of Health and Human Services, Atlanta, Georgia, September 1980 and March 1981

for women in cases of rape, high risk of child deformity or danger to the mother's life. Slightly less than half approved abortion for women in financial straits.[53]

The 1971 fertility survey carried out in Quebec (a sample of 1,745 married women) also included questions on attitudes toward abortion. The survey asked respondents under which circumstances the law should allow abortion and

[53] Osborn, R.W. and B. Silkey, Husbands' Attitudes Towards Abortion and Canadian Abortion Law, *Journal of Biosocial Science*, Vol. 12, 1980, p. 24.

TABLE 3.8 Percentage Distribution of Responses to Attitudes Toward Abortion in Different Situations

Situation	Yes	No	Unsure*
1. Having a child would endanger mother's life	87	8	5
2. Mother mentally ill or retarded	76	15	9
3. There is a strong chance of a deformed or mentally-handicapped child	76	16	8
4. Pregnancy due to rape	75	16	9
5. Mother would experience severe psychiatric and emotional problems if not aborted	67	20	13
6. Having another child would mean extreme economic hardship for the couple	50	43	7
7. Serious marriage difficulties likely to result in divorce	31	56	13
8. Unmarried and does not wish to marry the father	30	56	14
9. Couple could afford another child but felt strongly that they did not want one	28	68	4

* Unsure includes a very small number of non-responses.

Source: Balakrishnan, T.R., J.F. Kantner and J.D. Allingham, *Fertility and Family Planning in a Canadian Metropolis,* McGill-Queen's University Press, Montreal and London 1975, p. 128.

TABLE 3.9 Percentage Approval of Abortion Under Certain Conditions, Male and Female Respondents, Toronto

Conditions	Male	Female	
	1975	1975	1968
Endanger mother's life	95	94	87
Rape	82	88	75
Deformed or mentally-handicapped child	81	86	76
Cause mental problem	81	80	67
Unmarried woman	69	66	30
Marital breakdown	50	47	31
Cannot support another child	49	47	50

Source: Osborn, R.W. and B. Silkey, Husbands' Attitudes Towards Abortion and Canadian Abortion Law, *Journal of Biosocial Science,* Vol. 12, 1980, p. 24.

under which circumstances they would personally resort to it. The results of this survey (Table 3.10) are not too different from those of the Toronto survey. In the Quebec survey, about 84% of women 35 to 64 years old and 91% under 35 endorsed legal abortion when the mother's life was in danger. About 26% thought that it should be available to couples for financial reasons. Generally, the female respondents were more reserved in their endorsement of abortion, under all circumstances, than men were, according to the survey.[54]

[54] Henripin, J. and E. Lapierre-Adamcyk, *La fin de la revanche des berceaux: qu'en pensent les québécoises?,* University of Montreal Press, Montreal 1974, pp. 109-117.

TABLE 3.10 Percentage of Women Who Would Accept Abortion Under Certain Conditions, Quebec

Conditions	Women 35 - 64 years of age	Women under 35 years of age	
	Opinion on the law	Opinion on the law	Personal case
Woman's life endangered by pregnancy	84	91	83
Pregnancy detrimental to woman's health	72	77	65
Risk of giving birth to a deformed child	67	77	68
Pregnancy resulting from rape	63	70	58
Woman not married	29	31	22
Couple does not have financial means to bring up child	26	30	21
Couple does not wish to have a child	18	21	14
Other reasons	8	9	6

Source: Henripin, J., et al., *La fin de la revanche des berceaux, qu'en pensent les québécoises,* University of Montreal Press, Montreal 1974.

TABLE 3.11 Percentage Distribution of Responses to the Canada-wide Opinion Survey by the Committee on the Operation of the Abortion Law in 1977

Indications for induced abortion	Women	Men
Danger to woman's life	71.0	66.8
Rape, incest	61.7	58.7
Danger to woman's mental health	58.9	56.6
Physical deformity of the foetus	53.2	49.4
On request when less than 12 weeks pregnant	23.7	27.3
Economic circumstances	21.8	21.7
To prevent an illegitimate birth	17.6	19.3
On request by a woman at any time	15.8	23.2
Should never be done	11.4	9.8

Source: Justice Canada, *Report of the Committee on the Operation of the Abortion Law,* Catalogue J2-30/1977, Supply and Services Canada, Ottawa 1977, p. 257.

In 1977, as part of the work of the Committee on the Operation of the Abortion Law, a national opinion survey on abortion was carried out using a sample of over 4,000 males and females. The survey showed that about one out of 10 respondents opposed abortion under any circumstances (Table 3.11). A higher percentage, but still a minority of individuals (16% for women and 23% for men) favoured abortion on request. The majority, about 71% of the female respondents and about 67% of the male respondents would endorse legal abortion where the mother's life was in danger.[55]

[55] Justice Canada, *loc. cit.*

Apart from the surveys reviewed here, Gallup polls have also been carried out over the years on the attitudes of Canadians toward abortion. Boyd and Gillieson have evaluated poll results for the period 1969 to 1974 and they conclude that there is considerable variation in the attitudes of Canadians toward abortion:

> As early as 1965 nearly three-fourths of Canadians supported therapeutic abortion when the mother's mental or physical health was endangered. Subsequent polls suggest that between 44% and 61% of adult Canadians support legal abortion under conditions which are at variance with the 1969 amendment of the Criminal Code.[56]

However, they caution that:

> Precise estimates of the level of public support for abortion liberalization in Canada are unobtainable from the existing Canadian Gallup polls not only because of the lack of trend data and scarcity of poll questions but also because of the biases induced by question wording.[57]

In more recent years, Gallup polls on abortion were taken in 1975, 1978 and 1983 (Table 3.12). To the best of our knowledge, none of the latest polls have been subjected to expert evaluation in order to detect potential biases. Judging the results of these polls at face value, it appears that the majority of respondents approve of legal abortion under certain circumstances and the more extreme opinions constitute a minority - 16% to 23% are in favour of making abortion legal under any circumstances and 14% to 17% oppose it under any circumstances.

TABLE 3.12 Percentage Distribution of Respondents to the Question: "Do You Think Abortions Should be Legal Under Any Circumstances, Legal Under Only Certain Circumstances or Illegal in all Circumstances?"

	1975	1978	1983
Legal under any circumstances	23	16	23
Legal only under certain circumstances	60	69	59
Illegal under all circumstances	16	14	17
No opinion	1	1	1

Source: The Canadian Institute of Public Opinion, *The Gallup Poll of Canada,* various reports.

The measurement of attitudes toward abortion is sensitive to, and contingent on, the phrasing of the questions asked, and the interview situation itself. As with many emotionally-loaded issues, opinions may shift back and forth, depending on the prevailing social climate, public discussion and the degree of social awareness. Yet some broad trends do emerge from the data reviewed. A majority of the public supports legalization of abortion on selective

[56] Boyd, M. and D. Gillieson, Canadian Attitudes on Abortion: Results of the Gallup Polls, *Canadian Studies in Population*, Vol. 2, 1975, p. 63.
[57] Boyd, M. and D. Gillieson, *ibid.*, p. 63.

grounds. The following grounds appear in descending order in most surveys: danger to the mother's life, danger to the mother's health, the risk of child deformity and pregnancy as a result of rape. But public acceptance of abortion undergoes a rapid attrition if economic circumstances or other personal motives are invoked. Finally, those who favour the idea of rendering abortion legal on any grounds form only a minority of public opinion, as do those who reject it on any grounds.

A similar picture emerges from the American data. A study published in 1981 by Blake and Del Pinal, reveals that although complete disapproval of abortion under any circumstances is rare in American society, support for the full "prochoice" platform is also rare. Blake and Del Pinal found that:

> Even respondents who endorse all four justifications for abortion (health, child defect, financial stress and elective abortion) undergo enormous attrition in numbers approving when they are asked about Medicaid for abortion, abortion without the husband's or parents' consent, or abortion past the first trimester.[58]

Abortion Statistics

It should be stressed that the published statistics reviewed here refer to **therapeutic** abortions, that is, those performed under the provisions of the 1969 law on abortion. During the period from 1971 to 1982, the number of therapeutic abortions obtained in Canada by Canadian residents more than doubled, from 31,000 to 66,000 or 8.5 and 17.8 per 100 births respectively. As shown in Table 3.13, their number has been levelling off in recent years.

TABLE 3.13 Abortions and Abortion Rates for Canadian Residents Obtaining Abortions in Canada, 1971-1982

Year	Abortions	Abortion rate per 1,000 females ages 15-44 years[1]	Abortion rate per 100 live births
1971	30,923	6.6	8.6
1972	38,853	8.2	11.2
1973	43,201	8.8	12.6
1974	48,136	9.5	13.7
1975	49,311	9.5	13.7
1976	54,478	10.3	15.1
1977	57,564	10.6	15.9
1978	62,290	11.3	17.4
1979	65,043	11.6	17.8
1980	65,751	11.5	17.7
1981	65,053	11.1	17.5
1982	66,319	11.1	17.8[2]

[1] Rate based on abortions to women of all ages.
[2] Abortion rates for 1982 are based on estimated live births.

Source: Statistics Canada, *Therapeutic Abortions*, Catalogue 82-211, Annual.

[58] Blake, Judith and Jorge H. Del Pinal, Negativism, Equivocation, and Wobbly Ascent: Public Support for the Prochoice Platform on Abortion, *Demography*, Vol. 18, No. 3, August 1981, p. 318.

But there are wide variations in the incidence of abortion among the provinces (Figure 3.3). The highest rate is found in British Columbia, with 30 per 100 births in 1982. Ontario ranks second with 25 per 100 births and is followed by the Yukon with 22 and Alberta with 16. In Quebec, Saskatchewan and Manitoba, the rate is close to 10. Except for Nova Scotia, where the figure amounts to about 14 per 100 births, the other Maritime provinces experience much lower rates (four and less).[59]

To some extent these variations reflect the fact that committees apply the law on therapeutic abortion differently in some provinces than in others. They also reflect the uneven distribution of hospital services available across the country and hence regional disparities in the accessibility to abortion procedures.[60]

Who are the Canadians who most frequently utilize abortion services? Some 66% (1981) are single women. About 23% are married and 10% are divorced, separated or widowed. About 28% are under 20 years old and slightly over half are 20 to 29 years old. Sixty-two per cent had no previous deliveries, and 16% had one previous delivery.[61]

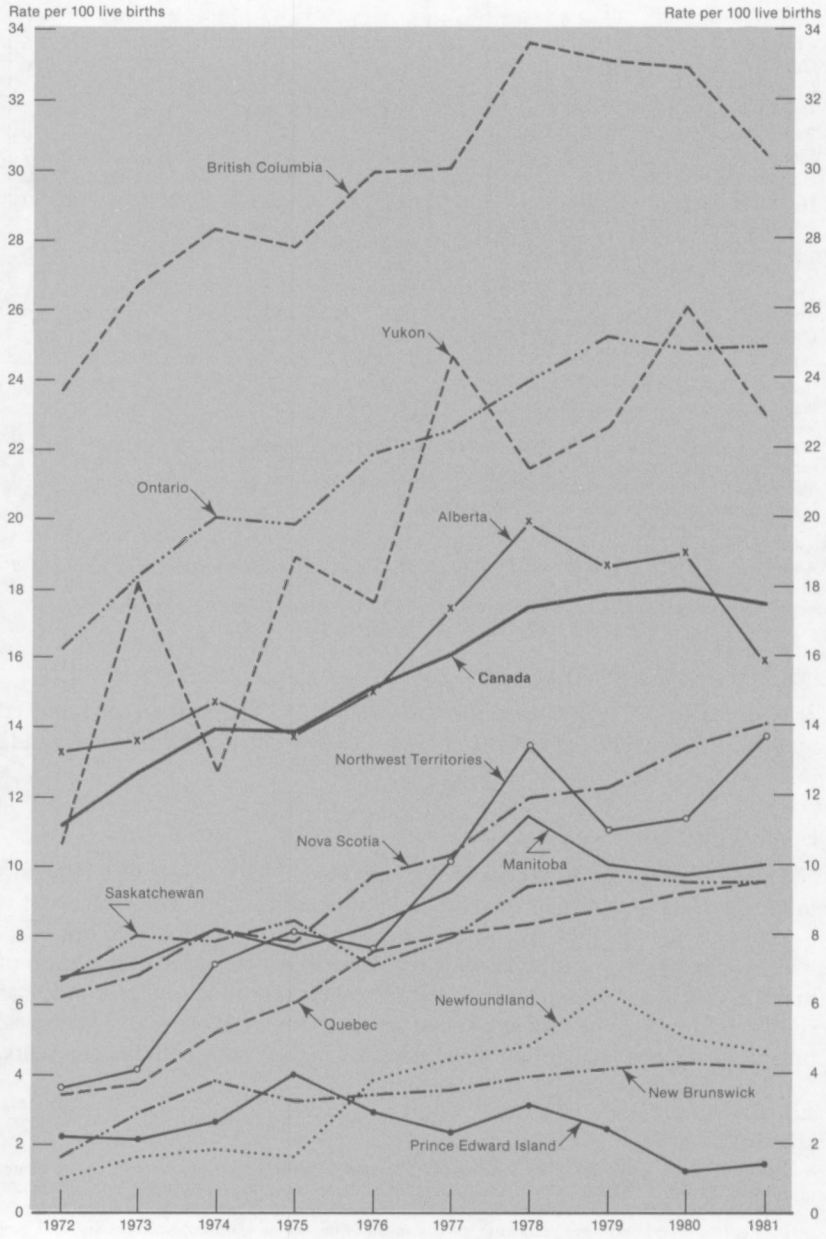
Canada's legal abortion rate is lower than in countries such as the United States, Sweden, the Federal Republic of Germany and a number of other countries in Western Europe (Table 3.14). To some extent, these differences reflect the legal provisions on abortion in these various countries. But the accessability to effective contraceptive means is a factor as well. This certainly holds true for the Eastern European countries, where modern contraceptives are scarce and abortion was used in earlier years, and to a lesser but still significant extent now, as the chief method of birth control.

The therapeutic abortions reviewed here do not reflect the actual incidence of **induced** abortion in this country. Some abortions, which in fact have been induced, may be classified as spontaneous. The data on abortions obtained legally outside the country are incomplete and reported only occasionally. Most such abortions take place in the United States, and the figures available show that they have declined over the years from 6,573 in 1972, to 1,073 in 1979. A small number (17 in 1978) were reported to have been performed in England and Wales. Also, the number of abortions illegally performed in Canada is unknown. The Committee on the Operation of the Abortion Law estimated that "the number of induced abortions which were not obtained under the

[59] Abortion rates for 1982 are based on estimated live births.
[60] Justice Canada, *loc. cit.*
[61] Statistics Canada, *Therapeutic Abortions*, Catalogue 82-211, Annual.

Figure 3.3

Therapeutic Abortions per 100 Live Births, by Province, Canada, 1972-1981



Source: Statistics Canada , Therapeutic Abortions, Cat. No. 82-211, Annual

TABLE 3.14 Legal Abortions per 1,000 Women Aged 15-44 Years: Selected Countries, 1970-79

Country	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Bulgaria[1]	64.9	70.2	70.9	61.2	66.4	65.8	64.5	65.6	68.3	NA
Canada	2.6	6.6	8.2	8.8	9.5	9.5	10.3	10.6	11.3	11.6
Cuba	40.2	47.4	54.9	60.3	69.5	65.3	61.0	55.9	52.1	NA
Czechoslovakia[1]	32.3	31.4	29.2	25.9	26.4	25.9	26.8	28.1	29.1	29.4
Denmark[2]	9.4	11.1	12.9	16.2	24.2	27.0	25.8	24.4	22.3	21.6
England and Wales[3]	8.1	10.1	11.5	11.7	11.6	11.2	10.6	10.6	11.4	12.0
Finland	13.8	18.9	20.4	22.4	21.8	20.4	18.6	16.7	15.8	14.7
German Dem. Rep.[4]	6.2	6.4	33.1	32.2	28.8	25.2	23.3	22.5	NA	NA
Hungary[5]	83.5	81.1	77.5	73.5	44.3	41.9	41.5	39.2	37.0	35.9
Netherlands[2]	NA	NA	NA	7.3	6.2	5.2	5.0	5.4	4.9	5.3
Norway	10.9	14.1	16.4	18.2	20.0	19.7	18.9	19.6	18.4	17.4
Scotland[6]	5.5	6.8	8.3	8.4	8.4	8.1	7.8	7.8	8.0	8.2
Singapore[7]	4.1	7.2	7.7	10.4	13.6	23.5	27.5	28.3	28.9	27.7
Sweden[8]	10.2	12.2	15.2	16.3	19.2	20.2	20.0	19.3	19.4	20.9
United States[9]	4.5	11.2	13.2	16.6	19.6	22.1	24.5	26.9	28.2	30.2

[1] Restrictions imposed 1973.
[2] Abortion on request October 1973.
[3] Residents only.
[4] Abortion on request March 1972. Rates for 1970-1971 are for the district of Rostock which in 1972 had the same rate as the GDR.
[5] Major restrictions imposed January 1974.
[6] Including residents of Scotland aborted in England.
[7] Abortion on request December 1974.
[8] Abortion on request January 1975.
[9] Abortion on request in New York State July 1970, in US January 1973. Rate for 1979 is based on projected number of abortions.

Source: Tietze, Christopher and Sarah Lewit, Abortion in the Seventies, *Proceedings of the International Population Conference*, IUSSP, Manila, the Phillipines, 1981, p. 307.

procedures set out in the Abortion Law was 45.1% higher than the reported number of therapeutic abortions in 1974. For every five live births in Canada in 1974, there was one induced abortion".[62]

Some Final Observations

The most remarkable change in the contraceptive practices of Canadians in recent years is the rapid increase in contraceptive sterilization. Since it is a method which, in spite of some advances in micro-surgical techniques, remains virtually irreversible, its wide use denotes the strong determination of many couples to put an irrevocable end to their reproduction. Not only has sterilization become the most popular method among more mature couples, but it is being used increasingly by couples still in their early childbearing years.

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[62] Justice Canada, *loc. cit. p. 82*

Note: The only other study attempting to estimate the incidence of illegal abortion, of which we are aware, was carried out in Alberta in 1973. The study, utilizing the so-called "randomized response technique", found that the incidence of illegal abortion was 1 $^1/_2$ times as high as therapeutic abortion. The results refer to a period only three years after the enactment of the law on abortion, when the availability of therapeutic abortion was probably less known to the public. The results of the survey have been published by Susan McDaniel and Karol J. Krotki, under the title Estimates of the Rate of Illegal Abortion and the Effects of Eliminating Therapeutic Abortion, Alberta, 1973-74, *Canadian Journal of Public Health*, Vol. 70, No. 6, November/December 1979.

The 1969 amendment to the abortion law has made abortion legal on therapeutic grounds. But after an initial increase, the number of therapeutic abortions seems to have levelled off in recent years to about 65,000 per year.

Attitudes toward abortion are difficult to measure, but to the extent one can infer from fertility surveys and Gallup polls, a sizeable majority of Canadians approve of it on selected grounds (mother's life and health, child defect and rape).

The availability of highly effective contraceptives and therapeutic abortion has made it possible to reduce unintended births and has thus contributed to the current decline in fertility.[63] But the decline is due to more than just improved birth control methods. It is a complex phenomenon which is the outcome of an interplay of numerous factors.

[63] See Chapter IV.

IV. FACTORS IN THE CURRENT FERTILITY DECLINE: EVIDENCE AND CONJECTURE

The current baby-bust is a phenomenon born of many factors. Not only are fewer people marrying, and those who marry are doing so later in life, many more are divorcing. The combined result of lower nuptiality and higher divorce rates has been to significantly erode the salience of marriage, an institution which has historically served as the bedrock of procreation. Today there are fewer unwanted pregnancies due to the availability of highly reliable contraceptives and there has been a change of perspective on family size. Couples now prefer small families.

But there are subtler and deeper social transformations underlying the reappraisal of childbearing targets and while these are more difficult to pin down, it is, nevertheless, important to recognize them. One of these is the role women now play in all parts of society, beyond and sometimes in place of that traditionally connected with the home and children. Many must find a way to stretch a finite amount of time, energy and resources to accommodate the demands of children and working outside the home.

However, one cannot understand the current shift in procreative behaviour solely by looking at the changes now occurring in the role of women since low fertility is generally believed to be a by-product of societies in an advanced stage of modernization. Experts continue to raise questions about what the present trend toward fewer children means in terms of society's redefinition of the family, family life and the role of the child. While these questions do not lend themselves to statistical evaluation, they deserve careful consideration, as do those concerned with the extent to which fertility is responsive to changes in economic conditions.

The Decline of Marriage: The Rise of Divorce

Marriage appears to be undergoing transformations which are likely to exert a depressing influence on fertility. First, official statistics show a sizeable reduction in the marriage rate, particularly among women in their prime childbearing years, before age 35. Census figures for 1961 and 1981 show a drop from 59% to 48% in the proportion of married women aged 20-24 and from 84% to 77% for women aged 25-29. Vital statistics data disclose that over a period of nine years, the three-year average marriage rate centred on 1971 and 1980 fell from 55 marriages per 1,000 unmarried women to 30 for women aged 15-19. The rates for women 20-24 fell from 222 to 151 and for women 25-29 from 161 to 146. After an almost unremitting downward shift in the marriage age from 25 in 1941 to 23 in 1961, the trend reversed so that by 1980 the average age at first marriage had again reached 24.

Second, there is greater conjugal mobility. Divorce and remarriage have escalated. During the period 1960-1962, the average divorce rate stood at 169 per 100,000 married women over the age of 15. By 1981, the figure had jumped to 1,084, or more than **six times as much**. Over roughly the same interval,

the ratio of divorces to marriages climbed from 5% to 36%. Both divorce and remarriage have soared. One in four marriages now involve at least one previously married partner.[64] Recently, however, the rate of remarriage has slowed down. Consequently, the married population is losing ground; there are not enough remarriages to replace those which have ended in divorce. In 1970, 48% of the divorces involving women aged 20-24 were "recovered" by the remarriage of divorced women in the same age group. But by 1980 this proportion had gone down to 36% and less than half of the women divorcing at ages under 35 eventually remarried. Furthermore, remarriage appears to be as fragile, if not more so, than first marriage. American studies have shown a somewhat higher divorce rate for remarriages than for first marriages.[65]

Third, more people now opt for less formal marital arrangements. While formal marriages appear to be on the decline, consensual or common-law unions, although still confined to a minority, are on the increase. The 1981 Census found that couples living together as common-law partners represented 7% of families or **twice as many as in 1971**. The key question here, however, is whether such unions will prove to have the same commitment to procreation as that traditionally associated with formal marriage.

Fourth, while more births than in the past occur outside of marriage, they still constitute only a minority and cannot compensate for the dramatic decline in marital fertility.

So all in all, in spite of some offsetting effects of the increase in concensual unions and the incidence of out-of-wedlock births, factors running counter to higher birth rates, such as lower nuptiality, later marriage and soaring divorce, exert a stronger influence. But, the extent to which they affect fertility is difficult to ascertain. One could calculate a standardized fertility rate by holding the marital status of the female population constant at some previous level, say that of 1961. If this is done, one finds that the reduction in the proportion of married women has contributed about 10% to the present decline in the total fertility rate. According to American research, changes in marital status accounted for a 16% decline of the total fertility rate over the period 1961 to 1975.[66] This procedure, however, ignores many disruptive intermediate situations faced by those experiencing marital instability. Couples headed for divorce may well not have the inclination to have any children. Past divorce could well affect future childbearing depending upon age, existing family size and custody arrangements. Almost identical marital status distributions may reflect very different dynamics of marital behaviour.

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[64] Harrington, J.A., *Our Changing Private Lives: A Decade of Marriage and Divorce in Canada*, Statistics Canada, (forthcoming).

[65] Cherlin, J.A., *Marriage, Divorce and Remarriage*, Harvard University Press 1981.

[66] Gibson, C., The U.S. Fertility Decline, 1961-1975, The Contribution of Changes in Marital Status and Marital Fertility, *Family Planning Perspectives*, Vol. 8, No. 5, September/October 1976.

The Effects of Birth Postponement

It has already been stated that women are now tending to have their children at a later age and to space them further apart. According to Henripin and his colleagues, the lengthening of the birth interval may have accounted for half of the decline in the total fertility rate between 1961 and 1971 in Quebec.[67] It can be argued with some justification that the onset of the baby-bust was at least partly triggered by the tendency of younger generations to delay births. But the role of birth postponements in the continuation of the baby-bust is puzzling.

For example, it is not known to what extent the postponements represent simply a temporary deferment or preference for a smaller family. Some women may "catch up" on delayed births and in fact there is evidence this is happening on a small scale among women who have their first child in their thirties.[68] The effect of "catching up" may be cancelled or offset by the gradual increase in the birth intervals among more recent generations. Yet for some women postponement may mean they will never have children. It has been suggested that what we may actually witness is forgone fertility on a large scale stemming from what initially may have been intended as simply birth postponements.[69]

Reduction in the Incidence of Unwanted and Unplanned Pregnancies

Demographers distinguish between **wanted** and **unwanted** components of fertility. The concept of unwantedness refers to the conception and not to the child. In terms of fertility planning, unwanted births are unintentional by definition, but not all wanted conceptions are intended in terms of timing; some may have occurred by reason of contraceptive failure earlier than they actually were intended. Hence, there are three independent categories of births: **wanted** and **planned, wanted** but **unplanned** (in terms of timing) and **unwanted**.

Yet, the incidence of unwanted pregnancies is difficult to measure exactly because of the ambiguity of the concept of unwantedness and the tendency in retrospect to report as wanted a birth which was really unwanted.[70] There are, however, enough data to give some idea of the trends in the incidence of unwanted pregnancies. In 1968, a fertility survey in Metropolitan Toronto found that 16% of couples had not intended to have their last child.[71] In Quebec, the 1971 fertility survey disclosed that the proportion of unwanted children stood at 11%. A repeat survey in 1976 found the proportion had declined to 7%.[72] In the United States during the 1950s, it was estimated that

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[67] Henripin, J. and E. Lapierre-Adamcyk, *La fin de la revanche des berceaux: qu'en pensent les Québecoises?*, University of Montreal Press, Montreal 1974.

[68] See Chapter II.

[69] Masnick, George S., The Continuity of Birth-Expectations Data with Historical Trends in Cohort Parity Distributions: Implications for Fertility in the 1980s, *Predicting Fertility*, Hendershot and Placek (editors), Lexington Books, D.C. Heath and Co., Lexington, Mass. and Toronto 1981.

[70] Westoff, C.F. and N.B. Ryder, *The Contraceptive Revolution*, Princeton University Press, Princeton, N.J. 1977.

[71] Balakrishnan, T.R., J.F. Kantner and J.D. Allingham, *Fertility and Family Planning in a Canadian Metropolis*, McGill-Queen's University Press, Montreal and London 1975.

[72] Henripin, J., et al, *loc. cit.*

about 20% of all births occurring to married women were the result of a failure in family planning.[73] Again in the United States, the unplanned portion of marital fertility diminished from 55% during the 1961-1965 period to 42% during the 1966-1970 period.[74] The total marital fertility rate during these periods has dropped from 3.82 to 2.91 births per woman, a decline of 24%. According to Westoff and Ryder, this is almost entirely due to the reduction in unplanned fertility.

From the above brief review of the evidence, it appears that there has been a significant reduction in the unplanned and unwanted components of fertility in recent years. The role of highly effective modern contraceptive technology and legalization of therapeutic abortion has no doubt been significant in this regard. But, it is possible to overstate their importance when one is looking for an explanation of the recent decline in fertility.[75] It should be remembered that in the 1930s, fertility rates were as low, if not lower than today, in certain segments of Western society, in spite of the rather rudimentary contraceptive technology of those days.

While the reduction in the unwanted and unplanned pregancies has been a significant factor in the fertility decline since 1960, there has also been a sharp downward readjustment of childbearing targets among more recent generations. The relevant evidence is reviewed in the next section.

The Preference for Smaller Families

There are no Canada-wide data on family size preferences. However, surveys both in the United States and in the province of Quebec have pointed to a considerable downward shift in the number of offspring that young couples expect to have. According to the American data, the lifetime expected average number of births for currently married women in the 18 to 34 age category went down from 3.1 in 1967 to 2.6 in 1971, 2.3 in 1976 and 2.2 in 1981.[76] The lifetime expected fertility for all white American women regardless of their marital status stood at 2.02 in 1981.

In Quebec a recent survey (1980), found that women married since 1966 expect 2.2 children on the average (Table 4.1).[77] This number stood at 3.6 and at 4.0 for those married between 1951 and 1955, and 1946 and 1950, respectively.

In interpreting these figures, it should be kept in mind that they refer to what couples **expect** to occur. After all, unforeseen circumstances can come into play and couples may change their minds. Their expectations in the early

[73] Osborne, I., Excess and Unwanted Fertility, *Eugenics Quarterly*, Vol. 10, 1963, p. 70.

[74] Westoff, C.F. and N.B. Ryder, *The Contraceptive Revolution*, Princeton University Press, Princeton, N.J. 1977, pp. 307-308.

[75] Acsadi, George T. and Gwendolyn Johnson-Acsadi, Recent Trends and Determinants of Fertility in Developed Countries, in *Social, Economic and Health Aspects of Low Fertility*, U.S. Department of Health, Washington, D.C., January 1980.

[76] U.S. Bureau of the Census, *Current Population Report*, Nos. 364, 369 and 378.

[77] Lapierre-Adamcyk, Evelyne, *Les aspirations des Québecois en matière de fécondité*, Cahiers québécois de démographie, Vol. 10, No. 2, August 1981.

TABLE 4.1 Distribution of the Respondents According to the Expected Number of Children and the Period of Their Marriage, Quebec, 1980

Marriage cohorts	Number of expected children						Number of cases	Average number of expected children
	0	1	2	3	4+	Total[1]		
1946 - 1950	4.2	8.3	18.5	16.4	52.7	100.0	135	4.0
1951 - 1955	8.1	7.9	13.7	18.1	52.2	100.0	140	3.6
1956 - 1960	5.3	8.9	21.5	26.8	37.6	100.0	178	3.1
1961 - 1965	4.4	9.3	37.6	29.1	19.5	100.0	160	2.6
1966 - 1970	9.5	12.2	46.1	23.5	8.7	100.0	210	2.1
1971 - 1975	9.9	9.6	43.1	27.4	10.0	100.0	283	2.2
1976 - 1980	8.7	9.7	49.3	23.3	9.1	100.0	261	2.2

[1] Note that due to rounding, the percentages do not add exactly to 100%.

Source: Lapierre-Adamcyk, Evelyne, *Les aspirations des Québecois en matière de fécondité, Cahiers québécois de démographie,* Montreal, August 1981, p. 70.

years of marriage cannot serve as a prediction of the future; they can only indicate a preference. Generally, the tendency is to overstate the childbearing expectations during a period of declining fertility and to understate them during a period of rising fertility.[78] This probably occurs as a result of a **response bias** brought about by what couples believe to be the prevailing ideal family size at the time.[79]

This view is borne out by data for Quebec which show that during the current downward fertility cycle, women in this province expected to have more children than they actually had. According to the 1971 survey, wives who wed between 1966 and 1970 expected an average of 3.2 children. But this expected number was subsequently revised downward to 2.4 in the 1976 survey and to 2.1 in the 1980 survey, a reduction of 25% and 13% respectively. If couples married between 1976 and 1980 were to revise their expectations downward in the same proportion, then the average expected number of their progeny would shrink to only 1.4. Evelyne Lapierre-Adamcyk, after analyzing the most recent trends in fertility expectations of Quebeckers, doubts that they will drift as low as that. She bases her assessment on the fact that nearly half of the women surveyed wanted a family of two children rather than to remain childless or have only one child.[80]

Thus, there is evidence to support the view that people's ideas about family size are changing. There are many potential causes for these shifts in attitude. The changing status of children and the way women's roles are altering are discussed next as possible explanations.

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[78] Lee, R.D., Aiming at a Moving Target: Period Fertility and Changing Reproductive Goals, *Population Studies,* Vol. 34, No. 2, July 1980, pp. 205-220.

[79] Girard, Alain and Louis Roussel, Dimension idéale de la famille, fécondité et politique démographique, Nouvelles données dans les pays de la Communauté économique européenne et interprétation, *Population,* Vol. 36, No. 6, November/December 1981.

[80] Lapierre-Adamcyk, Evelyne, *loc. cit.*

The Changing Status of Children in Modern Society

In agrarian societies, and to a large extent through most of the era of industrialization, children were valued for their economic contribution to the family wealth and as an insurance for parents' old age; large families were more an asset than a liability. Apart from certain inheritance customs to protect the integrity of family holdings, which eventually provided the rationale for having fewer children, the social organization generally favoured high fertility.

With the advent of economic liberalism and greater social mobility, the emphasis on family values shifted. The child became the focal point of family aspirations for higher social status, particularly among the growing middle classes. Families had fewer children so that they could afford to provide them with a better education and thus improve their chances for social ascension. The French demographer, Arsène Dumont, coined the term **social capillarity** to signify this pressure for upward social mobility and cited it as the chief reason for the decline of fertility in the Western world.

Yet, according to the French demographer and historian, Philippe Ariès, the day of the "child-king" seems now to be over. He maintains that the child's future is no longer the strong motivating factor behind childbearing decisions and that it has given way to the search for self-fulfilment on the part of individuals.[81]

Dismissing such explanations as "hedonism" and "anxiety about a gloomy future" in a world threatened with nuclear war, Ariès offers his perception in this refreshingly candid way:

> To tell the truth, none of these reasons seems convincing to me. They are too direct, too immediate. The ways people look at life usually are determined by more mysterious, more indirect causes. I feel that a profound, hidden, but intense relationship exists between the long-term pattern of the birth rate and attitudes toward the child. The decline in the birth rate that began at the end of the eighteenth century and continued until the 1930s was unleashed by an enormous sentimental and financial investment in the child. I see the current decrease in the birth rate as being, on the contrary, provoked by exactly the opposite attitude. The days of the child-king are over. The under-40 generation is leading us into a new epoch, one in which the child occupies a smaller place, to say the least. . .
>
> Couples – and individuals – no longer plan life in terms of the child and his personal future, as was the case during the nineteenth and early twentieth centuries. This does not mean that the child has disappeared from such plans but that he fits into them as one of the various components that make it possible for adults to blossom as individuals. His

[81] Ariès, P., Two Successive Motivations for the Declining Birth Rate in the West, *Population and Development Review*, Vol. 6, No. 4, December 1980.

existence, therefore, is related to plans for a future in which he is no longer the essential variable, as he was during the nineteenth century.

This constitutes a major change, but we must not forget that the family goal of seeing that the child got ahead was in itself a rather new phenomenon, which began roughly in the sixteenth century and spread, vastly expanding after the late eighteenth century. It undeniably was one of the characteristic traits of "modernity". The changes occurring today may permit us better to understand *a posteriori* the attitude that traditional societies had about children, before childhood became the focal point that it was after 1800. . .

Thus the child's role in the family's plan, and his affective role within the family, changed between the end of the Middle Ages and the eighteenth century. His role expanded. In like manner, his role is changing today, before our very eyes. It is diminishing.[82]

Sex Roles and the Status of Women

The movement away from the traditional division of sex roles - husband as breadwinner and wife as homemaker and child nurturer - toward a fuller integration of women into the economic system and equality with men has accelerated in the last two decades or so. This is manifest in the large scale changes in the educational and occupational profiles of women over this period of time. In 1950, 22% of university students at the undergraduate level were female. Ten years later, the figure was only slightly higher, 25%. But, by 1981, almost half (47%) were females. Their share jumped from about 15% in the 1950s to 37% in 1981 at the graduate level. Although still heavily concentrated in the arts and education, they moved in increasing numbers into male dominated fields - business, engineering, medicine and law.[83] Their advances in the sphere of work are equally striking. The rate of participation of women over 15 years of age in the work force rose from 24% in 1951 to 30% in 1961, 40% in 1971 and 53% in 1981. For mothers under 35 with preschool children, this rate went up from 28% in 1961 to 48% in 1981. More are filling jobs that previously were *de facto* the male preserve. Between 1971 and 1981, their number multiplied fourfold in the 20 highest paid professions (manager, physician, university professor, etc.) as against one and a half times in the traditionally female-dominated lowest paid professions.[84] Granted that there is still a gender gap in the occupational status and earnings, these statistics, nonetheless, provide some measure of the scale and tempo of advances since about 1960.

At the same time there seems to have been a re-orientation in the beliefs and values concerning the appropriate roles for women in North American society. Thoronton and Freedman found that "American women had made a tremendous shift toward more egalitarian sex roles between 1962 and 1977",

[82] Ariès, P., *loc. cit.*, p. 649.

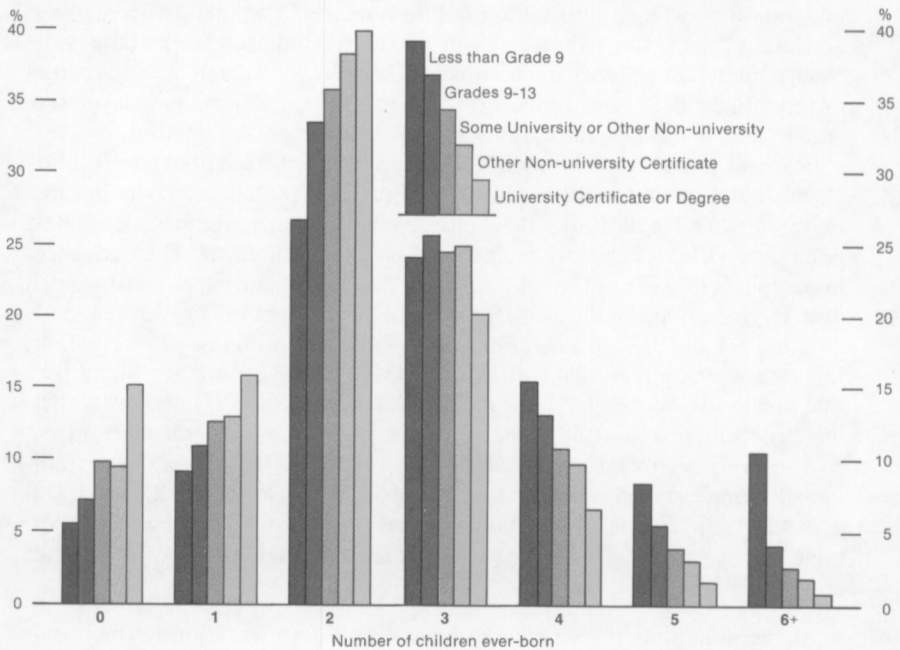
[83] Statistics Canada, *Education in Canada*, Catalogue 81-229, Annual.

[84] Statistics Canada, special tabulations.

the period covered by their study.[85] This appeared to be not so much with regard to specific aspects of role specialization such as sharing of housework, but rather on a more global level, with regard to general principles of role segregation and division of authority within the home. There is a substantial increase toward a non-traditional orientation among women, not just within certain classes of society such as the more educated, but in all groups of women, irrespective of their experience and social characteristics.[86]

The question is whether there is any connection between these changes in women's roles and the decline in fertility. It is well documented that there is an inverse relationship between female educational attainment, labour force participation and occupational status, on the one hand, and fertility, on the other. Figures 4.1 and 4.2, based on the 1981 Census, show, for example, that women with higher education have a smaller number of children than women with less education. Women who have never worked have more children than women currently in the labour force.

Figure 4.1
Percentage Distribution of Ever-married Women Aged 35-44 by Number of Children Ever-born and Highest Level of Schooling, Canada, 1981



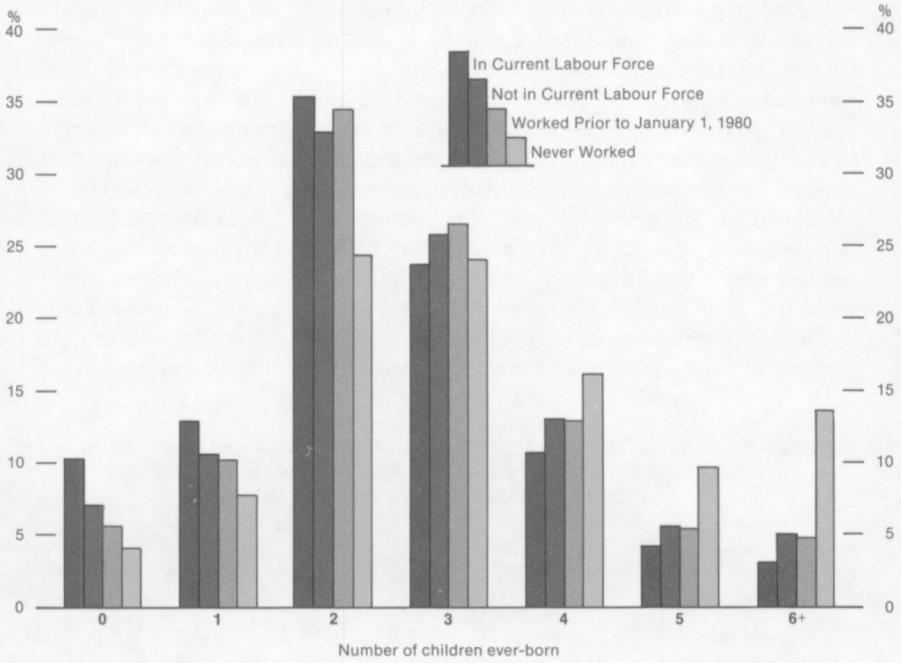
Source: Derived from Appendix Table 4.1

The major problem with these statistics, however, is the difficulty in determining the direction of causation in the work/fertility relationship. Are women reducing their fertility in response to constraints imposed by their desire or

[85] Thoronton, Arland and Deborah S. Freedman, Changes in the Sex Role Attitudes of Women, 1962-1977, *American Sociological Review*, Vol. 44, No. 5, October 1977, pp. 831-841.
[86] Thoronton, A. and D.S. Freedman, *ibid.*

Figure 4.2

Percentage Distribution of Ever-married Women Aged 35-44 by Number of Children Ever-born and Work Experience, Canada, 1981



Source: Derived from Appendix Table 4.2

need to work, or are they able to work because they have reduced their fertility? It can also be argued that the two influence each other, but the extent and mechanism of the interaction is unclear as are the possible underlying common causes.

A strong case can be made for the effects of education on childbearing. Rindfuss and his colleagues have demonstrated that education has a substantially greater influence on age at first birth than any other variable.[87] They found that each additional year of schooling resulted in a delay of the first birth by approximately three quarters of a year. In turn, greater age at first birth leads to longer birth intervals and a preference for fewer children. The postponement of first birth tends to result in a smaller family size, because of possible age-associated sterility, marriage breakdown or the increasing interference of non-family roles associated with education.

The findings of a now large body of research on the employment/fertility relationship are illuminating though less conclusive. There is some evidence that in the short run childbearing and the presence of small children have a large impact on women's employment. But in the long run, the opposite is

[87] Rindfuss, R.R., Larry Bumpass and Craig St. John, Education and Fertility. . . Roles Women Occupy, *American Sociological Review*, Vol. 45, No. 3, June 1980.

more likely. The effects build up over time, as initial employment and reduced fertility both stimulate higher subsequent employment.[88] The driving force in the decision-making process of childbearing seems to be the long-term expectations regarding work, according to Linda Waite and Ross Stolzenberg.[89] For example, they found that a woman's plans to participate in the labour force when she is 35 have a substantial effect on the total number of children she plans to bear in her lifetime. Although their study focusses on the attitudes rather than on the actual behaviour, fertility expectations are to some extent indicative of the actual fertility as has been demonstrated in this chapter. Other authors have emphasized the motivation behind work rather than the fact of working *per se*. There is some indication that women who are employed because they **like** being employed anticipate fewer children than women who work because they need the money provided by a job.[90] The woman's motivation for working, her approval of non-domestic pursuits for women and her role in the decision-making in family affairs are probably more important than the fact of holding a job as far as procreative behaviour is concerned.

TABLE 4.2 Average Time Spent Daily on Household Tasks by Married People Living in Different Urban Surroundings, in Hours and Tenths of Hours, all Days of the Week Included

Population groups	Kragujevac, Yugoslavia	Torum, Poland	Olomouc, Czechoslovakia	Osnabruck, F.R.G.	Six Cities, France	Jackson, Mich., U.S.
Employed men	0.4	0.7	0.9	0.3	0.5	0.5
Employed women	4.3	4.1	3.8	4.5	4.0	3.6
Housewives	6.8	7.4	7.3	6.5	6.9	5.4

Source: Szalai, Alexander, The Situation of Women in the Light of Contemporary Time Budget Research, *World Conference of the International Women's Year*, Mexico City, June 19-July 2, 1975.

The foregoing findings provide cogent support for the thesis that actual employment and opportunity for women's employment tend to reduce fertility. One of the possible readily acceptable explanations is offered by the so-called role incompatability theory. Working and mothering compete for women's time and energy. Career building takes place over the same years that families are usually formed and children raised. As contemporary time-budget surveys indicate, the bulk of housework falls on the wives' shoulders, even when they are employed, and the husbands' share remains comparatively small.[91] Modern household appliances have not reduced the amount of time spent on housework, nor has the level of household technology made

[88] Cramer, James C., Fertility and Female Employment: Problems of Casual Direction, *American Sociological Review*, Vol. 45, No. 2, April 1980.

[89] Waite, Linda J. and R.M. Stolzenberg, Intended Childbearing and Labor Force Participation of Young Women: Insights from Nonrecursive Models, *American Sociological Review*, Vol. 41, No. 2, April 1976.

[90] Ryder, N.B. and C.F. Westoff, *Reproduction in the United States*, Princeton University Press, Princeton, N.J. 1965.

[91] Szalai, A., The Situation of Women in the Light of Contemporary Time Budget Research, *World Conference of the International Women's Year*, Mexico City, June 19-July 2, 1975.

a difference in the amount of time spent by women in various countries (Table 4.2). [92] As the general living standards rise, so do the standards for house care and service to families, cancelling out the gains made by technology.

An important research and policy issue which, by reason of insufficient data has not been adequately explored, is the question as to how child-care facilities affect both female employment and fertility. In Canada, according to a survey on child-care arrangements taken in 1981, slightly more than half of all preschool children received some non-parental care each week.[93] Among working couples, this amounted to 80%; the remaining 20% cared for their preschool-age children themselves (Table 4.3). While the degree of satisfaction with the present day-care arrangements is difficult to gauge, it is, nevertheless, significant to learn that only 15% of the respondents with preschool children receiving some non-parental care said that they would like to change the arrangements. The survey also disclosed that few women (4%) had to leave or refuse a job over the 12-month reference period because of problems with day-care arrangements.[94] An American study a few years ago also found that only a minority of about 17% of mothers with preschool children felt constrained in their labour force participation because of the unavailability of suitable and cost affordable day-care facilities.[95]

TABLE 4.3 Types of Child-Care Arrangements for Preschool Children (0-5 Years), Canada, February 1981

Type of arrangement	Percentage
Cared for in own home	**35.8**
By relative	17.0
By non-relative	18.0
Cared for in other private home	**35.8**
By relative	13.8
By non-relative	22.0
Nursery school or kindergarten	**42.7**
Day care centre	**11.2**
Total[1]	**100.0**
Number of children (000)	1,133.0

[1] Since some children are cared for by more than one type of arrangement each week, the percentages add to 125.5.

Source: Statistics Canada, *Labour Force Survey,* Catalogue 71-001, August 1982, p. 94.

The role incompatability theory, notwithstanding its common-sense appeal, is probably too narrow to elucidate the complex decision-making process regarding the trade-offs between employment and procreation. The theory could be expanded to accommodate the arguments of the so-called "new home

[92] Szalai, A., *loc. cit.*
[93] Statistics Canada, *The Labour Force*, Catalogue No. 71-001, August 1982, pp. 85-93.
[94] Statistics Canada, *ibid.*
[95] Presser, H.B. and W. Baldwin, Child Care as a Constraint on Employment, *American Journal of Sociology*, Vol. 85, No. 5, March 1980.

economics" with its notion of household utility maximization behaviour. It has been argued that, "with the expanded opportunities for women to earn income, status and psychic gratification outside the family, childbearing becomes an alternative which exacts a heavy price".[96] Improved education and skill increase the earning power of women in the market and hence the opportunity-cost of staying at home. Those who, because of family obligations, must interrupt their career over a long period, "risk depreciation of their skills through prolonged disuse and obsolescence".[97] But, more than just economic calculus may come into play when decisions regarding childbearing have to be made. If it is true that contemporary society is undergoing a reorientation of aspirations whereby precedence is moving away from family roles, then one should not be surprised to see childbearing become subordinate. At any rate, the differentiation of the women's roles has been greatly heightened by the recent social changes and developments in the reproduction control technology, and this renders the decision regarding childbearing a more complex matter than it was in earlier days when the options for women were limited.[98]

The Role of Economic Factors

To what extent have the slowdown in economic growth, high unemployment and inflation, which this country has experienced over the recent years, contributed to the current baby-bust? As the reader will find out for himself, there is no easy answer to this question. But some insight can be gained by reviewing the literature on the subject of the response of fertility to economic expectations and business cycles and by examining time series of a few economic indicators deemed to have potential for affecting procreative behaviour.

At a **micro** level, various surveys support the view that individuals are sensitive to economic expectations when they consider marriage or having children. A recent survey in France revealed that 68% of the respondents felt that the prospect of unemployment would cause people to postpone marriage and 78% that it would cause them to delay having a child.[99] Admittedly, not all will actually react this way when faced with economic uncertainties. Nevertheless, one-fifth of the respondents of the same survey reported that they had postponed their marriage or a birth because of unemployment.[100] According to an Australian survey, economic considerations were cited as the most important reason for delaying the birth of a first child.[101] One half of those who delayed their first child's birth gave saving for a home or other economic considerations as their first reason.

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[96] Smyth-Lovin, Lynn and Ann R. Tickamyer, Nonrecursive Models of Labor-Force Participation, Fertility Behaviour and Sex Role Attitudes, *American Sociological Review*, Vol. 43, No. 4, August 1978, p. 54.

[97] Waite, L.J. and R.M. Stolzenberg, *loc. cit.*

[98] For a stimulating discussion of traditional sociological versus feminist perspective of reproduction and women's roles, see McDaniel, Susan A., Women's Roles and Reproduction: The Changing Picture in Canada in the 1980's, paper presented at the *Canadian Population Society*, Guelph, June 1984.

[99] Bastide, H., A. Girard and L. Roussel, Une enquête d'opinion sur la conjoncture démographique (janvier 1982), *Population*, Vol. 37, No. 4-5, July/October 1982.

[100] Bastide, H., et al, *ibid.*

[101] Young, Christabel M., Spacing of Children and Changing Patterns of Childbearing, *Journal of Biosocial Science*, Vol. 9, No. 2, April 1977.

At the **macro** level, various studies have reported the existence of a co-variation between business cycles and the birth rate. Dudley Kirk, in an early study of the interwar and immediate post-war experience of the United States, found statistical confirmation for the view that marriages and births respond sensitively to economic fluctuations.[102] He found a high correlation between leading economic indicators and the short-term deviations in fertility from its fundamental trend. This led him to postulate that although the economic fluctuations may not in themselves be the **primary** causes of fertility trends, they seem to exert important **conditioning** influences.

From the 1960s onward, increasingly larger numbers of baby-boomers, on reaching their working and family formation years, have had to face the dual problem of their large size and of entering the labour force at a time of economic slowdown and rising inflation. They have been caught in what Oppenheimer calls the "economic squeeze".[103] She defines this squeeze as an imbalance between (a) lifestyle (consumption) aspirations, (b) cost of these aspirations and (c) the economic resources for achieving them, the major source of which is usually the husband's income. Thus, the economic squeeze arises when consumption aspirations exceed the purchasing power of the family. Dwelling on the American experience, Oppenheimer contends that young people have suffered from relative economic deprivation as a result of rising inflation and unemployment while their aspirations for higher standards of living have been modelled on those of their parents and more affluent peers. Young workers are generally more vulnerable to business cycles than older workers, who are better protected against unemployment by the increased institutionalization of the labour market (seniority clauses and human capital investment advantages). And it is they who are more likely to feel the brunt of the inflation as they try to establish themselves as independent adults and make costly capital investments in housing. Some of the adaptive responses to the economic squeeze, according to Oppenheimer, are the postponement of marriages and births, the preference for smaller families, more wives finding jobs to make up for their husbands' loss of real income and, ultimately, a reduction in fertility.

The testing of the validity of the economic squeeze theory against the Canadian experience, challenging as it may be as a research endeavour, is beyond the scope of this study. Instead, as indicated at the outset of this section, a look at leading indicators will hopefully shed some light on the economic environment of the current low ferility cycle in Canada. Those deemed to be most revealing in this regard are the relative income of young people, unemployment, the Consumer Price Index, the cost of housing and female labour force participation.

Table 4.4, based on data from the last three decennial censuses, shows that the per capita income of males under 25 compared to that of all ages fell from

[102] Kirk, Dudley, The Influence of Business Cycles on Marriage and Birth Rates, *Demographic and Economic Change in Developed Countries*, National Bureau of Economic Research, New York, Princeton University Press, Princeton, N.J. 1960.

[103] Oppenheimer, Valerie K., *Work and the Family: A Study in Social Demography*, Academic Press, Harcourt Brace Javanovich, 1980.

49.3% in 1960 to 45.8% in 1980 and that of females of the same age fell from 88.1% to 66.7%. Families, whose head was under age 25, have seen their relative income drop from 72.9% to 64.9% over the same period. The income of those under 25, relative to that of 45 to 54 year olds, has diminished from 39.6% to 33.8%. The comparison between these two age groups gives some idea of the shift in the economic position of sons relative to that of their fathers over the period under consideration. It follows that the relative economic position of young people has deteriorated in a psychological climate of ever-growing aspirations for higher living standards.

TABLE 4.4 The Ratio of Income of Individuals in Specific Age Groups to The Average Income of All Ages

	Male			Female		
	1960	1970	1980	1960	1970	1980
< 25	49.3	46.7	45.8	88.1	79.9	66.7
25 - 34	106.9	111.5	106.8	115.9	119.9	119.1
35 - 44	127.1	134.3	136.1	112.9	115.0	122.4
45 - 54	124.5	130.7	135.5	116.2	118.1	118.8
55 - 64	109.9	110.4	116.9	105.8	110.4	100.4
65 +	61.3	62.0	67.8	72.7	76.8	83.6
$\frac{< 25}{45 - 54}$	39.6	35.7	33.8	75.8	67.6	56.2
Total $	**3,999**	**6,538**	**16,918**	**1,651**	**2,883**	**8,414**

Source: Statistics Canada, *1961 Census,* Catalogue 98-501.
Statistics Canada, *1971 Census,* Catalogue 94-760.
Statistics Canada, *1981 Census,* Catalogue 92-928.

TABLE 4.5 The Ratio of Income of Families in Specific Age Groups to the Average Income of All Ages

Age of head	1960	1970	1980
< 25	72.9	71.1	64.9
25 - 34	92.1	94.3	92.1
35 - 44	106.6	108.1	110.0
45 - 54	117.0	118.6	123.1
55 - 64	108.2	105.1	106.7
65 +	74.3	71.6	72.2
$\frac{< 25}{45 - 54}$	62.3	59.9	52.7
Total $	**5,449**	**9,600**	**26,748**

Source: Statistics Canada, *1961 Census,* Catalogue 98-504.
Statistics Canada, *1971 Census,* Catalogue 93-725.
Statistics Canada, *1981 Census,* Catalogue 92-936.

Figure 4.3 reveals the unemployment rate super-imposed on the total fertility rate.[104] The expected inverse relationship between the unemployment rate and total fertility stands out more clearly at the tail ends of the curve: the 1930s depression and low fertility cycles roughly coincide as do the periods of rising unemployment and declining fertility from 1965 onward. During the baby-boom period, the unemployment rate remained fairly low and the small fluctuations could hardly be expected to affect fertility in any perceptible way. Two departures from the prevailing patterns during this period were a sharp escalation of the unemployment of young males around 1957 and a downturn in the fertility rate in 1959. But while unemployment subsided between approximately 1960 and 1965, fertility continued its downward course.

Since 1970 inflation has stepped up dramatically (Figure 4.4). The Consumer Price Index increased by an average annual rate of 1.2% during the 1950s and by 2.5% during the 1960s. In the last decade it jumped as high as 12.6%. Inflation has been particularly hard on those in the early stages of family formation who have had to make costly capital investments in housing. The cost of home ownership skyrocketed during the 1970s at an average annual rate of 11.6% as against 2.5% and 1.6% in the two previous decades.[105]

Last but not least revealing is the labour force participation rate of young women 20 to 30 years old (Figure 4.5). From 1960 to 1980, this rate went up while at the same time the fertility rate went down.

In conclusion, the decline in fertility has taken place, at least partly, over a period of high youth unemployment, rising inflation, spiralling housing costs, deteriorating relative income of young adults and a sharp rise in the labour force participation of young women. It is not possible to tell the extent to which these economic events have influenced the nation's procreative behaviour. They are, none the less indicative of the economic climate in which childbearing decisions have had to be made.

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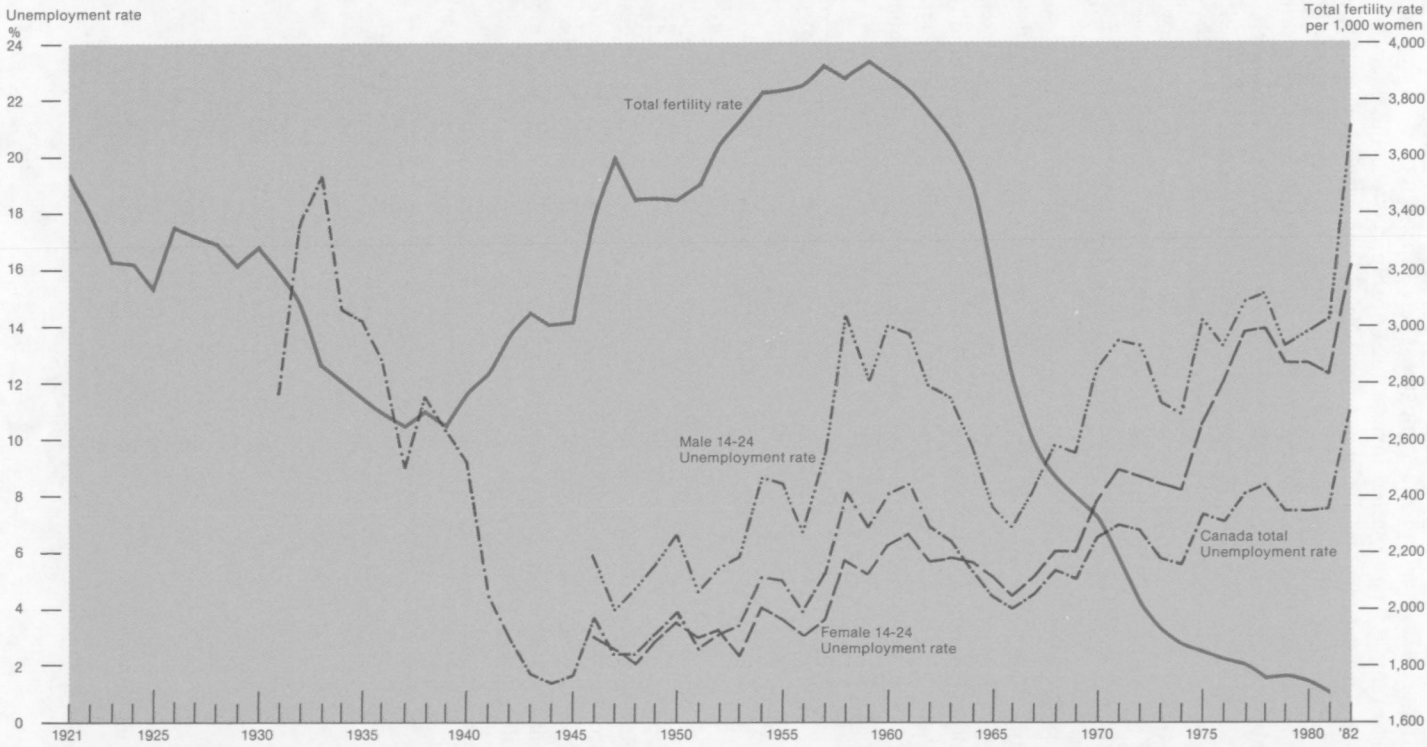
[104] In comparing the two curves it should be borne in mind that if unemployment has any effect on the procreative behaviour, this effect would more likely occur not instantaneously but a year or so later when individuals have had a better chance to appraise their employment prospects.

[105] Even though the percentage of owned dwellings by young householders has declined only slightly between the 1976 and 1981 censuses, the process of acquiring a home has probably caused considerable sacrifice to families and made it necessary for wives and mothers of small children to enter the labour force.

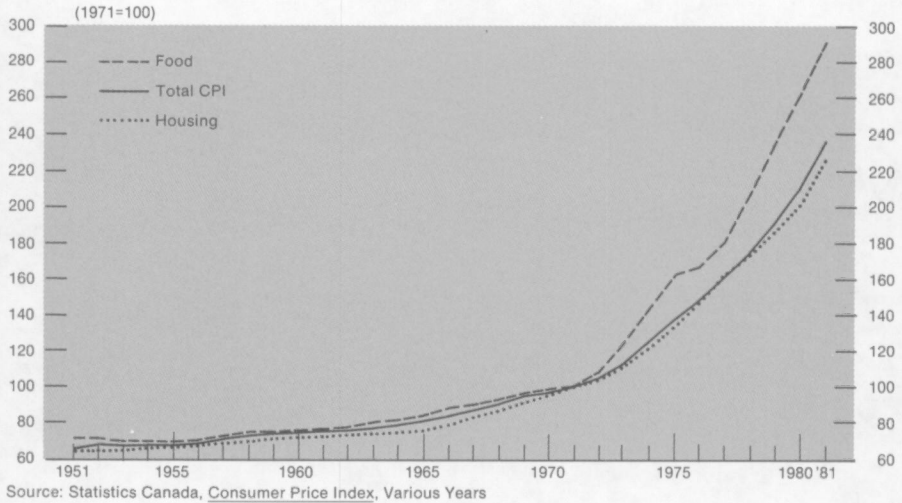
Figure 4.3

Unemployment Rate and Total Fertility Rate, Canada, 1921-1982



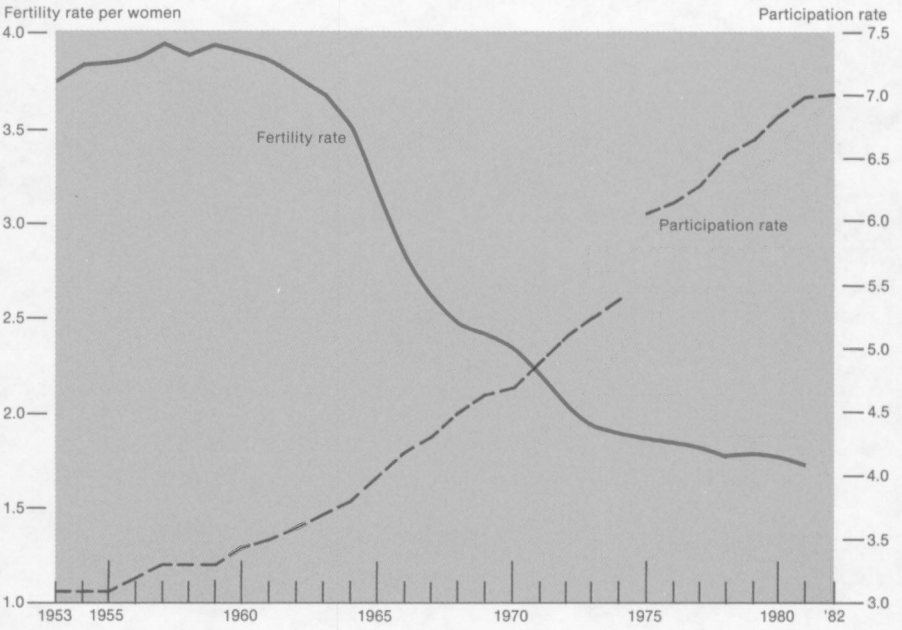
Source: Derived from Labour Force Survey, and Appendix Table 1.1

Figure 4.4
Consumer Price Index, Canada, 1951-1981



Source: Statistics Canada, Consumer Price Index, Various Years

Figure 4.5
Total Fertility Rate and Labour Force Participation Rate of Women Aged 20-30, Canada, 1953-1982



Note: The Participation Rate series breaks in 1975, the year in which major revisions were made to the Labour Force Survey
Source: Appendix Table 1.1 and Statistics Canada, Labour Force Survey

V. LOOKING AHEAD: THE FUTURE COURSE OF FERTILITY

The future course of fertility continues to be a subject of considerable speculation among social scientists and population forecasters. Much of the debate centres on the direction that fertility rates will take. Will they continue to slide? Will they stabilize or climb again, adding yet another cycle to what appears to be a succession of periodical swings in fertility?

Three major schools of thought have arisen over these debates. One, which abides by a sociological interpretation, argues that the present low ebb in human reproduction is the result of certain inexorable forces operating in modern society. The other two believe fertility fluctuates in a cyclical manner, but position themselves on opposite sides in their view as to what causes these cycles to occur. This chapter presents the salient features of each of these three schools of thought - referred to here as the **sociological, cyclical** and **countercyclical** schools.

The Sociological School: Continuing Low Fertility

The proponents of the sociological school argue that subject to possible fluctuations generated by the changing fortune of the state of the economy, the current low levels of fertility are here to stay. Unlike the post-war baby-boom which, viewed from an historical perspective, appears to be an anomaly, the current low stands out as a continuation of the secular decline in fertility and can be explained by a host of factors at work in modern society. The following quote from Westoff, one of the leading proponents of the sociological school, captures the essence of its thinking:

> Frequently (and inadequately) summarized by the term "modernization", these include the erosion of traditional and religious authority, which promoted self-determination and relaxed sexual inhibitions, the growth of individualism, urbanization, the rise of mass education, the increasing equality and independence of women and (as Degler, 1980, argues) 'women's growing awareness of their self-interest', and the ideology of consumerism. Such social changes, when combined with modern contraceptive technology, in some instances with delayed marriage, and, more recently, with legalized abortion, make very low fertility quite comprehensible. The important consideration for the prediction that fertility will remain low is that none of these changes, with the possible exception of legal abortion, seems likely to be reversed, and at least one radical change - the growing independence of women - has not yet run its full course.[106]

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[106] Westoff, C.F., Fertility Decline in the West: Causes and Prospects, *Population and Development Review*, Vol. 9, No. 1, March 1983, p. 101.

The Cyclical Fluctuation of Fertility: Easterlin's Hypothesis

According to Easterlin, the leading proponent of the cyclical school, we should expect another baby-boom in the not too distant future, as generations born during the recent years of low fertility enter childbearing ages.[107] The underlying argument is straightforward. If people of prime working age are in relatively short supply, their wages, employment conditions and upward mobility improve, and this in turn stimulates marriages and births. But, if there is a surplus of young workers, competition becomes tougher, the actual standard of living falls below the one they aspire to and they become more hesitant about marriage and having children. Furthermore, if the husbands' earning power diminishes, wives will enter the labour force in greater numbers to supplement the family income and this will tend to depress fertility.

Implicit in this theory is the notion of an autoregulatory process whereby large cohorts give birth to small cohorts, which in turn give birth to large cohorts, thus generating a succession of low and high cycles or waves of fertility. The mediating variables in this chain of events are the aspirations for a certain standard of living, and the affordability in terms of income in meeting these aspirations. According to Easterlin, our aspirations are formed during adolescence, in our parents' home. Yet, the amount of income which is later available to realize these aspirations depends to some extent on the size of the generation into which people happen to be born. When the baby-bust generations reach adulthood, they will face a different opportunity structure than did the baby-boomers. Because of their relatively smaller numbers, they are likely to find themselves in a less competitive world, with greater job opportunities. A key concept in the Easterlin model is the relative economic status as measured by the current income and employment levels of young workers relative to older workers. The fertility rate is supposed to be positively related to the level of relative economic status of young males.

Data for the United States seem to corroborate the theory. There is, indeed, a close association between the total fertility rate and the young male's relative employment and income status (See Figures 5.1, 5.2 and 5.2(a)). There is also a remarkably close association between the total fertility rate and the ratio of young workers to older workers as a measure of the relative size of successive cohorts, for both the United States and Canada. On the basis of this relationship, it is tempting to project a reversal in fertility trends as the baby-bust cohorts of the 1960s and 1970s reach working age in the late 1980s or early 1990s.

The cyclical theory, as enunciated by Easterlin, has been criticized primarily on two grounds. One is that the theory is based on only a small sample of historical cycles and that testing done for other countries has not produced as good a "fit" as it has for the United States and Canada. The other main

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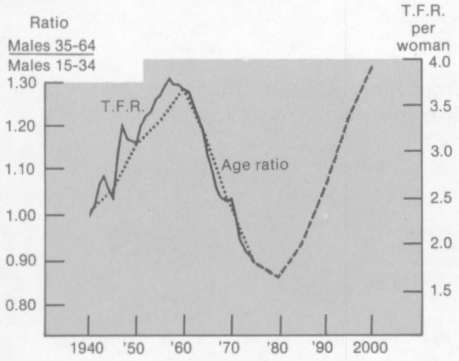
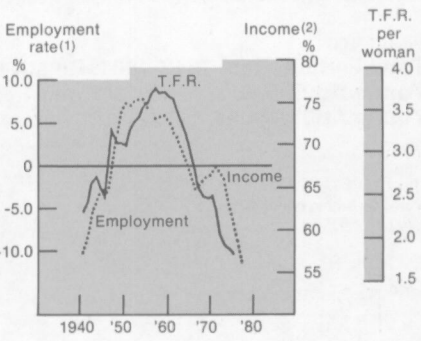
[107] Easterlin, R.A., What Will 1984 Be Like? Socioeconomic Implications of Recent Trends in Age Structure, *Demography*, Vol. 15, No. 4, November 1978.
Easterlin, R.A., The Conflict Between Aspirations and Resources, *Population and Development Review*, Vol. 2, Nos. 3 and 4, September/December 1976.

Figure 5.1
Total Fertility Rate, 1940-1975 and Actual and Projected Relative Number of Young Adult Males, 1940-1990, U.S.A.



Source: Adapted from Easterlin, R.A., The Conflict Between Aspirations and Resources, Population and Development Review, Vol. 2, No. 3-4, Sept./Dec., 1976

Figure 5.2
Total Fertility Rate, 1940-1975, Relative Employment Experience of Young Adult Males, 1940-1955 and Relative Income Experience of Young Adult Males, 1957-1977, U.S.A.



(1) Employment rate less that in family of orientation, 1940-1955
(2) Income as percentage of that in family orientation, 1957-1977

ground for criticism is the limited and mechanical role which the model assigns to women, who are viewed as either working or having children in response to men's economic opportunities.[108] As wives become more independent of their husbands' economic status, the relevance of the theory, at least on this score, becomes increasingly questionable.

The Countercyclical Argument

The countercyclical theory draws a distinction between male and female wages and views child care as primarily the mother's responsibility. As in Easterlin's thesis, an increase in the wages paid to males is assumed to have a stimulating effect on procreation. But, in contrast, an increase in the female wage rate will mean greater financial sacrifice should the couple decide to have children. Butz and Ward, who first advanced this theory, argue that:

> An increase in the husband's market wage raises family income and, if the husband's time is not an important input into the 'production' of child services, leads to a higher demand for children. An increase in the wage of an employed woman also adds to the family income, but it simultaneously increases the price of children since the opportunity cost of childbearing and rearing rises at the same time.[109]

A reduction both in the employment of women and in their wages would eventually induce females to return to their more traditional role as childbearers. Thus, fertility moves in a countercyclical direction to female employment and wage trends. Butz and Ward write:

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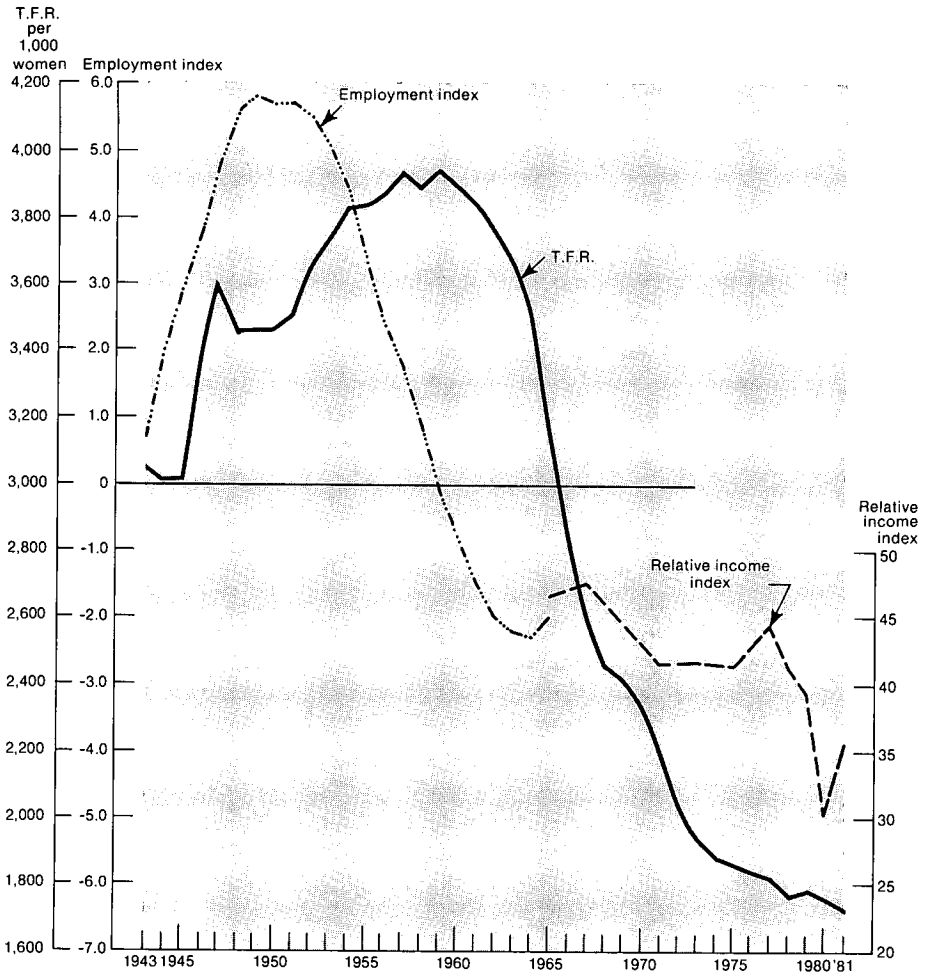
[108] Westoff, C.F., *loc. cit.*
[109] Butz, W.P. and M.P. Ward, The Emergence of Countercyclical U.S. Fertility, *American Economic Review*, Vol. 69, No. 3, June 1979, pp. 318-319.

Good times economically are the most expensive time to have children for women who are employed or on the margin of becoming employed. The larger the proportion of such women in the population, the greater the likelihood that good times will be associated with low-fertility rates for the whole population.[110]

Figure 5.2 (a)

Total Fertility Rate 1943-1981, Relative Employment Experience of Young Adult Males, 1943-1965 and Relative Income Experience of Young Adult Males, 1965-1981, Canada

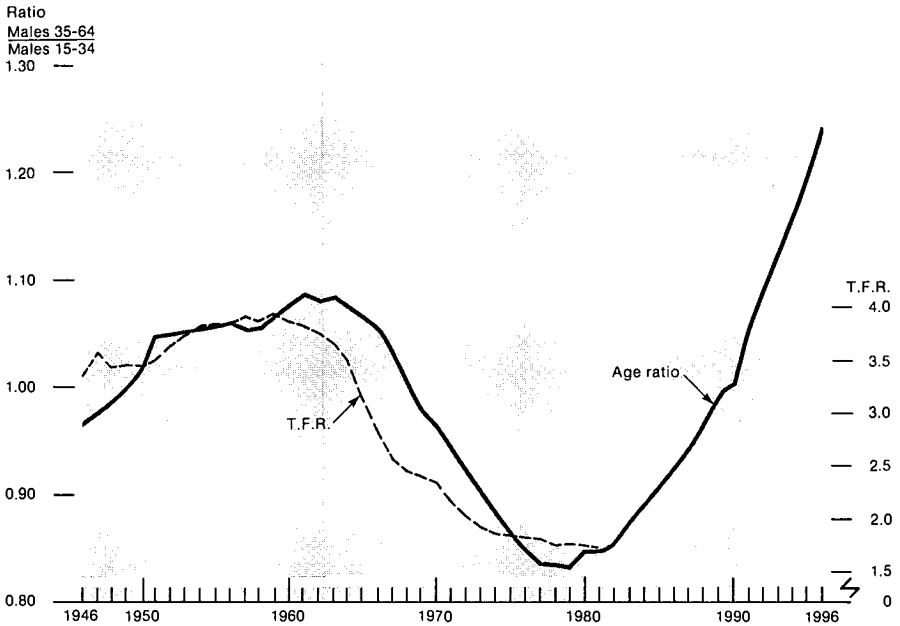


Source: Statistics Canada, Vital Statistics, Cat. No. 84-204, Annual
Statistics Canada, The Labour Force, Cat. No. 71-001, Annual
Statistics Canada, Income Distribution by Size in Canada, Cat. No. 13-207, Annual
Historical Statistics of Canada M.C. Urquhart and K.A.H. Buckley (eds.), MacMillan, Toronto 1965, p. 61

Finally, according to them, since the female employment ratio is likely to continue its secular increase, and the wages of women are likely to rise as long as the economy expands, the current low fertility is also likely to persist.

110 Butz, W.P. and M.P. Ward, *ibid.*, p. 321.

Figure 5.3
Total Fertility Rate, 1946-1980 and Actual (1946-1981) and Projected (1982-1996) Relative Number of Young Adults, Canada



Source: Appendix Table 1.1 and Population Projections for Canada and the Provinces, Projection No. 3, Cat. No. 91-520, Occasional

The testing of the countercyclical hypothesis against the empirical data for Canada has produced inconclusive results.[111] Nonetheless, its underlying arguments provide an interesting insight into the relationship between business cycles and the propensity to have children. In recognizing women's role as economic agents in their own right rather than as dependents, the model is probably more germane to present day reality characterized by rising levels of female employment. Whereas, according to Butz and Ward, the baby-boom of the 1950s can be explained as a response to rising male income, the baby-bust of the 1960s can be viewed as being primarily due to increases in female income.

Inferences and a Word of Caution

We can now single out some of the factors that are likely to influence procreative behaviour in the years to come.

First, female labour force participation appears to be a potent factor in shaping procreative behaviour. If anything, it is likely to escalate because of the dynamics of social change surrounding the role of women in our society. The actual rate at which females can enter the work force will largely depend on

[111] Ram, B. and J.A. Norland, *A Research Note on the Application of the Butz/Ward Fertility Model to Canadian Data*, Statistics Canada, November 1982.

the state of the economy. If the argument advanced by Butz and Ward is valid, then one would expect this rate to increase substantially in an expanding economy. But, even if the economy remains sluggish, and job opportunities expand slowly, both the employment aspirations of women and the rising life style expectations of our society at large should exert enough pressure on women to enter the work force in greater numbers. In either case, most observers expect the rate of female participation in the labour force to increase in the years to come. The Federal Department of Finance has projected that by the turn of the century, 65% to 70% of women aged 20 and over will be part of the work force, as compared with the current rate of 50%.[112] The employment of women has tended to depress fertility in the past and could do so in the future although the relationship between the two seems to have weakened somewhat in light of the most recent evidence.

Second, there are those factors that relate to marriage. Not only have nuptiality rates declined and marriages been postponed, but probably a greater proportion of individuals than in the past, despite a greater incidence of common-law unions, will remain permanently single. These tendencies combined with a relatively high divorce rate are expected to exert a depressing influence on the fertility rate.

Third, the size of the generations is potentially a significant determinant of the procreative behaviour of its members. Hence, an upward cycle of fertility could be expected as the relatively small baby-bust cohorts reach working age. Because of their smaller numbers, these cohorts will find themselves in a less competitive environment than their baby-boom predecessors; they may be better off economically and consequently more inclined to form families.

Fourth, there are indications that the economy is picking up and that an economic revival is in sight.[113] Those who refrained from marrying and having children because of economic uncertainties may now be more inclined to do so.

Fifth, it is possible that, quite apart from the prospective improvements of the economy, some couples will feel that the time has come to have children. It has already been argued that the current baby-bust has been caused to some extent by the widespread postponement of births. While some postponers will probably forgo childbearing, others may feel that time is running out and decide, after all, to have children. Were this to happen, an upward swing in fertility may be in the offing.

Finally, if institutional solutions could be found to ease the pressure on women arising from the dual pursuit of motherhood and employment, their involvement in the labour force could become less of an impediment to childbearing.

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[112] Department of Finance, *Participation Rate and Labour Force Growth in Canada*, April 1980.

[113] The Conference Board of Canada, *Quarterly Canadian Forecast*, Vol. 10, various issues.

These are some of the factors that will probably shape the course of fertility over the coming years. Yet, how these various factors will actually interact and what changes or trends they will produce remains an open question. The procreative behaviour of any society is part of a very complex process. It cannot be reduced purely to a function of the size of the generation or the rate of female labour force participation. As one set of fertility trend-producing factors tends to phase out, the changing reality of the social fabric brings in new factors that cannot be accurately predicted on the basis of present knowledge. Nor can the motivations for having or not having children be reduced to economic calculus alone. We like to believe that our decisions are based on logic; yet frequently the projects to which we choose to apply our analytical minds owe their existence to emotional rather than rational antecedents. Procreative behaviour may be more a matter of *mores* than of economics.

The following quote from Nathan Keyfitz, a scholar who has given a great deal of thought to the theory of population forecasting, captures the essence of the difficulties the forecaster is faced with:

> What makes forecasting genuinely difficult is the operation of mechanisms that are competing below the surface of demographic phenomena. I do not refer to the competition of opposed academic theories, which we also have, but to a genuine, albeit hidden, operation of different and opposed causes, with sometimes one cause emerging to the surface, sometimes another.[114]

Probably, all that can be said in the way of a scenario for the future is that the prevailing regime among industrialized nations will be one of a low and unstable fertility. Swings in fertility rates appear to be characteristic of modern society, and various signs indicate that these swings will operate within a lowered incidence of childbearing. The next chapter looks at the impact of variations within a fairly narrow range of fertility.

114 Keyfitz, Nathan, Can Knowledge Improve Forecasts?, *Population and Development Review*, Vol. 8, No. 4, December 1982, p. 739.

VI. IMPLICATIONS: THE FERTILITY CHAIN REACTIONS

In this chapter, the implications of low fertility as it relates to the dynamics of population growth and age structure, to family formation and to immigration are explored, by means of a population growth model. It should be stressed that this is an exercise in simulation and not in forecasting. The period covered, up to 2050, is far too long for any forecasting. The intent is rather to depict the far-reaching demographic consequences of a set of assumed rates of fertility.

The socio-economic reverberations of thus engendered demographic changes are manifold. They range from public expenditures for old age services and youth education to consumption and voting patterns associated with age.[115]

The Population Growth Model and Its Underlying Assumptions

For the population growth model, four hypothetical fertility rates consistent with the fertility theories outlined in the preceding chapter, are presented as a range of future scenarios.

Assumption 1

A total fertility rate of 1.5 births per woman. This rate, below the replacement level, ultimately implies a rapidly declining and aging population.

Assumption 2

A total fertility rate of 2.1 births per woman. Under the prevailing mortality conditions, this is a near replacement rate, which would in the long run lead to a stationary population, that is a no growth population.

Assumption 3

A total fertility rate of 2.5 births per woman. This is a rate which allows the population to grow moderately. It implies a relatively young age structure.

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115 The reader interested in these topics may consult:
Foot, D., Canada's Population Outlook: Demographic Futures and Economic Challenges, *The Canadian Institute for Economic Policy Series*, Toronto 1982.
- *A Challenge of the 1980s: Unemployment and Labour Force Growth in Canada and the Provinces*, A report prepared for the House of Commons Parliamentary Task Force on Unemployment Opportunities in the 1980s, Institute for Policy Analysis, University of Toronto, Toronto, March 1981.
- *The Demographic Future of Fiscal Federalism in Canada*, Working Paper Series, Department of Economics and Institute for Policy Analysis, University of Toronto, Toronto, March 1984.
Gauthier, H., *Effets économiques du ralentissement de la croissance de la population au Québec*, Québec, O.P.D.Q., 1980, p. 187.
Lux, A., Un Québec qui vieillit, perspectives pour le XXIe siècle, *Recherche sociographique*, Vol. 24, No. 3, 1983, pp. 325-377.
McDonald, Linda J., *Changing Population and the Impact on Government Age-Specific Expenditures*, Ottawa, mimeo, 1978.
Secrétariat au développement social, Ministère du conseil exécutif, *L'évolution de la population du Québec et ses conséquences*, Government of Quebec, February 1984.

Assumption 4

A cyclical fluctuation of fertility with a minimum of 1.5 and a maximum of 2.5 births per woman and a cycle length of 13, 26 or 52 years.

TABLE 6.1 Specifications of the Parameters of the Population Growth Model

Type of population growth	Total fertility rate	Mean age of fertility	Modal age of fertility	Expectation of life at birth for both sexes	International migration
1. Declining population	1.5	26.8	25.5	74.25	Nil
2. Stationary population	2.1	26.8	25.5	74.25	Nil
3. Moderate population growth	2.5	26.8	25.5	74.25	Nil
4. Cyclical population growth with 13, 26 and 52 year-long periodicity	1.5 to 2.5	26.8	25.5	74.25	Nil

The first three assumptions imply a linear trajectory whereby the total fertility rate gradually reaches the specified values from its current rate of 1.7 births per woman by 1991 and remains constant thereafter. The rates assumed here fall within the range of recent reproductive experience in many industrialized countries. The lower boundary (1.5) approximates the current rate in such countries as Denmark and the Federal Republic of Germany, whereas the upper boundary (2.5) reflects the recent rise in fertility in some Eastern European countries.

The age pattern of fertility is described by means of two parameters: the mean age and modal age of fertility. These measures permit the conversion of the total fertility rate into single year age-specific fertility rates required to calculate the annual number of births as input to the simulation of the future population by age.[116] The mean and modal ages, set at 26.8 and 25.5 years respectively, roughly reflect the contemporary Canadian women's age pattern of childbearing. The effect of changes in the age pattern of fertility on birth number is relatively small, and for this reason no alternative values of the mean and modal ages are postulated.

The model assumes no changes in the current mortality. Although further gains in the longevity of Canadians are possible, this in itself would affect only marginally the growth and the age structure of the population.[117] Finally, in order to demonstrate the demographic consequences of fertility, international migration is assumed to be nil.

[116] Romaniuk, A., A Three Parameter Model for Birth Projections, *Population Studies*, Vol. XXVII, No. 3, November 1973.

[117] For reasons why this is so, see Introductory section.

The cyclical vision of the movement of fertility embodied in the fourth assumption rests on the Easterlin hypothesis of a self-generating succession of high and low cycles of fertility. The cycle's minimum and maximum are set at 1.5 and 2.5 births per woman, whereas the time spans between the two consecutive high (or low) points are set at 13, 26 and 52 years respectively. The rationalization of the cycle spanning over 52 years rests on the observation that the mean length of a reproductive generation is about 26 years and on the assumption that a shift in the reproductive habits occurs every time the younger generation replaces the older in the childbearing process. This intuitive perception of the renewal process finds its empirical support in the contemporary demographic experience of North America when fertility rates went up from a low point in 1933, to a post-war baby-boom high in 1959: a period of 26 years. Were the descending phase to last as long, the duration of the full cycle would be 52 years. The shorter, 26- and 13-year cycles have been selected in recognition of the more volatile procreative environment of highly industrialized societies, with their rapidly changing life styles and economic fortunes.

Population Growth

During the post-war baby-boom, the Canadian rate of natural growth, that is, the rate based solely on the tally of births and deaths, stood at 2% per annum. In recent years it has fallen and is presently at 0.8%. Should the current sub-replacement fertility rate persist, the rate of natural increase will subside further and the population will eventually begin to diminish by the turn of the century.

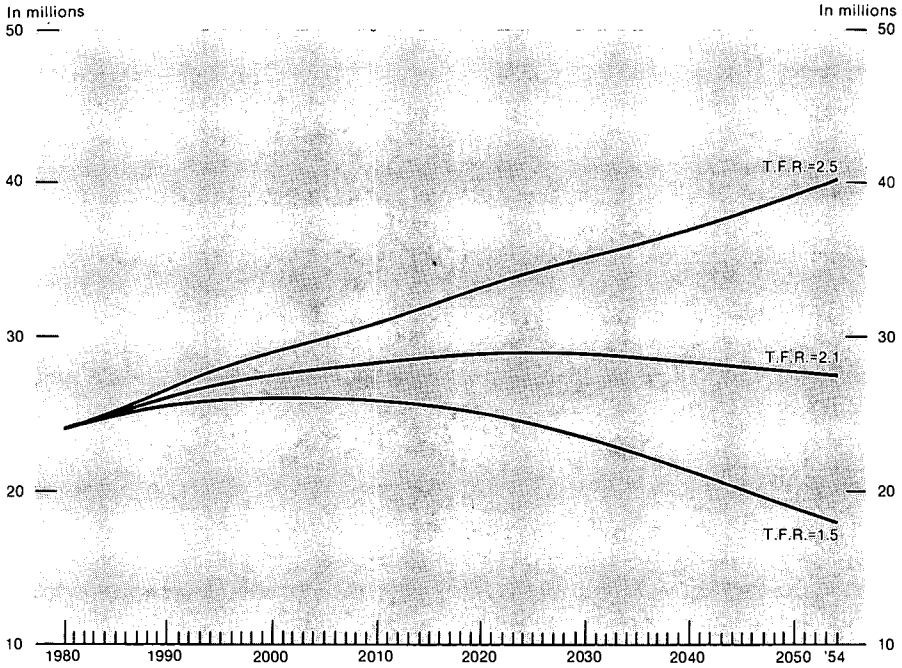
The Canadian population will grow at a moderate pace for the balance of this century, in the event of continuation of the current fertility rate and the absence of immigration, because it will comprise a large enough proportion of females of childbearing age to more than compensate for declining fertility. Even with a rate gradually dropping to 1.5 births, the population will continue to expand until the end of the century, when it will have reached a total of 26 million. But as the age distribution adjusts itself to the prevailing fertility level and the growth momentum fades away, the population, experiencing a sub-replacement fertility level, will undergo a gradual process of attrition.

These simulations illustrate how sensitive demographic growth is to changes in fertility levels. In the long run, even a small difference in childbearing performance results in populations of quite substantial size differences. If we assume, (as of 1991) a total fertility rate of 1.5, Canada's population would reach 26 million by the turn of the century. If we assume a rate of 2.5, the population would grow to 29 million over the same period. By the middle of the next century, under these two fertility assumptions, the population would stand at 18 million and 40 million respectively (Figure 6.1 and Appendix Table 6.1).

A no-growth situation would emerge assuming a stabilization of fertility at replacement level (2.1), but not before 2025. By that time, Canada would have 29 million inhabitants.

Figure 6.1

Canada Total Population as Simulated Under Three Specified Assumptions of Total Fertility for Women, 1980-2054



Source: Statistics Canada, Demography Division, Special Projections

Shifts in the Age Structure

It is a well-established fact that the age structure of the population is very sensitive to variations in fertility levels. This shows up very clearly in the simulation exercise. A shift in the total fertility rate from its current level to 2.5, 2.1 or 1.5 births will ultimately entail an age distribution with a mean of 35, 40 and 46 years, respectively (Appendix Table 6.2). Currently the mean age of the Canadian population is about 33 years.

The persistence of a fertility rate of 1.5 would bring about a dramatic shift in the age structure of the population. The proportion of children under 15 would ultimately drop from the current 23% to 13%, whereas the proportion of the elderly, over 65, would increase from the current 10% to 26%. There would be twice as many seniors as children. If the fertility rate is at the replacement level, there would ultimately be about as many senior citizens as children. If, on the other hand, the fertility rate settled at the level of 2.5 births per woman, the age structure would present features of a relatively young population; here children under 15 would exceed adults over 65 by about 1.8 times.[118]

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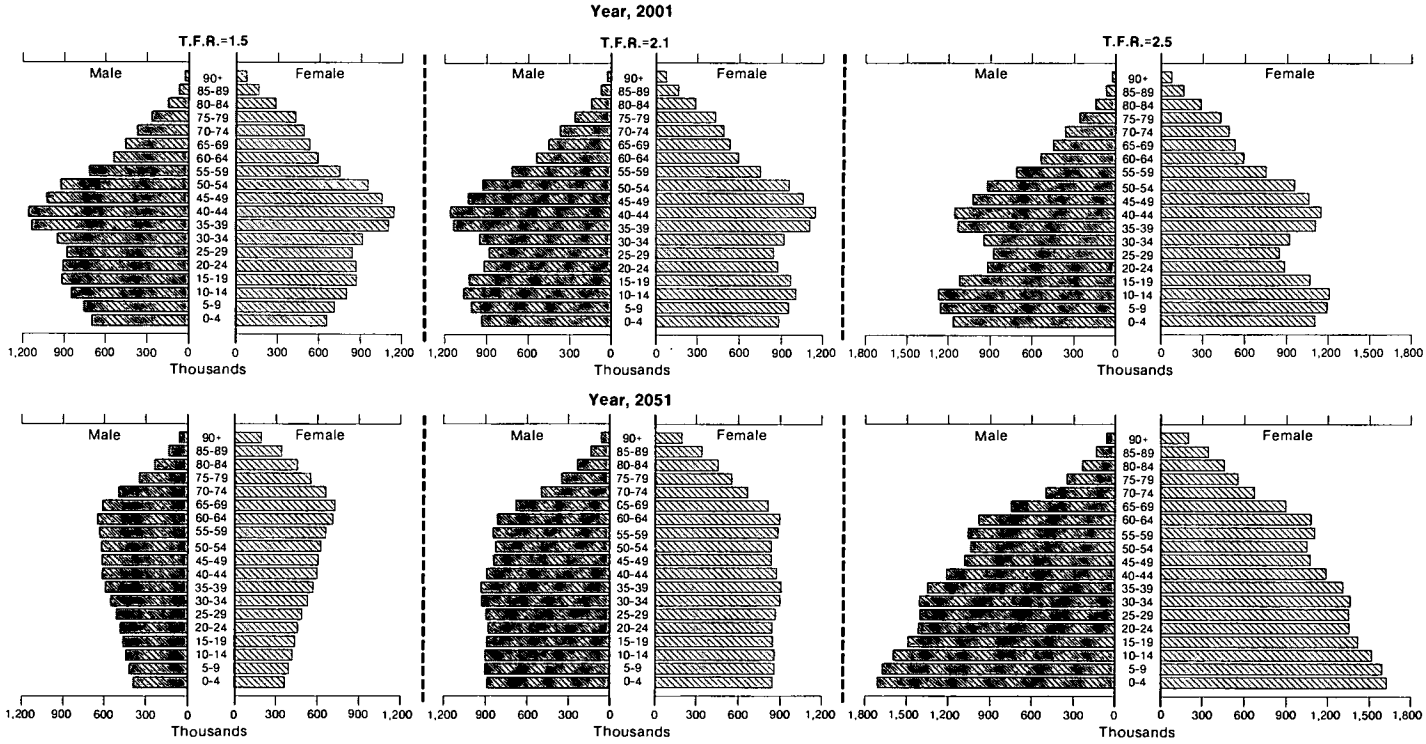
118 Age structures are portrayed in Figure 6.2 and a finer breakdown of functional age groupings is shown in Appendix Tables 6.3 (a-d).

Figure 6.2

Pyramid of Age as Simulated Under Specified Assumptions of Total Fertility Rate, Canada, 2001 and 2051

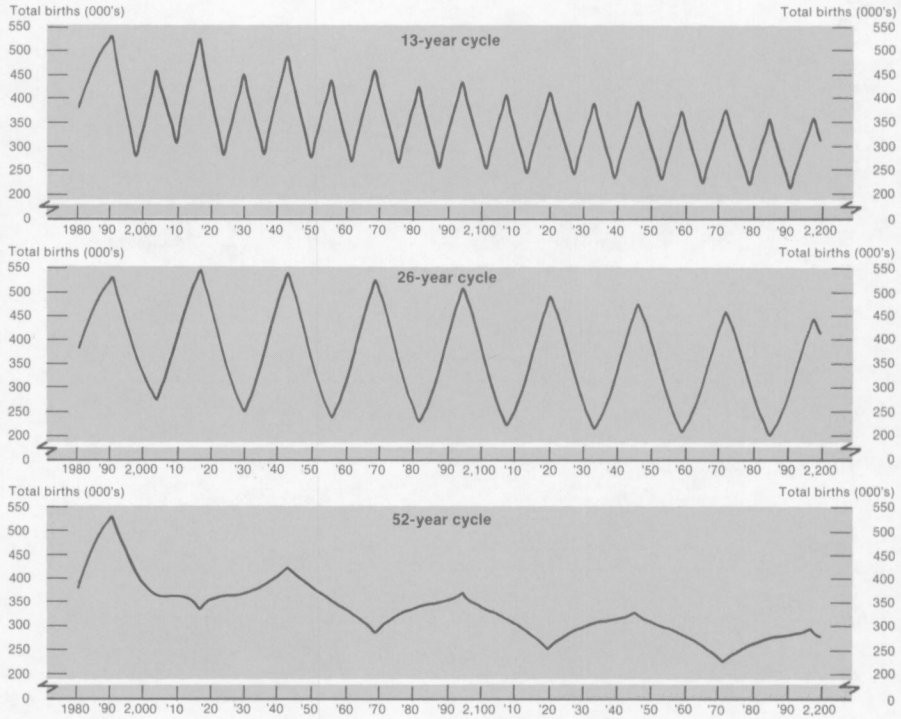


Source: Demography Division, Statistics Canada, Special Projections

The Destabilizing Effects of Cyclical Fertility

Much has been made throughout this study of the fact that fertility, in the last few decades, has oscillated in a cyclical fashion and that it could still do so in the future. Several simulations have been run to illustrate the kind of cyclical effects on the population growth and age structure. Before presenting them, a general comment would be in order. The variation in the number of births, and by implication the growth rate and age structure of the population, will depend basically on three elements: first, the amplitude, the level of ups and downs of the cycle; second, its duration; and third, the age-pattern of fertility. If, for example, childbearing tends to concentrate in a fairly narrow portion of the reproductive span, and if the periodicity of fertility cycles is 26 years, that is about equal to the mean age at which mothers give birth to their children, then the amplitude of the varying streams of births will be greater than when the fertility cycles are much shorter or much longer.[119] This is so because women born at a time of higher fertility will become eligible for motherhood at a time coinciding with the higher part of the next fertility cycle. The oposite is true for those born during the lower fertility cycle.

Figure 6.3
Number of Births Assuming the Length of the Cycle to be 13, 26 and 52 Years

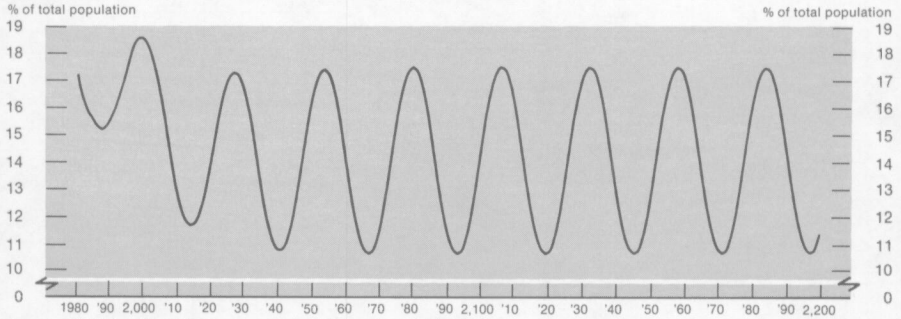


Source: Statistics Canada, Demography Division, Special Projections

119 Lesthaeghe, R., M. Despontin, H.J. Page and S. Wyewickrima, Oscillating Fertility, Amplifying and Dampening Mechanisms, *Economic and Demographic Change: Issues for the 1980s*, International Union for the Scientific Study of Population Conference, Helsinki 1978.

Figure 6.4

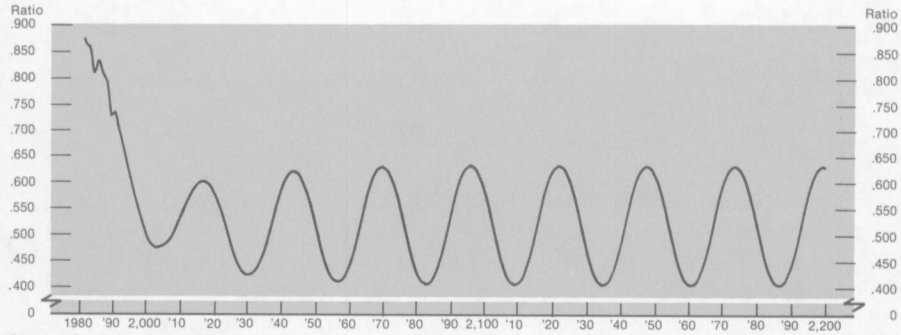
Primary and Secondary School Population (6-16 years old) Assuming the Length of the Cycle to be 26 Years



Source: Statistics Canada, Demography Division, Special Projections

Figure 6.5

Ratio of Younger Workers (20-34) to Older Workers (35-64) Assuming a Cycle of 26 Years



Source: Statistics Canada, Demography Division, Special Projections

The foregoing is demonstrated in Figures 6.3 to 6.5 and Tables 6.2(a) and 6.2(b). The sinusoidal shape of the time series of the rate and number of births in Figure 6.4 is almost a perfect replica of the fertility cycles, yet the amplitude varies with periodicity of the cycle: the widest in the 26-year, the smallest in the 52-year and intermediate in the 13-year periodicity. These "echo" effects of the fertility swings are not limited to births alone, they are mirrored to a greater or lesser degree in other population parameters: population size, death rate, rate of natural increase and obviously the age structure of the population. The degree to which a particular age class reflects the swings of the birth rate depends, as one would expect, on the size of the age class. The broader the age class and the shorter the periodicity of the fertility cycle, the greater the dampening effect on the age class of a given size will be. Consider children under the age of 15 who, of course, form 15 successive annual birth cohorts. Some of them may be born during the high tide, others during the low tide of fertility. Tables 6.2(a) and 6.2(b) show the maximum and minimum values of a few selected population parameters associated with the length of the fertility.

TABLE 6.2(a) Maximum and Minimum Values For Selected Parameters and Ratios of Maximum to Minimum Values Under Specified Periodicity of Fertility Cycles[1]

Selected parameters		Length of cycle (in years)		
		13	26	52
Annual number of births	maximum	418,000	490,000	330,000
	minimum	249,000	223,000	256,000
	ratio maximum/minimum	1.68	2.20	1.29
Birth rate (per 1,000)	maximum	15.73	18.09	14.06
	minimum	9.39	8.10	10.18
	ratio maximum/minimum	1.68	2.23	1.38
Death rate (per 1,000)	maximum	14.68	14.44	15.23
	minimum	14.33	14.12	14.17
	ratio maximum/minimum	1.02	1.02	1.07
Rate of Natural increase	maximum	1.05	3.88	−0.17
	minimum	−5.01	−6.18	−4.94
Proportion of population aged 0 - 14 years	maximum	19.34	22.22	20.01
	minimum	18.26	15.91	16.79
	ratio maximum/minimum	1.06	1.40	1.19
Total population	**2001**	**28,025,074**	**28,324,666**	**28,747,197**
	2051	**29,065,401**	**29,930,290**	**29,219,091**

[1] The values in this table are averages over the period of approximately 2050 to 2150 when the population reaches more or less stable cyclical patterns.

Source: Statistics Canada, Demography Division, Population Projections Section.

The message implicit in this simulation exercise is that cyclical swings in fertility rates cause commensurate shifts in the age structure and population growth rate. These shifts in turn, by causing waves of expansion and contraction, have destabilizing effects on the labour market, housing, old age security and even the gross national product. Generally speaking, the more age-specific an activity is, the greater the destabilizing effect will be.

Consider education. With a fixed age of entry, the number of children entering the first grade of primary school will vary in accordance with the cycle of fertility. If the length of the fertility cycle is 26 years, the ratio between high and low points of the cycle in the proportion of children six to 16, the usual ages of compulsory school attendance, is equal to about 1.6 (Table 6.2 (b)). Such a variation in the size of school population is bound to affect the student-teacher ratio and to overload the available facilities during the high tides while leaving them largely unused during the low tides.

In an era characterized by rapid change typical of highly industrialized societies, demographically-induced instability adds a new dimension to the problems of planning and management of national activities. The post-war period was dominated by the baby-boom phenomenon, a booming economy and a demographically-driven expansion of the education system. Since the mid-1960s, the baby-bust phenomenon, with its upsetting effect on the nation's school system, became very much part of the country's demographic

TABLE 6.2(b) Maximum and Minimum Values For Selected Age Groups, as Percentages of the Total Population, Under Specified Periodicity of Fertility Cycles[1]

Age groups		Length of cycle (in years)		
		13	26	52
0 - 5 years	maximum	8.5	10.0	8.2
	minimum	6.5	5.6	6.6
	ratio maximum/minimum	1.31	1.79	1.24
6 - 16 "	maximum	14.4	17.5	14.9
	minimum	13.3	10.7	12.5
	ratio maximum/minimum	1.08	1.64	1.19
17 - 24 "	maximum	11.2	13.5	12.3
	minimum	9.2	7.3	9.1
	ratio maximum/minimum	1.22	1.85	1.35
18 - 44 "	maximum	37.7	39.1	40.0
	minimum	36.6	35.6	34.4
	ratio maximum/minimum	1.03	1.10	1.16
20 - 34 "	maximum	19.9	22.6	22.0
	minimum	18.6	15.9	17.3
	ratio maximum/minimum	1.07	1.42	1.27
35 - 64 "	maximum	38.2	38.2	39.6
	minimum	36.5	35.9	36.2
	ratio maximum/minimum	1.05	1.06	1.09
65 + "	maximum	18.8	19.5	19.6
	minimum	17.9	16.4	17.3
	ratio maximum/minimum	1.05	1.19	1.13

[1] The values in this table are averages over the period of approximatly 2050 to 2150 when the population reaches more or less stable cyclical patterns.

Source: Statistics Canada, Demography Division, Population Projections Section.

and social scene. In the late seventies and early eighties, as the bulge of the baby-boomers moved into the labour force, Canada's working age population reached a record number. Yet, these were also the years of slowdown in economic growth, and high unemployment. Looking ahead, some time in the 1990s, when the relatively small cohorts born in the sixties and seventies mature and begin to work and raise families, they will have a significant impact on the labour supply and its age structure, as well as on the formation of households and by implication on housing-related industries. Further down the road, in the twenties of the next century, the post-war baby-boomers will reach retirement and the sheer force of their numbers will place a heavy demand on old age services, health care and pension plans.

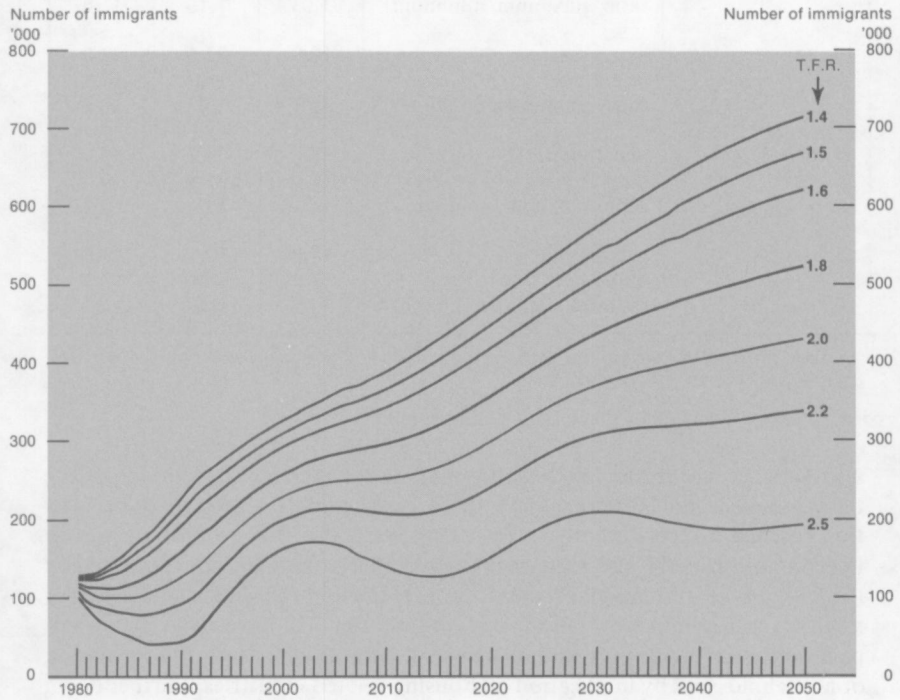
Since these demographic developments are inherent in the present age structure, some of their potential consequences can be anticipated. Long-term planning and greater institutional flexibility could help absorb the demographically-induced shocks. Mechanisms may be called for to assure the intergenerational

transfer of resources in response to the anticipated major shifts in the age structure of the population. Demographic properties of transfer schemes and how to achieve a measure of equity in Old Age Security benefits between generations of varying sizes are discussed in an upcoming work by Nathan Keyfitz.[120]

Implications for Immigration

In the past, except for the years of economic depression and during the two world wars, the Canadian population has been growing at a rate as high as 2% to 3% a year. This rapid growth has been achieved through a combination of relatively high birth rates and immigration. Canada has relied on immigration to help open up and settle this country's vast territories and to sustain the expansion of its labour force.

Figure 6.6
Projected Number of Immigrants to Achieve a 1% Growth Rate At Specified Fertility Rates, Canada, 1980-2050



Source: Appendix Table 6.4

The current regime of low fertility, and the consequent aging and slowdown of growth in the Canadian population, are creating an historically new situation which may affect long-term immigration strategies. Indeed, if the fertility rate does not increase substantially and if population growth is a national goal, then large-scale immigration is the alternative.

120 Keyfitz, Nathan, *Some Demographic Properties of Transfer Schemes: How to Achieve Perfect Equity Between the Generations, mimeo.*

K.G. Basavarajappa and M.V. George have calculated, by using a simulation model, the number of immigrants to be admitted annually under various fertility conditions, in order to achieve certain population growth targets. The immigration requirements are shown in Figure 6.6 and Appendix Table 6.14 for fertility levels varying from 1.4 to 2.5 births per woman, in order to achieve a 1% population growth per annum. An annual number of 75,000 emigrants is assumed in this simulation.[121] For example, if the present fertility of 1.7 births per woman were to continue, immigration would gradually have to be raised, by the turn of the century, to over 275,000 a year to ensure a population growth of 1% per year. If the total fertility rate were to drop to 1.4 births, the number of immigrants required might reach 325,000 by the year 2000. Even if the fertility rate went up to, say, 2.2 births the number of immigrants would have to be raised as of the year 2000 to at least 200,000, quite a high level of immigration compared to past Canadian experience. As we move deeper into the next century, the growth momentum inherent in the present age structure will have been exhausted, making it necessary to admit as many as half a million immigrants annually to sustain a population growth of 1%, assuming that the current fertility rate of 1.7 births prevails over the simulation period.

Although these calculations are hypothetical, their underlying assumptions are not implausible. What they show us can be very valuable in helping to determine the long-term implications of low fertility for immigration strategies. As Basavarajappa and George point out, the results of this simulation prove that:

> . .in setting annual immigration quotas, the short-term considerations, such as the employment situation and the demand for occupational skills, alone are not sufficient. It is equally important to take into account the long-term effects of such factors as size, growth rates and the age-sex composition of the population.[122]

The question could be rephrased so as to determine the immigration levels needed to attain a certain population size under a variety of fertility conditions. Figure 6.7 illustrates, for a range of sub-replacement fertility levels, the annual net immigration necessary to achieve, in the long run, a stationary (no growth) population of a specified size. In other words given a constant sub-replacement level of fertility, what is the net immigration required to establish, in the long run, a stationary population and what would its size be? Figure 6.7 shows that for Canada such a population would be in the range of 30 million if, for example, one assumes, over a protracted period of time, a combination of a total fertility rate of 1.5 births per woman and an annual net immigration of 220,000.

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121 There are no records on emigration from Canada, so indirect estimates are used. The 75,000 refers to the period before the 1976 Census. The current estimate of emigration is lower (60,000). However the message of this simulation remains basically the same.

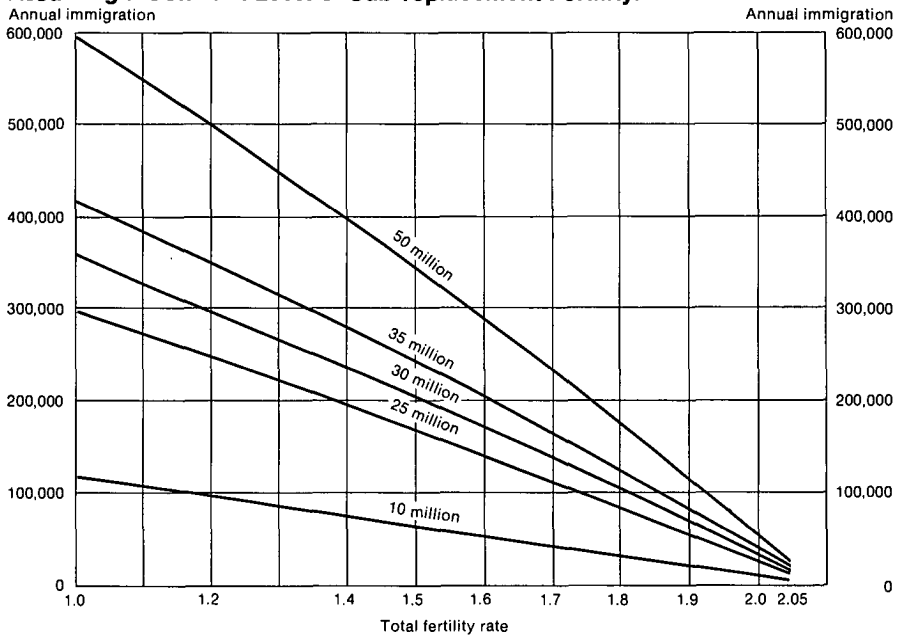
122 Basavarajappa, K.G. and M.V. George, The Future Growth and Structure of Canada's Population: Results and Implications of Some Demographic Simulations, *Demographic Trends and Their Impact on the Canadian Labour Market*, Statistics Canada and Employment and Immigration Canada, November 1981, p. 91.

A recent report produced by Employment and Immigration Canada, from which the above illustration is borrowed, makes it clear, that unless fertility increases or the number of immigrants admitted to Canada are augmented significantly, the Canadian population will begin to decline by the turn of the century. Or, to quote directly from the report just mentioned:

> Canadian population growth will reach a first key inflection point by the turn of the century. Unless fertility rises significantly or much higher levels of immigration occur, the remainder of this century will be the last period of any robust demographic growth in Canada;[123]

Figure 6.7

Immigration Required to Achieve, in the Long Run, a Stationary Population of Specified Size for Canada, Assuming a Constant Level of Sub-replacement Fertility.



Source: Employment and Immigration Canada, The Role of Immigration in Determining Canada's Eventual Population Size, Ottawa, June 1983

Family and Household Formation and the Link with Fertility

Marriage, procreation, family and household formation are all linked through a complex web of social values and processes. Elsewhere this study examined how changes in marriage patterns and living arrangements have affected procreative behaviour. The question is reversed here to find out how fertility affects domestic living arrangments. The continuous low fertility and the tendency of recent generations to marry and bear children later in life, or to forgo them altogether, are bound to significantly alter the demographic conditions of family and household formation.

123 Employment and Immigration Canada, *The Role of Immigration in Determining Canada's Eventual Population Size*, Ottawa, June 1983.

Fertility is the major determinant of the size of families and is also important in the size of households. One obvious consequence of the fertility decline is a smaller family. In 1961, there was an average of 3.9 people per family. In 1982, it fell to 3.3. Since the recent trend toward smaller families is concurrent with more frequent marriage breakdowns and a greater incidence of single people living away from the family, there has been a sharp reduction in the average size of households. This has declined from 4.0 in 1961 to 3.0 in 1981 and is projected to diminish by 1991 to 2.7 persons (Table 6.3).

TABLE 6.3 Average Number of Persons Per Family and Households, Canada

Year	Average household size	Average per family
1961	4.0	3.9
1966	3.7	3.9
1971	3.5	3.7
1976	3.2	3.5
1981	2.9	3.3
1986	2.8	NA
1991	2.7	NA
1996	2.6	NA
2001	2.6	NA

NA = Not available.

Source: Statistics Canada, *Household and Family Projections, Canada, Provinces and Territories, 1976-2001*, Catalogue 91-522, Occasional, Ottawa.

Another consequence is the slowdown in the rate of growth of families and households. In the 1970s, households expanded at the phenomenal rate of 3.5%. During the current decade they are expected to grow at a lower rate of 2% to 2.2% per year. This is still twice that of the population and is due largely to the baby-boomers reaching adulthood and setting up independent households at a rate higher than their predecessors. But, by the late 1990s, as the smaller birth cohorts of the 1960s and 1970s enter adulthood, the rate of growth of families and households will drop to 1% per year or even less (Table 6.4).

Marriage may also be affected by past fertility variations via the changing size of birth cohorts. On the average, a woman marries a man 2.5 years her senior. If this difference in age holds, a relative shortage of eligible males can be expected for cohorts born over a period of rising birth rates, and a relative surplus for cohorts born during a period of sagging birth rates. In the late 1960s and 1970s, baby-boom women were caught in what demographers called the "marriage squeeze" due to an undersupply of males of eligible ages. Demographers saw two possible responses – more marriages with partners of unpreferred age differences or a forgoing of marriage. Eventually, the marriage rate took a downward twist. But with the decline in the birth rate since

TABLE 6.4 Growth of Households and Families, Canada, 1961 - 1991

Year	Number		Average annual increase	
	Households	Families	Households	Families
	thousands		per cent	
Estimates:				
1961	4,554.4	4,124.9	-	-
1966	5,180.4	4,512.8	2.7	1.9
1971	6,034.5	5,053.4	3.3	2.4
1976	7,166.1	5,727.9	3.8	2.7
1981	8,281.5	6,325.0	3.1	2.1
Projections:				
1986	9,221.9	7,016.1	2.4	2.2
1991	10,108.4	7,627.4	1.9	1.7
1996	10,678.5	8,093.8	1.1	1.2
2001	11,186.9	8,488.2	1.0	1.0

Source: Statistics Canada, *Household and Family Projections, Canada, Provinces and Territories, 1976 - 2001,* Catalogue 91-522, Occasional, Ottawa.

the 1960s, the ratio of men to women of eligible ages will reverse itself, thus creating the demographic conditions for a marriage market more propitious to females.

The numerical imbalance between eligible partners is, however, not the only determinant of nuptiality. Transformations taking place in society, some procreation-related, others of a more general social nature, may actually entail a slowdown of the nuptiality rate. Marriages formerly prompted by a prenuptial pregnancy are now probably less frequent as, due to the availability of more effective birth control, such accidents can more easily be averted. Besides, other options to formal marriages are increasingly available. Common law unions are now more popular, their number has doubled in the last 10 years. Formal marriage may be a less compelling proposition when no children are wanted or expected. Lone-parent families, mostly headed by women, now form 10% (1981) of all families.

Divorce has greatly increased in recent years.[124] There are many factors that have made marriage a less stable institution. One of them could be low fertility. Traditionally, the presence of children has constituted a deterrent against marriage breakdown, even if the partners themselves have not been happy together. Available statistics reveal that the probability of divorce varies with the number of children. Data from Hungary, for example, show a divorce

[124] McKie, D.C., B. Prentice and P. Reed, *Divorce: Law and the Family in Canada*, Statistics Canada, February 1983.

rate of 24 per 1,000 marriages with no children, seven per 1,000 marriages with one or two children, and a rate of only two per 1,000 if the number of living children is three or more.[125] Here in Canada, divorcing couples in 1979 were found, for the same age and marriage duration, to have a lower fertility rate and a higher rate of childlessness than their counterparts in the married population.[126] The cause/effect relationship is, however, not clear here.

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[125] Hansluwka, Harald, Discussion 1, Appendix, in *Social, Economic and Health Aspects of Low Fertility*, U.S. Department of Health, Education and Welfare, Washington 1980, p. 230.

[126] Harrington, J.A., *Our Changing Private Lives: Marriage and Divorce Over the 1970s*, Statistics Canada Working Paper. This analysis was based on a comparison of 1970 divorces with 1981 Census data on the married population. Data on the divorced population referred to dependent children rather than fertility (total children ever-born) as in the census data. However, the analysis was restricted to women currently under 35 to minimize the possibility of losing children from the analysis because they were simply no longer defined as dependents.

VII. PUBLIC REACTIONS TO LOW FERTILITY: AN INTERNATIONAL PERSPECTIVE

The preceding discussions have shown the all-pervasive pattern of low fertility throughout the industrialized world. Its effect on the dynamics of population growth and on a range of population-related activities is of paramount importance. This chapter attempts to survey the public reactions of a number of major industrialized countries currently experiencing fertility rates around the replacement level.

Generally, we find that the Western states take a *laissez-faire* stance in the matter of procreation, while the socialist states of Eastern Europe, in recent years, have adopted overtly pro-natalist policies. There are exceptions on both sides. Post-war France has taken many actions to revitalize the family and stimulate demographic growth in response to its traditionally low fertility. Poland, on the other hand, has not quite followed the other Eastern European countries in their drive to stimulate fertility, and the U.S.S.R., for various political reasons, has been unable to devise a coherent natalist policy. In many industrialized countries, welfare and social assistance programs, introduced independently of demographic considerations, may indirectly support or discourage natality.

A Review of Population Policies in Selected Countries

In Canada, there are a number of programs, as well as a body of legislation, that are related both to the family and to birth control. These range from the family allowance, child income tax exemptions and tax credits, parental leave, day-care subsidies and child-care exemptions, to therapeutic abortion and family planning programs. But there are no explicit policies in Canada designed to influence fertility in one way or another.

The issue of low fertility has so far received little public attention in Canada. The possible exception is Quebec. On various occasions, francophone academic and professional groups have voiced their concern about the current fertility rate and the province's diminishing share of Canada's population.[127] The government of Quebec, in a document issued recently, takes cognizance of the fact that the current fertility in this province is no longer sufficient to insure the renewal of generations, examines its consequences for the province's demographic equilibrium and identifies the major social and economic impact areas.[128]

In the United States, a non-commital attitude prevails. The family-related government policies and programs that exist are highly selective, targeted at

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[127] See in particular:
Colloque: Pour ou contre une politique nataliste au Québec, Cahiers québécois de démographie, Vol. 10, No. 2, August 1981.
Henripin, J., *Plaidoyer pour une politique modérément nataliste, Cahiers québécois de démographie*, Vol. 10, No. 2, August 1981.

[128] Sécrétariat au devéloppement social, Ministère du Conseil exécutif, *L'évolution de la population du Québec et ses conséquences*, Government of Quebec, February 1984.

particular groups of the population (low-income families, single mothers, etc.).[129] There are no universal programs such as the family allowance which exists in Canada and most Western European countries. The widely-publicized reports by the Commission on Population Growth and the American Future generally reflect a neo-Malthusian view of the population. It should be remembered, however, that these reports antedate the onset of below-the-replacement level fertility.

In Japan, the situation has been quite different. The government, faced with its post-war reconstruction, made the easing of population pressure a major national objective. Consequently, it enacted policies that were vigorously anti-natalist. Family planning was strongly supported and abortion, for all practical purposes, was made available on request. The fertility rate fell below the replacement level 10 years ahead of Canada and the United States. Now the government appears to have relaxed its former anti-natalist stance. One indication has been the establishment of child allowances to couples with three or more children.[130] Although the government argues that this is part of its family welfare program, critics see it as a measure designed to encourage natality. Much of the uneasiness over the continued low fertility in Japan comes from the industrial sectors where planners are concerned that future shortages of young workers may thwart Japan's expanding economy.[131]

Among Western European countries, France has pursued possibly the most vigorous, though not always avowed, pro-natalist policy. The secular decline in fertility started in France well ahead of the other western countries. As a consequence its population was aging and growing only slowly or not at all. Large segments of the French intellectual and political elite saw in these long-standing demographic problems the prime cause of France's internal political instability, weakening international position and stagnant economy.[132] Over the years, and particularly after the war, various measures were taken to revitalize the family and stimulate demographic growth. According to McIntosh, French family policy remains the most generous and comprehensive in Western Europe, comprising:

> . . . a bewildering array of allocations in diverse fields from basic and supplementary children's allowances and income tax relief, through substantial housing benefits, educational supplements, and reduced transportation charges, to allowances for single parents and handicapped children.[133]

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[129] Stetson, Dorothy M., Family Policy and Fertility in the United States, *Population Policy and Analysis, Issues in American Politics*, Lexington Books, D.C. Heath and Co., Lexington, Mass. 1978.

[130] Teitelbaum, Michael S., International Experience with Fertility at or Near Replacement Level, in *Demographic and Social Aspects of Population Growth*, The Commission on Population Growth and the American Future Research Reports, Washington, D.C. 1972.

[131] Martin, Linda G., Japanese Response to an Aging Labor Force, *Population Research and Policy Review*, Vol. 1, No. 1, January 1982.

[132] Sauvy, A., *Théorie Générale de la Population*, Vol. II, Presses Universitaires de France, 1954.

[133] McIntosh, C. Alison, Low Fertility and Liberal Democracy in Western Europe, *Population and Development Review*, Vol. 7, No. 2, June 1981, p. 189.

France probably has gone further than any other Western country in the three areas of incentives to procreation: direct financial support for raising children; assistance to families with children for housing and day care facilities; and special accommodations for working mothers. Recently, paid maternity leave has been extended to six months and mothers of three or more children are eligible for a contribution-free pension for the years they stay at home with their children.[134] While pursuing these positive actions in support of the family and natality, the French government for a long time resisted the abrogation of its anti-abortion and anti-contraceptive legislation. Only in 1967 did it abolish the 1920 law which made abortion a criminal offense, except for strictly therapeutic reasons, and which prohibited any kind of contraceptive publicity. Now the law allows abortion if there is danger to the physical or mental health of the mother, if there is a risk of congenial malformation or if the pregnancy has been the result of rape or incest.

The renewed decline of fertility in France has aroused concern on the part of both the government and the public. The *Conseil central de planification* has examined the current fertility tendencies in France with a view to their social and economic consequences, and instructed that a study be undertaken to determine "the efficiency of different measures one might consider to arrest the decline of fertility". The objective the Council sees as "desirable in the interim" is, in effect, that of "moderate growth of the French population and a stabilization of fertility at a level that would assure the replacement of the generations and preferably, slightly greater".[135]

As well, a significant shift in public opinion on matters related to fertility has been registered in recent years. In 1978, for the first time after many years, a clear majority (59% against 29%) of the respondents to a survey said they would support government measures to bring the decline of natality to a halt.[136] A survey in 1982 found that 66% of the respondents thought that low fertility may have "undesirable consequences", while 14% remained indifferent and 13% actually preferred lower fertility.[137]

The concern about low fertility is now manifest throughout practically all of Western Europe. The problem is particularly acute in Western Germany where already the number of annual deaths exceeds the number of babies born each year. According to a book published in 1983 by Allison McIntosh under the title *Population Policy in Western Europe*, low population growth has reached the political agenda in virtually all nations of Western Europe.[138] Many Western governments have demonstrated their concern by establishing agencies to monitor population trends and advise on policies but few, if any,

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134 McIntosh, C. Alison, *loc. cit.*.

135 *Institut National d'Études démographiques, Natalité et politique démographique, Cahier 76,* Presses Universitaires de France, Paris 1976, p. 1.

136 Girard, Alain and Louis Roussel, Fécondité et conjoncture. Une enquête d'opinion sur la politique démographique, *Population*, Vol. 34, No. 3, May/June 1979, pp. 579-83.

137 Bastide, Henri, Alain Girard and Louis Roussel, Une enquête d'opinion sur la conjoncture démographique (janvier 1982), *Population*, Vol. 37, No. 4-5, July/October 1982, p. 869.

138 McIntosh, C. Alison, *Population Policy in Western Europe*, M.E. Sharp, Armonk, New York 1983, p. 8.

have gone as far as to proclaim explicit policies to stimulate fertility. The most common response, according to McIntosh "especially in those continental European nations that already had well-established family policies prior to the birth decline, has been to upgrade the level of assistance given the family".[139] One reason for the hesitancy of governments in many Western countries to embark on an overt pronatalist policy is the concern that such a policy might constitute or could be viewed as constituting an infringement on civil liberties. But, in the face of what is perceived to be a serious demographic problem, this ideological inhibition seems to give way to a more active pronatalist stance in some countries. In Sweden where equality between the sexes was widely proclaimed and vigorously pursued as a national goal, the government's effort is now directed towards the establishment of measures that would make it easier for Swedes to combine parenthood with employment outside the home.[140] The clearest sign yet of a reversal in the western governments' attitude is reflected in a recent French government memorandum presented at a meeting attended by the ministers of social affairs of the European Community. The document calls for a common policy by the European Community aiming at "a creation of a more favourable environment for the family, natality and childhood."[141]

But it is in Eastern Europe that preoccupation with the consequences of low fertility eventually led to explicit pro-natalist policies. In Bulgaria, Czechoslovakia, the Democratic Republic of Germany, Hungary and Romania various measures have been instituted to boost the flagging birth rate. In some of these countries, legislation permitting abortion on broad grounds has been made much more restrictive. In 1966, Romania introduced a decree whereby abortion could be performed only in cases of danger to the mother's life, congenital malformation, pregnancies resulting from rape, or when the mother was over 45 years of age with four or more children. Similar restrictions were introduced in Bulgaria in 1968 and in Hungary in 1973. As a result, the incidence of abortion diminished substantially in all these countries. In Hungary it dropped from 170,000 in 1973 to 80,000 in 1979.[142] At the same time, divorce has been made more difficult in most Eastern European countries. A special tax on childless persons who are over 25 years of age and who hold jobs has been instituted in Romania.

Concomitently with these restrictive measures, positive actions, ranging from family allowances and fiscal exemptions to prolonged maternity leave, were taken to encourage procreation. Generous family allocation schemes have been instituted in Hungary and Czechoslovakia. Frejka has estimated that in 1973 a Czechoslovakian couple with three children, and an average family income of around 30,000 crowns, could realize an increase of over 10,000 crowns an-

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139 McIntosh, C. Alison, loc. cit., p. 18.

140 McIntosh, C. Alison, loc. cit., p. 161.

141 Note de la Présidence: *Politique familiale et démographique*, Réunion informelle des ministres des affairs sociales, France, April 5, 1984, mimeo.

142 Kulcsar, Kalman, La politique démographique et la législation en Hongrie, *Natalité et politiques de population en France et en Europe de l'Est, Colloque de Paris, 2-3 décembre 1980*, Presses universitaires de France, Paris 1982.

nually from this benefit alone. Tax reductions, paid maternity leave, and subsidies would provide further gains.[143] In some countries like Hungary and Bulgaria, family benefits are provided on a selective basis, favouring the birth of a second and third child. In the German Democratic Republic, prolonged maternity leave combined with educational leave was granted as of 1977 in the case of second births. Maternity is thus recognized as an important social function and has the full backing of the socialist state according to Trebici, a leading Romanian demographer.[144] Heitlinger, commenting on the population policies in Czechoslovakia, argues that the various pro-natalist policies introduced by the government during the 1970s:

> . . . represents recognition of motherhood as a socially necessary and productive activity in the economic sense, which has to be remunerated. Given that the maintenance of the population requires a significant proportion of families to have more than two children, motherhood acquires a new 'professional' significance. By upholding the level of reproduction mothers become much more useful in society than was traditionally admitted in socialist theory and practice.[145]

Unlike most of the other Eastern European socialist states, the U.S.S.R. has no clear-cut policy despite its official acknowledgement of the "deterioration of the demographic situation" caused by declining fertility, and intense debates about the means of redressing it. The Soviet leadership seems to be hesitant to commit enough resources to revitalize the family and stimulate births when investment resources are seriously constrained.[146] Any meaningful pro-natalist policy is not only expensive in direct costs, but would eventually entail a partial withdrawal of women from the labour force and this would be difficult to accept today when the labour force is in short supply. The formulation of a coherent pro-natalist policy has also been hampered by internal political considerations, prompted by prevailing disparities in the population growth between the high fertility Moslem republics in Asia and the low fertility European republics. Sharp disagreements have come to light between proponents of a **unified national policy** and those favouring a **regionally differentiated policy** designed to shore-up the birth rate in low-fertility regions. Lately, a number of limited incentives have been taken to stimulate the birth rate, primarily in the low fertility regions and republics, which would indicate that the advocates of a regionally differentiated policy have gained the upper hand.[147]

Procreation Related Policies: An Assessment

Because of their determined effort to bring about an increase in the fertility rate, Eastern European countries constitute somewhat of a test case of the

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[143] Frejka, Tomas, Fertility Trends and Policies: Czechoslovakia in the 1970s, *Population and Development Review*, Vol. 6, No. 1, March 1980, p. 70.

[144] Trebici, Vladimir, *La population de la Roumanie et les tendances démographiques*, Editions Meridiane, Bucharest 1976, p. 132.

[145] Heitlinger, Alena, Pro-natalist Population Policies in Czechoslovakia, *Population Studies*, Vol. 30, No. 1, March 1976, p. 132.

[146] Weber, Cynthia and Ann Goodman, The Demographic Policy Debate in the U.S.S.R., *Population and Development Review*, Vol. 7, No. 2, June 1981.

[147] Weber, Cynthia and Ann Goodman, *ibid.*

efficiency of pro-natalist policies. Here constraints and incentives have been applied on a large scale. First, new legislation has been enacted greatly constraining abortion, and secondly, various material incentives have been offered to the family. What was the effect?

Following these measures, the fertility rate went up quite significantly. In Hungary, it rose from 1.8 in the mid-sixties to 2.4 in the mid-seventies. In Czechoslovakia it advanced, over approximately the same period, from 2.0 to 2.5 births per woman. In Romania, the jump was spectacular, from 1.9 in 1966 to 3.7 in 1967 immediately following the change in legislation severely restricting abortion. But this was probably the result of some pregnant women having been caught by this change in legislation. In subsequent years, as people were able to switch to alternative measures of birth control, fertility receded but still remained for several years at about 2.6. The case of the Democratic Republic of Germany is revealing as well, especially when viewed against the experience of its Western counterpart, the Federal Republic of Germany. In both these republics the fertility rate was about 1.5 in the early 1970s, one of the lowest recorded in both Eastern and Western Europe at the time. But, whereas the fertility rate in the Federal Republic of Germany remained low and even subsided further, that of the Democratic Republic of Germany was reversed, apparently following the implementation of its pronatalist measures, and reached about 1.9 by 1980.

However, the increases noted above, though significant, have been only temporary. In recent years, in all Eastern European countries, fertility has resumed its downward course (Figure 1.4(b)). Yet, it has not receded to the level it held prior to the adoption of pronatalist policies and the rates observed there exceed, by a significant margin, the rates observed in some Western European countries.

One important question is whether the observed increases in the fertility rate primarily mirror shifts in the timing of the births - earlier childbearing and recuperation of previously postponed births - or are they a reflection of an increase in family size, that is, the number of offspring a given generation of women will have. A definitive answer to this question will be possible only when the generations currently in childbearing have reached the end of their reproductive life. Ghetau, who analyzed Romanian data on fertility by generations at various stages of family formation, came to the view that there was both a shift in the timing toward earlier childbearing and an increase in the family size.[148] In spite of a renewed downward tendency, Romanian fertility has maintained a comfortable level, above replacement, of 2.4 births per woman as late as 1981,15 years after the policies to prop up the birth rate were initiated.

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148 Ghetau, Vasile, Evolution de la fécondité en Roumanie. Une approche longitudinale, *Population*, Vol. 38, No. 2, March/April 1983.

Yet it is maybe too early to pass a definite judgement on the success of pronatalist policies in Eastern Europe. Commenting on these policies, Pressat notes that:

> . . . one might ask oneself about the chances of these pronatalist movements, especially since they show signs of giving out almost everywhere. Indeed, the stimulation that they have provided may have acted to bring about births already intended while perhaps shifting the timing of their occurrence. In no case can we see a firming up in fertility as marked as in certain Western countries after World War II, especially France.[149]

Various factors have to be taken into account in assessing the effectiveness of population policies. A state's ability to carry out a population policy may depend on its system of government. Some experts feel that the highly centralized states of Eastern Europe have more leverage to influence procreation than the governments of pluralistic, open societies. As Kirk has stated:

> . . . if the art of democratic government is how to create and maintain maximum personal freedom commensurate with good social order, then it is doubtful if such a society can institute **effective** population policies affecting fertility.[150]

The nature of the demographic problem is in itself a factor inhibiting the formulation and implementation of population policies. Demographic problems are generally of a long-term nature requiring long-term solutions, whereas politics is often a matter of finding solutions to short-term problems.[151] It is difficult to sell an electorate on the perceived problems of future generations and any policy that would even remotely interfere with personal freedom of choice may prove to be unpalatable to the public. Consensus on the goals and the means of a policy may be more difficult to reach in highly decentralized federal states. There are considerable gaps in the information and knowledge of processes affecting procreative behaviour and their interrelations in the broader social context. Hence, it is difficult to promote a policy unless it can be demonstrated that it will generate the desired results. Unlike the countries of Eastern Europe, where international immigration is limited, Canada can rely on immigration, and possibly on its highly intensive technology, to compensate, at least in the short run, for the shortfall in human resources which could arise due to low fertility.

The standard of living and the extent of childbearing incentives have to be taken into account in assessing the effectiveness of the policies. Unfortunately it is very difficult to compile comparable statistics on family-related government expenditures and standards of living. The benefits derived from maternity incentives relative to the couple's basic income may have been a potent

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[149] Pressat, Roland, Mesures natalistes et relèvement de la fécondité en Europe de l'Est, *Population*, Vol. 34, No. 3, May/June 1979, p. 547.

[150] Kirk, Maurice, Population Policies in Non-Socialist Societies, *International Population Conference*, Solicited Papers, International Union for the Scientific Study of Population, Manila, 1981, p. 379.

[151] Kirk, Maurice, *ibid.*

factor in Czechoslovakia's and Hungary's fertility recovery in recent years and France's in the post-war years. In contrast, given the high opportunity-cost of childbearing in today's relatively wealthy societies, benefits from such schemes will probably have little bearing on couples' procreative decisions. Furthermore, a policy is subject to psychological erosion in the long run and its effectiveness weakens as the circumstances which initially led to its implementation alter.

Finally, in assessing the efficacy of a pro-natalist policy, it is important to distinguish between the **family size-related** effects and the **timing of childbearing-related** effects. There is some consensus that policies in Eastern Europe may have had an influence on the timing of births, but whether they will bring about an increase in family size still remains an open question.

Public Reaction to Procreative Incentives: Insights from Fertility Surveys in Quebec and France

The Quebec 1976 Fertility Survey, referred to earlier, asked respondents to state what the government could have done to induce them to have one or more children in addition to the number they already had. Out of the 428 women who responded, 70% said the government could have done nothing to change their mind about the number of children they wanted. The remaining 110 or 30% indicated various measures (see Table 7.1) that eventually could have induced them to have more children.

TABLE 7.1 Type of Incentives and Numbers of the Respondents Who Advocated a Given Incentive

Incentives	Respondents
Pay for housewives	49
The establishment of daycare centres	32
An increase in salary	12
Housing assistance	9
Free education	8
A reduction in income tax	6
Success in the fight against inflation	3
Guaranteed employment for women	3
Other	9

Source: Henripin, J., et al, *loc. cit.*, p. 338.

It is noteworthy that a larger proportion of the respondents favoured financial incentives to mothers who are not in the labour force. Some preferred an actual salary, others a substantial increase in the family allowance. On an average, the salaries the mothers asked for were roughly equal to $100 per month per child, over and above the present amount paid in family allowances.[152]

[152] Henripin, J., et al, *Les enfants qu'on a plus au Québec*, University of Montreal Press, Montreal 1981, pp. 333-349.

The authors of the Survey have estimated that if the respondents had benefited from the various maternity incentives that they suggested, the fertility of the women in the sample would only have increased by 10%. Yet, the resulting expenditure would have been twice the amount of family allowances to families with three and more children in 1975.[153]

The authors offer one important qualification in interpreting these findings. Two thirds of the women first interviewed in 1971, who were again interviewed in 1976, had now been married for over 10 years, and most of them had practically completed their childbearing. Therefore, to some extent, their opinions regarding what the government could or could not have done might have been influenced by an after-the-fact rationalization of their actual childbearing experience. They observed that the percentage of respondents who would probably have had an additional child, if the advocated incentives had been implemented, declined with the respondent's age: 25.3% for 25-29 year olds; 19.7% for 30-34 year olds and 12.4% for those aged 35-39.[154] Thus, a somewhat greater receptiveness to the childbearing incentives is apparent among respondents in the early stage of family formation, who must take into account all possible options in coming to a decision regarding their childbearing.

The French data presented in Table 7.2 cast some interesting light on the public perception of the government's incentives for procreation. It appears that most widely endorsed are measures enabling women to reconcile career requirements with the demands of being a mother. Thus, extended maternity leave, the possibility of returning to one's job and part-time employment are among the most desirable measures. There are also those who advocate substantial family allowances and a salary for mothers who must stay at home. In effect, most women prefer to care for their children themselves rather than put them in someone else's care while they are still small. The measures favoured here are not so much the outgrowth of a pro-natalist leaning, but rather a case of concern for social equity, and the recognition that childbearing is an important social function that should be rewarded. The desire to allow women to respond more freely to their dual aspirations of motherhood and career is manifest in these responses.[155]

In Conclusion

The question as to how much government can influence the procreative behaviour of the citizens, particularly in a pluralistic society, remains arguable. Each case must be judged on its merits. France probably offers the best example of a liberal democracy where the efforts of successive governments are deemed to have helped the recovery of fertility in the post-war period. More recently, pro-natalist policies in Eastern Europe have also achieved some

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153 Henripin, J., et al, *loc. cit.*

154 Henripin, J., et al, *ibid.*

155 Girard, Alain and Louis Roussel, Fécondité et conjoncture: Une enquête d'opinion sur la politique démographique, *Population*, Vol. 34, No. 3, May/June 1979.

TABLE 7.2 Policy Measures Likely to Favour the Decision to Have a Third Child

Considering families with two children from your milieu with similar resources, do you think they would be likely to have a third child, given the following measure?	Would have an effect[1]				Would have the most effect[1]			
	Per cent		Rank		Per cent		Rank	
	1975	1978	1975	1978	1975	1978	1975	1978
A mother could return to her job after a few years' absence	81	83	1	1	24	26	1	1
An increase in family allowance	70	75	3	3	19	24	2	2
More opportunities for part time employment	78	78	2	2	17	23	3	3
More nurseries and day-care facilities	57	68	5	4	8	7.5	4	4
Securing adequate housing	53	58	7	7	8	7.5	5	5
More substantial reductions in income tax	56	63	6	5	5	6	6	6
More bursaries for children	64	63	4	6	3	4	7	7
Increase in birth incentive payments	50	54	8	8	3	2	8	8
					87[2]	100		

[1] Among all those who responded.
[2] A ninth measure that was proposed gained 13% approval of those surveyed: a greater allowance to women temporarily off work to care for their child.

Source: Girard, Alain and Louis Roussel, Fécondité et conjoncture. Une enquête d'opinion sur la politique démographique, *Population*, Vol. 34, No. 3, May/June, 1979, p. 581.

measure of success by reversing fertility trends, at least temporarily, although final judgement must await the assessment of their long-term implications.[156] Thus, one should not conclude that nothing can be done to influence procreative behaviour or that the success of a given policy can be assured in advance. As Henripin and his colleagues have stated in their report on the Quebec fertility survey:

> It shouldn't be argued too quickly that a modern society has no means of addressing the problem of fertility if its members should decide that this is necessary. Of course, we are not pretending that we **do** have the means or that their success would be assured in advance. But, we can say that, very probably, it will be necessary to go beyond the current

[156] The People's Republic of China offers probably the most convincing case of natality-related policies, that are generally believed to be fairly successful. Only in this case, the policy is not to stimulate but on the contrary to reduce fertility substantially and thus slow down population growth. The target of two and, lately, of just one child per couple appears to have been largely attained, according to various reports.

> measures which ensure only detached bits of financial support. As for the situation in Quebec, this raises questions that are beyond the ken of our present study. Yet, if we look at what is going on in countries where fertility rates are even lower than ours, we believe that it is high time to begin asking questions about some possible plans of action.[157]

The present subreplacement fertility is historically a novel experience and there is still not a sufficient appreciation of its far-reaching consequences. As the social and economic ramifications of aging population are more widely recognized, low fertility as its main demographic cause could attract increasing public attention. The 1990s may see young workers in short supply as the baby-bust cohorts reach working age. Yet, at the same time, fewer young people will be around to form new households, which in turn could affect the demand for housing and related industries. Should sub-replacement fertility persist or become more pronounced, the perception that the steady erosion of the demographic base of the nation poses a threat to its economic well-being or even its survival may gain momentum. As an alternative to fertility, immigration in numbers far in excess of the historical levels required to maintain even a moderate population growth may be unattainable or attainable at considerable social cost. Public opinion could then eventually tip in favour of a more pro-natalist stance, and the call of Henripin and his colleagues for a 'plan of action' may become more acute. But quite apart from these purely demographic considerations and the preference for any particular level of fertility as a social goal, greater recognition and support of motherhood and housework are being sought in the name of social equity. Increasingly, women are melding the commitments of employment and motherhood. The search for institutional support to ease the pressure arising from the pursuit of the dual role of parenthood and employment is emerging as an important research and policy issue.

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[157] Henripin, J., et al, *loc. cit.*, p. 349.

SUMMARY

Current Levels and Prospective Trends

At the height of the baby-boom (1959), the average number of births per woman was about 3.9, an average which subsequently dropped to the all-time low of 1.7. Quebec's fertility rate, which at the onset of the decline was well above the national average, has now fallen to 1.5 births, one of the lowest among the provinces. Even Canada's native people who maintained a high reproductive profile until about the mid-1960s have seen their fertility rate decline from almost seven to 3.5 births per woman by the late 1970s.

There is a great deal of speculation among social scientists and population forecasters as to where all these trends will lead. Some argue that the present low ebb in human reproduction is the result of certain inexorable forces operating in modern society. Others argue that another baby-boom, or at least a mini baby-boom, is in the offing: as the baby-bust generations reach childbearing age, they will, because of their small numbers, find themselves in a less competitive environment than their baby-boom predecessors; they will be better off economically and psychologically more disposed to form families. Swings in fertility rates appear to be characteristic of modern society. Yet the most likely scenario for the years ahead is that these swings will be of smaller amplitude.

Changes in Reproductive Pattern

The decline in the level of fertility has been accompanied by a major departure from the reproductive patterns that prevailed during the baby-boom.

There is a tendency now to bear children somewhat later in life and to space them further apart. More couples than in the past become first-time parents late in their twenties and even in their thirties. The first-time parents among those giving birth in the 30-34 age group rose from 14% in 1970 to 26% in 1982 and from 7% to 16% among, those aged 35-39. Large families have become rare as most couples now elect to have just two children. In Quebec, for instance, 45% of those who married between 1966 and 1971 said they expected to have only two children.

Childlessness might also be on the rise. The proportion of ever-married women aged 20-24 who have not yet had any children rose from 26% in 1961 to 54% in 1981. For the same period the proportion of childless women 25-29 jumped from 14% to 30%. It is difficult to say how many of these women will ultimately remain childless either by choice or simply because their biological clocks run out.

Birth Control

There is a scarcity of information on the contraceptive practices of Canadians in recent years. In Quebec, however, the province for which relevant data are available, it is estimated that half of the women who were 40 years of age in 1980 had undergone sterilization of one type or another sometime in the course of their life. Since, in spite of some advances in micro-surgical techniques, sterilization as a method of contraception remains virtually irreversible, its wide use denotes the strong determination of many couples to put an irrevocable end to their reproduction. Not only has sterilization become the most popular method among more mature couples in Quebec, but it is being used increasingly by couples still in their early childbearing years.

As to abortion, the only data available are on therapeutic abortions performed under the provision of the 1969 amendment to the abortion law. After an initial increase, the number of therapeutic abortions seems to have levelled off in recent years at about 65,000 per annum.

Public attitudes toward abortion are difficult to ascertain. Yet some broad trends do emerge from various non-governmental surveys conducted in the last two decades or so. A majority of the public appears to support abortion on selective grounds: danger to the mother's life, danger to the mother's health, the risk of child deformity and pregnancy resulting from rape.

Factors in the Fertility Decline

Although the causes of the current baby-bust remain subject to various conjectures, it is possible to identify a number of factors and correlates associated with it. Fewer people are marrying and those who marry do so later in life, and divorce more frequently than in the past. Unintended births have been considerably reduced as a result of the availability of and the willingness to use, the highly effective modern contraceptive procedures and therapeutic abortion.

There are, however, deeper social transformations underlying the downward reappraisals of childbearing targets by couples. One such transformation has to do with the expansion of the roles women play in society, beyond, and sometimes in place of, those traditionally connected with the home and children. There are basically three theories that attempt to explain the decision making process concerning the trade-off between employment and procreation. One is the so-called role incompatability or conflict theory, whereby working and mothering compete for women's time and energy. Another is the opportunity-cost of childbearing, implying that women make an economic decision on the trade-off between work and children, based on the notion of household utility maximization behaviour. A third theory emphasizes the social and psychological orientation of women's aspirations as a life style.

Areas of Impact

Population Growth

Although the current total fertility rate in Canada of 1.7 births per woman is well below the replacement level (2.1 births), this doesn't mean that a decline in Canada's population is imminent. On the contrary, Canada's population will continue to grow, even in the absence of any immigration, and should reach about 26.5 million by the turn of the century, before it starts to diminish. Indeed, for the balance of this century, the Canadian population will comprise a proportion of females of childbearing age large enough to more than compensate for the below-replacement fertility of individual women. However, as the age distribution adjusts itself to the prevailing fertility level and the growth momentum built into the age structure disappears, the population will gradually start to diminish.

Age Structure

The age structure is very sensitive to changes in fertility. A population experiencing a fertility rate of 1.7 births per woman will ultimately have an age distribution comprising 20% youngsters (under 20 years of age) and 25% elderly people (65 years and over). Comparable figures for 1981 were 32% and 10%, respectively.

The wide range of fertility fluctuations that the Canadian population has experienced in its recent history have produced large-scale shifts in its age structure. The post-war period was dominated by the baby-boom phenomenon and an impressive expansion of educational facilities to absorb the rapidly growing child population. The sixties and seventies were dominated by the baby-bust with its disruptive consequences for the school system. The 1980s stand out as the period during which the population in the work age reached its highest ever level. At the same time, demand for labour was hampered by a slowdown in economic growth. As the relatively small cohorts born in the seventies mature and begin to work and raise families, sometime in the 1990s, they will have a significant impact on the labour supply and its age structure, as well as on the formation of households and by implication on the housing industry. In turn, as the post-war baby-boomers reach retirement in the 2020s, the sheer force of their numbers will have a major effect on old age services, health care and pension plans. These and similar demographically-induced instabilities must be recognized as an issue in the long-term planning and management of national activities. Long-term strategies may be required to provide a mechanism for the intergenerational transfer of resources in response to anticipated major shifts in the age structure of the population.

Migration

The current regime of low fertility, and the consequent aging and slowdown of growth in the Canadian population, are creating an historically new situation which may affect long-term immigration strategies. Indeed, if the fertility rate does not increase substantially and if population growth is a national goal, then large-scale immigration is clearly the alternative. In order to ensure a population growth of 1% per year, the number of immigrants would have to be gradually raised to reach 275,000 by the turn of the century, assuming that the current total fertility of 1.7 births per woman and the emigration of about 75,000 prevailing in recent years, continue in the years to come.

Family and Household Formation

The continuous low fertility and the tendency of recent generations to marry and bear children later in life, or to forgo them altogether, is bound to significantly alter the demographic conditions of family and household formation. One obvious consequence of the fertility decline is a smaller family. In 1961, there was an average of 3.9 people per family. In 1982, it fell to 3.3. Since the recent trend toward smaller families is concurrent with more frequent marriage breakdown and a greater incidence of single people living away from the family, there has been a sharp reduction in the average size of households: from 4.0 in 1961 to 3.0 in 1981 and is projected to diminish by 1991 to 2.7 persons.

The slowdown in the rate of growth of families and households is another consequence of low fertility. In the 1970s, the number of households expanded at the phenomenal rate of 3.5%. During the current decade they are expected to grow at a lower rate of 2.0% to 2.2% per year. Yet, this is still twice the rate of population growth and is due largely to the coming of age of the baby-boomers who are setting up independent households at a higher rate than their predecessors. But, by the late 1990s, as the smaller birth cohorts of the 1960s and 1970s enter adulthood, the rate of growth of families and households is expected to drop to 1% per year or even less.

Public Reaction to Low Fertility in Industrialized Countries

Low fertility is not confined to Canada or to the North American continent but is a far ranging phenomenon typical of practically all developed countries in the East and West, irrespective of their political systems. In some countries, such as Denmark and the Federal Republic of Germany, the total fertility rate has fallen to 1.4 births per woman.

The concern about low fertility is manifest throughout practically all of Europe. According to various reports, the issue of low population growth is on the political agenda of many governments in Europe. However, while Western European governments have demonstrated their concern by establishing agencies to monitor population trends and advise on policies, few,

if any, have gone as far as to proclaim explicit policies to stimulate fertility. The most common response, especially in those countries that already had well-established family policies prior to the birth decline, has been to upgrade the level of assistance given the family.

In some Eastern European countries this preoccupation with the consequences of low fertility has led to explicit pro-natalist policies. In Bulgaria, Czechoslovakia, the Democratic Republic of Germany, Hungary and Romania various measures have been instituted to boost the flagging birth rate. In some of these countries, legislation permitting abortion on broad grounds has been made much more restrictive. Concomitant with restrictive measures, positive actions, ranging from generous family allowances and fiscal exemptions to prolonged maternity leave, were initiated. Following these measures, the fertility rate went up quite significantly, but only temporarily. In recent years, in Eastern European countries, fertility has resumed its downward course. Yet, it has not receded to the level it held prior to the adoption of pronatalist policies and the rates observed there exceed, by a significant margin, the rates in some Western European countries.

In Canada the issue of low fertility has so far received less public attention. The government of Quebec, in a document issued recently, takes cognizance of the fact that the province's current fertility is no longer sufficient to insure the renewal of generations, expresses concern for its demographic equilibrium and calls for public debates on the actions needed to redress fertility.

Issues

The current and prospective trends in fertility examined in this study raise a number of issues of public interest. Prominent among them are the social and economic problems associated with the aging of the Canadian population and the destabilizing effects that shifts in the age structure might have on a variety of national activities (school enrollment, consumption patterns, the labour force and old age security). There are also issues concerning the trade-offs between fertility, population growth, and the levels of immigration that might be required. Finally, there are those that relate to the reconciliation of parenthood and employment outside the home and how this might be achieved through institutional support and suitable work arrangements.

APPENDIX TABLES

APPENDIX TABLES - Concluded

TABLE 1.1 Number of Live Births, Crude Birth Rate and Total Fertility Rate, 1921 - 1982, and Completed Fertility Rate of Birth Cohorts, 1894 - 1953, Canada

Calendar year	Number of live births	Crude birth rate per 1,000 population	Total fertility rate per 1,000 women[1]	Cohort completed fertility rate per 1,000 women[1,2]	Year of birth cohort[3]
1921	264,879	29.3	3,536	3,714	1894
1922	259,825	28.3	3,402	–	1895
1923	247,404	26.7	3,234	–	1896
1924	251,351	26.7	3,221	–	1897
1925	249,365	26.1	3,132	–	1898
1926	240,015	24.7	3,357	3,444	1899
1927	241,149	24.3	3,319	–	1900
1928	243,616	24.1	3,294	3,298	1901
1929	242,226	23.5	3,217	3,235	1902
1930	250,335	23.9	3,282	3,191	1903
1931	247,205	23.2	3,200	3,138	1904
1932	242,698	22.5	3,084	3,082	1905
1933	229,791	21.0	2,864	3,042	1906
1934	228,296	20.7	2,803	2,834	1907
1935	228,396	20.5	2,755	2,823	1908
1936	227,980	20.3	2,696	2,725	1909
1937	227,869	20.1	2,646	2,751	1910
1938	237,091	20.7	2,701	2,701	1911
1939	237,991	20.6	2,654	2,712	1912
1940	252,577	21.6	2,766	2,759	1913
1941	263,993	22.4	2,832	2,867	1914
1942	281,569	23.5	2,964	2,906	1915
1943	292,943	24.2	3,041	2,880	1916
1944	293,967	24.0	3,010	2,875	1917
1945	300,587	24.3	3,018	2,925	1918
1946	343,504	27.2	3,374	2,890	1919
1947	372,589	28.9	3,595	3,229	1920
1948	359,860	27.3	3,441	3,266	1921
1949	367,092	27.3	3,456	3,286	1922
1950	372,009	27.1	3,455	3,222	1923
1951	381,092	27.2	3,503	3,260	1924
1952	403,559	27.9	3,641	3,287	1925
1953	417,884	28.1	3,721	3,265	1926
1954	436,198	28.5	3,828	3,244	1927
1955	442,937	28.2	3,831	3,294	1928
1956	450,739	28.0	3,858	3,266	1929
1957	469,093	28.2	3,925	3,394	1930
1958	470,118	27.5	3,880	3,378	1931
1959	479,275	27.4	3,935	3,362	1932
1960	478,551	26.8	3,895	3,258	1933
1961	475,700	26.1	3,840	3,152	1934
1962	469,693	25.3	3,756	3,113	1935
1963	465,767	24.6	3,669	3,056	1936
1964	452,915	23.5	3,502	2,923	1937
1965	418,595	21.3	3,145	2,889	1938

See footnote(s) at end of table.

TABLE 1.1 Number of Live Births, Crude Birth Rate and Total Fertility Rate, 1921 - 1982, and Completed Fertility Rate of Birth Cohorts, 1894 - 1953, Canada - Concluded

Calendar year	Number of live births	Crude birth rate per 1,000 population	Total fertility rate per 1,000 women[1]	Cohort completed fertility rate per 1,000 women[1,2]	Year of birth cohort[3]
1966	387,710	19.4	2,812	2,810	1939
1967	370,894	18.2	2,597	2,716	1940
1968	364,310	17.6	2,453	2,641	1941
1969	369,647	17.6	2,405	2,517	1942
1970	371,988	17.5	2,331	2,439	1943
1971	362,187	16.8	2,187	2,285	1944
1972	347,319	15.9	2,024	2,110	1945
1973	343,373	15.5	1,931	2,110	1946
1974	350,650	15.6	1,875	2,278	1947
1975	359,323	15.8	1,852	2,123	1948
1976	359,987	15.7	1,825	2,015	1949
1977	361,400	15.5	1,806	1,941	1950
1978	358,852	15.3	1,757	1,888	1951
1979	366,064	15.5	1,764	1,845	1952
1980	370,709	15.5	1,746	1,838	1953
1981	371,346	15.3	1,704	-	1954
1982	373,082	15.1	1,694	-	1955

[1] Excluding Newfoundland.
[2] These rates correspond with the year of birth cohort.
[3] Year of birth cohort is approximated by the calendar year minus 27 (i.e., mean age of fertility).

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
Vital Statistics Section, unpublished data on cohort fertility (see notes to this table).
Henripin, J., *Trends and Factors of Fertility in Canada,* Statistics Canada, 1972, Table 2.4 (for completed fertility for birth cohorts, 1894 - 1906).

Notes on Projections of Completed Fertility for Birth Cohorts Which Have Not Yet Completed Childbearing Shown in Figure 1.1 and Appendix Table 1.1

Fertility rates by single years of age were computed from published fertility data by five-year age groups. Then they were arranged by the women's year of birth (i.e., birth cohort) and completed cohort fertility rates were calculated for birth cohorts 1907 through 1931 for which complete data were available (Vital Statistics Section, Health Division, unpublished data, 1983). However for more recent cohorts, i.e., 1932-1953, only partial fertility data were available and fertility at certain ages had to be imputed for calculating the completed fertility rates. The ratio of fertility at age $a+1$ to that at age a for cohort t was applied to fertility at age a for cohort $a+1$ for obtaining the fertility rate at age $a+1$ for cohort $t+1$. This type of chain ratio procedure was used to complete the age-specific fertility rates for every cohort from 1932 through 1953. The estimated cohort fertility rates for cohorts 1932 through 1946 are highly reliable because the imputations of the incomplete values were performed for women 35 years old and over, most of whom may be assumed to have completed a large proportion of their childbearing. For the remaining cohorts, i.e., from 1947 to 1953, however, they are not as reliable because fertility was imputed for younger ages, subject to possible greater changes in the fertility rate.

TABLE 1.2(a) Total Fertility Rate for Selected Industrialized Countries

Year	Australia	Canada*	Japan**	United States***	New Zealand
1945	2.74[1]	3.00[1]	-	2.48[1]	2.91[1]
1946	2.98[1]	3.36[1]	-	2.93[1]	3.25[1]
1947	3.06[1]	3.59[1]	4.63[1]	3.26[1]	3.45[1]
1948	2.98	3.44	4.38	3.02	3.38[1]
1949	3.07	3.37	4.29[1]	3.05	3.33[1]
1950	3.06	3.37	3.64	3.02	3.38[1]
1951	3.06	3.42	3.25	3.20	3.36[1]
1952	3.18	3.56	2.97	3.30	3.52[1]
1953	3.19	3.64	2.68	3.36	3.48[1]
1954	3.19	3.74	2.47	3.48	3.60[1]
1955	3.27	3.75	2.36	3.52	3.72[1]
1956	3.33	3.77	2.22	3.63	3.77[1]
1957	3.42	3.84	2.04	3.71	3.88[1]
1958	3.42	3.80	2.11	3.65	3.96[1]
1959	3.44	3.85	2.04	3.66	4.00[1]
1960	3.45	3.81	2.01	3.64	4.03[1]
1961	3.54	3.75	1.95	3.63	4.16[1]
1962	3.42	3.68	1.96	3.47	4.11
1963	3.33	3.61	1.98	3.33	3.99
1964	3.15	3.46	2.03	3.20	3.73
1965	2.98	3.11	2.14	2.93	3.33[1]
1966	2.88	2.75	1.60	2.74	3.44
1967	2.85	2.53	2.22	2.57	3.35
1968	2.89	2.39	2.10	2.48	3.33
1969	2.89	2.33	2.06	2.47	3.27
1970	2.86	2.26	2.07	2.46	3.16
1971	2.95	2.14	2.17	2.27	3.19
1972	2.74	1.98	2.15	2.02	3.01[1]
1973	2.49	1.89	2.18	1.90	2.70
1974	2.40	1.84	2.09	1.86	2.57
1975	2.22	1.82	1.93	1.80	2.33
1976	2.14	1.80	1.84	1.77	2.27
1977	2.04	1.81[5]	1.80	1.82[4]	2.23
1978	1.98[6]	1.76[5]	1.80[6]	1.80[4]	2.09[6]
1979	1.94[6]	1.76[5]	1.78[6]	1.86[4]	2.13[6]
1980	1.89[2]	1.75[5]	1.74[6]	1.87[4]	2.04[2]
1981	1.94[2]	1.70[5]	-	1.82[2]	2.00[2]
1982	1.93[2]	1.69[5]	-	1.81[2]	1.94[2]

* Does not include Newfoundland.
** Prior to 1973, does not include Okinawa.
*** Prior to 1959, does not include Alaska; prior to 1960 does not include Hawaï.

Source: *Demographic Yearbook 1977, Historical Supplement,* New York, United Nations 1979, 1171 p. except for those which have the following numbers:

[1] *Demographic Development in the OECD Countries,* Paris, OECD, 1979.
[2] Calot, G. and C. Blayo, Recent Course of Fertility in Western Europe, *Population Studies,* Vol. No. 36, p. 351.
[3] Munoz-Perez, F. *L'évolution de la fécondité dans les pays industrialisés depuis 1971, Population,* Vol. No. 3, 1982.
[4] Monnier, A., *La conjoncture démographique: l'Europe et les pays développés d'outre-mer. Population,* Vol. No. 4-5, p. 917.
[5] Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
[6] *Demographic Yearbook 1981,* United Nations, New York, 1983, 1111 p.

TABLE 1.2(b) Total Fertility Rate for Selected Industrialized Countries

Year	Germany (F.R.G.)	Austria	Belgium	France	Ireland	Luxemburg	Netherlands	United Kingdom
1945	–	–	–	–	–	–	–	–
1946	–	–	2.52[1]	2.98[1]	3.33[1]	2.77[1]	3.97[1]	2.67[1]
1947	–	–	2.46[1]	3.02[1]	–	–	3.70[1]	2.70[1]
1948	–	–	2.44	2.99	–	1.99[1]	3.41	2.39
1949	2.15[1]	–	2.39	2.97	–	–	3.22	2.26
1950	2.10[1]	–	2.35	2.92	–	–	3.10	2.19
1951	2.06[1]	2.03	2.29	2.77	3.28[1]	–	3.06	2.15
1952	2.09[1]	2.06	2.34	2.73	–	2.07[1]	3.25	2.16
1953	2.08[1]	2.07	2.33	2.66	–	–	3.05	2.22
1954	2.13[1]	2.11	2.37	2.71	–	–	3.04	2.21
1955	2.14[1]	2.23	2.38	2.70	3.39[1]	2.13[1]	3.05	2.22
1956	2.23[1]	2.41	2.42	2.69	3.41	2.08	3.05	2.36
1957	2.33[1]	2.49	2.47	2.69	3.60[1]	2.13	3.08	2.45
1958	2.32[1]	2.52	2.50	2.67	3.52[1]	2.13	3.10	2.52
1959	2.40[1]	2.61	2.56	2.73	3.62[1]	2.16	3.16	2.54
1960	2.37[1]	2.69[1]	2.53	2.72	3.73[1]	2.29	3.11	2.67
1961	2.46[1]	2.80	2.64	2.81	3.79	2.35	3.20	2.77
1962	2.44[1]	2.80	2.61	2.77	3.90[1]	2.29	3.16	2.83
1963	2.52[1]	2.81	2.68	2.86	3.93[1]	2.32	3.18	2.85
1964	2.55[1]	2.77	2.70	2.87	4.08[1]	2.42	3.15	2.89
1965	2.51[1]	2.69	2.60	2.82	4.06[1]	2.41	3.03	2.81
1966	2.54[1]	2.66	2.51	2.75	3.95	2.33	2.89	2.74
1967	2.49[1]	2.63	2.39	2.64	3.84[1]	2.24	2.79	2.63
1968	2.39[1]	2.59	2.30	2.56	3.77	2.12	2.69	2.55
1969	2.22[1]	2.50	2.27	2.52	3.84	2.02	2.74	2.45
1970	2.02[1]	2.31	2.24	2.47	3.86	1.96	2.58	2.38

See footnote(s) at end of table.

TABLE 1.2(b) Total Fertility Rate for Selected Industrialized Countries - Concluded

Year	Germany (F.R.G.)	Austria	Belgium	France	Ireland	Luxemburg	Netherlands	United Kingdom
1971	1.92[1]	2.20	2.18[1]	2.49	3.98	1.94	2.38	2.38
1972	1.71[1]	2.10	2.07	2.41	3.91	1.74	2.17	2.20
1973	1.54[1]	1.97	1.94	2.29[1]	3.82	1.58	1.92	2.03
1974	1.51[1]	1.85	1.83	2.15	3.72	1.58	1.79	1.90[1]
1975	1.45[1]	1.84	1.74	1.96	3.52	1.55[7]	1.67	1.79
1976	1.46[1]	1.70	1.73	1.87	3.32[2]	1.48[3]	1.64	1.72
1977	1.40[2]	1.65[2]	1.71[2]	1.87[2]	3.28[2]	1.49[3]	1.59	1.68[2]
1978	1.38[2]	1.63[2]	1.69[2]	1.83[2]	3.25[2]	1.47[3]	1.58[2]	1.75[2]
1979	1.38[2]	1.62[2]	1.69[2]	1.87[2]	3.22[2]	1.47[3]	1.56[2]	1.86[2]
1980	1.45[2]	1.68[2]	1.68[2]	1.96[2]	-	1.49[3]	1.60[2]	1.90[2]
1981	1.44[2]	1.71[2]	1.66[2]	1.96[2]	-	1.58[2]	1.57[2]	1.82[2]
1982	1.41[2]	1.70[2]	1.60[2]	1.94[2]	-	-	-	-

Source: *Demographic Yearbook 1977, Historical Supplement,* New York, United Nations 1979, p. 1171 except for those which have the following numbers:

[1] *Demographic Development in the OECD Countries,* Paris, OECD, 1979.
[2] Calot, G. and C. Blayo, Recent Course of Fertility in Western Europe, *Population Studies,* Vol. No. 36, p. 351.
[3] Munoz-Perez, F., *L'évolution de la fécondité dans les pays industrialisés depuis 1971, Population,* Vol. No. 3, 1982.
[4] Monnier, A., *La conjoncture démographique: l'Europe et les pays développés d'outre-mer. Population,* Vol. No. 4-5, p. 917.
[5] Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
[6] *Demographic Yearbook 1981,* United Nationas, New York, 1983, p. 1111.

TABLE 1.2(c) Total Fertility Rate for Selected Industrialized Countries

Year	Switzerland	Denmark*	Finland	Norway	Sweden
1945	-	-	-	-	-
1946	2.62[1]	2.68[1]	3.41[1]	2.77[1]	2.57[1]
1947	2.56[1]	2.64[1]	3.47[1]	2.66[1]	2.50[1]
1948	2.53	2.71	3.47	2.57	2.48
1949	2.48	2.57	3.33	2.52	2.39[1]
1950	2.40	2.58	3.16	2.53	2.32
1951	2.34	2.50	3.01	2.47	2.21
1952	2.35	2.54	3.06	2.58	2.23
1953	2.30	2.59	2.95	2.64	2.25
1954	2.29	2.54	2.92	2.67	2.17
1955	2.33	2.58	2.92	2.76	2.25
1956	2.38	2.59	2.89	2.83	2.28
1957	2.44	2.56	2.82	2.83	2.28
1958	2.34	2.53	2.63	2.86	2.24
1959	2.37	2.49	2.68	2.88	2.23
1960	2.34	2.54	2.71	2.85	2.17
1961	2.48	2.53	2.69	2.91	2.21
1962	2.46	2.54	2.64	2.89	2.25
1963	2.68	2.63	2.64	2.91	2.33
1964	2.85	2.60	2.53	2.96	2.47
1965	2.57	2.60	2.40	2.93	2.39
1966	2.47	2.62	2.32	2.89	2.37
1967	2.37	2.38	2.24	2.80	2.28
1968	2.29	2.13	2.07	2.75	2.07
1969	2.12	2.01	1.85	2.70	1.94
1970	2.09	1.97	1.83	2.50	1.94
1971	2.03	2.06	1.70	2.50	1.98
1972	1.92	2.05	1.59	2.37	1.93
1973	1.82	1.93	1.50	2.24	1.88
1974	1.73	1.91	1.62	2.14	1.89
1975	1.60	1.93	1.69	1.99	1.78
1976	1.53	1.75	1.72[6]	1.87	1.69
1977	1.52	1.66[2]	1.69[6]	1.76	1.64[2]
1978	1.49[2]	1.67[2]	1.65[6]	1.77[2]	1.60[2]
1979	1.50[2]	1.61[2]	1.64[6]	1.75[2]	1.66[2]
1980	1.53[2]	1.55[2]	1.63[2]	1.72[2]	1.68[2]
1981	1.53[2]	1.43[2]	1.65[2]	1.70[2]	1.63[2]
1982	1.55[2]	-	-	-	1.62[2]

* Does not include the Faeroe Islands and Greenland.

Sources: *Demographic Yearbook 1977, Historical Supplement,* New York, United Nations 1979, p. 1171 except for those which have the following numbers:

1 *Demographic Development in the OECD Countries,* Paris, OECD, 1979.
2 Calot, G. and C. Blayo, Recent Course of Fertility in Western Europe, *Population Studies,* Vol. No. 36, p. 351.
3 Munoz-Perez, F., *L'évolution de la fécondité dans les pays industrialisés depuis 1971, Population,* Vol. No. 3, 1982.
4 Monnier, A., *La conjoncture démographique: l'Europe et les pays développés d'outre-mer. Population,* Vol. No. 4-5, p. 917.
5 Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
6 *Demographic Yearbook 1981,* United Nations, New York, 1983, p. 1111.

TABLE 1.2(d) Total Fertility Rate for Selected Industrialized Countries

Year	Spain*	Greece	Italy	Portugal
1945	–	–	–	–
1946	3.02[1]	–	3.01[1]	3.16[1]
1947	2.90[1]	–	2.89[1]	3.11[1]
1948	2.88	–	2.83[1]	3.41
1949	2.58[1]	–	2.54	3.21
1950	2.46	–	2.47	3.15
1951	2.50[1]	–	2.37	3.17
1952	2.54[1]	–	2.29[1]	3.18
1953	2.60[1]	2.46[1]	2.25[1]	3.01
1954	2.54[1]	–	2.32[1]	2.90
1955	2.58[1]	–	2.31[1]	3.05
1956	2.59[1]	2.33	2.30[1]	2.90
1957	2.56[1]	2.27	2.28	3.01
1958	2.54[1]	2.23	2.24	3.05
1959	2.49[1]	2.27	2.29	3.01
1960	2.81	2.22	2.31	3.01
1961	2.55[1]	2.15	2.43	2.87[1]
1962	2.54[1]	2.17	2.45	3.18[1]
1963	2.64[1]	2.15	2.49	3.10
1964	2.60[1]	2.25	2.62	3.16
1965	2.61[1]	2.25	2.55	3.03
1966	2.62[1]	2.31	2.52	2.97
1967	2.35[1]	2.42	2.44	2.87
1968	2.82	2.39	2.39	2.78
1969	2.81	2.33	2.40	2.69
1970	2.82	2.21[1]	2.40[1]	2.87
1971	2.04[1]	2.32	2.36	3.14
1972	2.03[1]	2.31	2.32	2.89
1973	1.91[1]	2.25	2.27[1]	2.83
1974	2.87	2.37	2.28	2.70
1975	2.80[3]	2.32	2.14	2.60
1976	2.79[3]	2.35	2.01	2.01[1]
1977	2.66[3]	2.28[2]	1.95[2]	2.48[2]
1978	2.53[3]	2.29[2]	1.85[2]	2.28[2]
1979	2.33[3]	2.29[2]	1.74[2]	2.17[2]
1980	2.16[3]	–	1.66[2]	–
1981	1.99[2]	–	1.56[2]	–

* Does not include Ceuta and Melilla.

Source: *Demographic Yearbook 1977, Historical Supplement,* New York, United Nations 1979, 1171 p. except for those which have the following numbers:

[1] *Demographic Development in the OECD Countries,* Paris, OECD, 1979.
[2] Calot, G. and C. Blayo, Recent Course of Fertility in Western Europe, *Population Studies,* Vol. No. 36, p. 351.
[3] Munoz-Perez, F. *L'évolution de la fécondité dans les pays industrialisés depuis 1971, Population,* Vol. No. 3, 1982.
[4] Monnier, A., *La conjoncture démographique: l'Europe et les pays développés d'outre-mer, Population,* Vol. No. 4-5, p. 917.
[5] Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
[6] *Demographic Yearbook 1981,* United Nations, New York, 1983, 1111 p.

TABLE 1.2(e) Total Fertility Rate for Selected Industrialized Countries

Year	Yugoslavia	Hungary	Romania	USSR	Czechoslovakia	Poland	Bulgaria
1945	–	–	–	–	–	–	–
1946	–	–	–	–	–	–	–
1947	–	–	–	–	–	–	–
1948	–	–	–	–	–	–	–
1949	–	–	–	–	–	–	–
1950	3.81	–	–	–	–	–	–
1951	3.33	–	–	–	–	–	–
1952	3.62	–	–	–	–	–	–
1953	3.42	–	–	–	–	–	–
1954	3.47	–	–	–	–	–	–
1955	3.18	–	–	–	–	–	–
1956	3.05	–	–	–	–	–	–
1957	2.78	2.30	2.73	–	2.75	3.49	2.26
1958	2.79	2.18	2.59	–	2.57	3.36	2.23
1959	2.73	2.09	2.43	3.75	2.39	3.22	2.23
1960	2.80[1]	2.02	2.34	–	2.39	2.98	2.30
1961	2.78	1.94	2.17	3.60	2.38	2.83	2.28
1962	2.71	1.79	2.04	–	2.34	2.72	2.22
1963	2.67	1.81	2.01	–	2.50	2.70	2.19
1964	2.62	1.82	1.96	–	2.51	2.59	2.16
1965	2.70	1.82	1.91	–	2.37	2.52	2.08
1966	2.64	1.89	1.90	–	2.22	2.43	2.02
1967	2.56	2.01	3.66	–	2.09	2.33	2.03
1968	2.48	2.06	3.63	–	2.01	2.24	2.28
1969	2.46	2.03	3.19	–	2.05	2.20	2.28
1970	2.29	1.97	2.89	2.47	2.07	2.20	2.18
1971	2.38	1.92	2.66	2.46	2.14	2.25	2.11
1972	2.37	1.93	2.55	2.46	2.23	2.24	2.04
1973	2.32	1.95	2.44	2.43	2.38	2.26	2.15
1974	2.30	2.30	2.71	–	2.48	2.26	2.28
1975	2.28	2.37	2.62	2.41[4]	2.46	2.27	2.21
1976	2.26[3]	2.26	2.58	2.39[4]	2.43	2.30	2.26
1977	2.19[3]	2.16	2.60	2.37[4]	2.38	2.23	2.20
1978	2.15[3]	2.07[3]	2.52[3]	2.32[4]	2.36[3]	2.17[3]	2.14[4]
1979	2.12[3]	2.01[3]	2.48[3]	2.28[4]	2.33[3]	2.23[3]	2.15[4]
1980	2.11[3]	1.90[3]	2.43[3]	2.26[4]	2.16[3]	2.25[3]	2.04[4]
1981	2.08[3]	1.88[3]	2.35[2]	–	2.90[3]	2.22[2]	2.01[2]
1982	–	1.79[2]	2.20[2]	–	2.10[2]	2.30[2]	2.02

Source: *Demographic Yearbook 1977, Historical Supplement,* New York, United Nations 1979, 1171 p. except for those which have the following numbers:

[1] *Demographic Development in the OECD Countries,* Paris, OECD, 1979.
[2] Calot, G. and C. Blayo, Recent Course of Fertility in Western Europe, *Population Studies,* Vol. No. 36, p. 351.
[3] Munoz-Perez, F. *L'évolution de la fécondité dans les pays industrialisés depuis 1971, Population,* Vol. No. 3, 1982.
[4] Monnier, A., *La conjoncture démographique: l'Europe et les pays développés d'outre-mer, Population,* Vol. No. 4-5, p. 917.
[5] Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.
[6] *Demographic Yearbook 1981,* United Nations, New York, 1983, 1111 p.

TABLE 1.3 Total Fertility Rate and Index of Variation, Provinces and Territories, 1922 - 1982

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Index of variation
1922	3,737	3,546	4,311	–	3,055	3,844	4,268	3,875	2,578	–	–	–
1923	3,452	3,325	4,002	–	2,963	3,597	3,998	3,627	2,472	–	–	–
1924	3,340	3,406	4,003	–	2,983	3,368	4,087	3,531	2,432	–	–	–
1925	3,057	3,306	4,068	–	2,877	3,227	3,889	3,621	2,424	–	–	–
1926	3,195	3,198	3,837	4,307	2,730	3,174	3,881	3,526	2,299	–	–	0.183
1927	3,139	3,244	3,869	4,266	2,702	2,993	3,826	3,448	2,257	–	–	0.189
1928	3,339	3,178	3,706	4,195	2,704	3,004	3,752	3,469	2,280	–	–	0.176
1929	3,152	3,105	3,768	4,010	2,667	2,874	3,661	3,568	2,237	–	–	0.178
1930	3,314	3,317	3,880	4,059	2,748	2,866	3,687	3,574	2,305	–	–	0.172
1931	3,521	3,397	3,990	4,001	2,648	2,815	3,478	3,377	2,171	–	–	0.188
1932	3,766	3,329	3,932	3,804	2,530	2,744	3,415	3,302	2,073	–	–	0.197
1933	3,478	3,118	3,594	3,502	2,369	2,550	3,275	3,051	1,881	–	–	0.197
1934	3,336	3,090	3,590	3,441	2,286	2,528	3,176	3,014	1,872	–	–	0.197
1935	3,308	3,036	3,552	3,369	2,276	2,495	3,080	2,923	1,849	–	–	0.196
1936	3,176	2,998	3,487	3,364	2,219	2,339	2,952	2,822	1,867	–	–	0.195
1937	3,459	2,860	3,449	3,268	2,161	2,322	2,877	2,773	1,941	–	–	0.199
1938	3,122	2,940	3,624	3,261	2,273	2,390	2,844	2,735	2,081	–	–	0.177
1939	3,468	2,777	3,543	3,211	2,202	2,355	2,812	2,796	2,001	–	–	0.195
1940	3,262	2,940	3,593	3,287	2,316	2,526	2,970	2,889	2,173	–	–	0.163
1941	3,228	3,097	3,688	3,389	2,403	2,506	2,809	2,833	2,305	–	–	0.160
1942	3,735	3,276	3,715	3,529	2,505	2,677	3,029	3,134	2,325	–	–	0.166
1943	3,650	3,173	3,857	3,571	2,591	2,820	3,126	3,224	2,496	–	–	0.148
1944	3,880	3,204	4,035	3,643	2,474	2,734	3,047	3,117	2,430	–	–	0.183
1945	3,775	3,157	4,006	3,666	2,469	2,760	3,131	3,184	2,369	–	–	0.180
1946	4,361	3,748	4,567	3,832	2,970	3,168	3,439	3,510	2,684	–	–	0.171
1947	4,544	3,996	4,839	3,896	3,277	3,373	3,701	3,811	3,012	–	–	0.153
1948	4,415	3,725	4,649	3,805	3,097	3,123	3,466	3,621	2,978	–	–	0.159
1949	4,377	3,750	4,438	3,797	3,110	3,193	3,507	3,640	3,111	–	–	0.137
1950	4,470	3,669	4,418	3,812	3,111	3,188	3,520	3,629	3,074	–	–	0.141
1951	4,189	3,682	4,378	3,775	3,222	3,302	3,590	3,721	3,201	5,019	6,159	0.112
1952	3,941	3,845	4,493	3,861	3,406	3,417	3,700	3,930	3,401	–	–	0.093
1953	3,894	3,905	4,332	3,877	3,539	3,512	3,802	4,156	3,628	–	–	0.073

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 1.3 Total Fertility Rate and Index of Variation, Provinces and Territories, 1922 - 1982 - Concluded

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Index of variation
1954	3,983	4,047	4,344	3,944	3,667	3,638	3,979	4,380	3,736	-	-	0.066
1955	3,891	4,043	4,295	3,904	3,732	3,635	3,936	4,433	3,842	-	-	0.064
1956	4,542	4,092	4,576	3,904	3,657	3,680	4,077	4,282	3,899	4,756	6,315	0.082
1957	4,703	4,168	4,694	4,001	3,714	3,777	4,168	4,278	3,918	5,429	7,299	0.086
1958	4,430	4,073	4,486	3,938	3,680	3,675	4,167	4,321	3,895	5,373	7,530	0.074
1959	4,659	4,100	4,498	3,928	3,773	3,855	4,245	4,377	3,955	6,297	7,605	0.076
1960	4,671	4,119	4,475	3,764	3,793	3,930	4,229	4,378	3,941	5,857	7,708	0.078
1961	4,881	4,159	4,543	3,700	3,742	3,936	4,221	4,267	3,785	5,376	7,189	0.096
1962	4,565	4,134	4,439	3,578	3,689	3,850	4,158	4,159	3,705	5,263	6,672	0.085
1963	4,762	4,017	4,227	3,473	3,618	3,794	4,251	4,042	3,560	4,646	6,680	0.102
1964	4,445	3,886	4,124	3,333	3,475	3,595	4,058	3,765	3,279	5,046	7,123	0.105
1965	4,146	3,467	3,772	2,996	3,125	3,279	3,589	3,351	2,931	4,456	6,853	0.115
1966	3,578	3,150	3,312	2,646	2,790	2,944	3,284	3,066	2,659	3,626	6,154	0.103
1967	3,255	2,879	3,110	2,367	2,586	2,766	3,041	2,975	2,517	3,401	6,196	0.104
1968	3,183	2,681	2,802	2,180	2,461	2,710	3,014	2,787	2,436	3,280	6,354	0.113
1969	2,942	2,563	2,740	2,100	2,447	2,683	2,891	2,724	2,426	3,650	5,556	0.100
1970	2,807	2,571	2,640	1,974	2,401	2,654	2,730	2,674	2,380	3,135	5,419	0.099
1971	2,909	2,503	2,667	1,878	2,221	2,540	2,688	2,434	2,135	3,229	4,761	0.129
1972	2,606	2,302	2,460	1,727	2,051	2,384	2,554	2,244	2,002	2,775	4,364	0.127
1973	2,270	2,147	2,237	1,683	1,960	2,241	2,391	2,153	1,874	2,518	3,994	0.103
1974	2,219	2,002	2,136	1,657	1,884	2,179	2,385	2,110	1,819	3,106	3.474	0.113
1975	2,049	1,950	2,055	1,753	1,836	2,085	2,219	2,107	1,784	2,195	3,896	0.081
1976	2,140	1,882	2,070	1,774	1,767	2,015	2,301	2,040	1,722	2,024	3,175	0.099
1977	2,076	1,771	1,958	1,755	1,729	1,965	2,267	2,014	1,738	1,972	3,040	0.098
1978	2,043	1,765	1,781	1,690	1,679	1,914	2,202	1,980	1,715	2,025	3,043	0.099
1979	1,968	1,708	1,758	1,748	1,666	1,877	2,193	1,972	1,722	2,187	3,303	0.092
1980	1,944	1,670	1,681	1,698	1,662	1,840	2,144	2,014	1,726	2,088	3,365	0.097
1981	1,908	1,643	1,712	1,614	1,633	1,856	2,143	1,936	1,706	2,138	2,998	0.099
1982	1,933	1,666	1,702	1,522	1,652	1,840	2,170	1,960	1,739	2,044	2,998	0.110

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 1.4 Number of Children Ever-born per 1,000 Ever-married Women, by Age of Mother, Canada, Provinces and Territories, 1981

Age group	Nlfd.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T. and Yukon	Canada
15 - 19	924	752	552	610	309	428	572	571	416	373	734	429
20 - 24	1,114	956	839	895	548	684	790	934	698	671	1,000	687
25 - 29	1,748	1,577	1,422	1,515	1,190	1,247	1,389	1,632	1,306	1,230	1,562	1,285
30 - 34	2,394	2,170	1,994	2,145	1,788	1,833	2,028	2,263	1,972	1,778	2,332	1,880
35 - 39	3,130	2,937	2,576	2,662	2,187	2,282	2,519	2,725	2,445	2,227	3,109	2,330
40 - 44	3,961	3,550	3,208	3,381	2,721	2,729	3,055	3,279	2,975	2,714	4,170	2,842
45 - 49	4,855	4,177	3,673	4,018	3,275	3,060	3,409	3,666	3,340	3,024	5,021	3,260
50 - 54	5,149	4,613	3,769	4,350	3,635	3,108	3,415	3,690	3,404	3,120	4,897	3,407
55 - 59	5,185	4,351	3,651	4,306	3,846	2,999	3,307	3,581	3,425	2,961	5,287	3,379
60 +	4,992	3,934	3,512	4,180	4,028	2,765	3,154	3,585	3,270	2,589	5,584	3,255

Source: Statistics Canada, *1981 Census,* Catalogue 92-906, Table 2.

TABLE 2.1 Age-specific Fertility Rate per 1,000 Women, Canada, 1926 - 1982

Year	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
1926	29.0	139.9	177.4	153.8	114.6	50.7	6.0
1927	29.6	140.0	173.6	151.2	113.8	49.4	6.2
1928	30.2	140.3	172.8	149.9	111.0	48.8	5.9
1929	30.3	139.9	172.5	144.2	104.8	46.2	5.4
1930	30.5	143.0	176.0	148.0	106.7	46.6	5.5
1931	29.9	137.1	175.1	145.3	103.1	44.0	5.5
1932	28.7	129.6	168.3	140.6	100.5	43.7	5.5
1933	27.4	117.8	155.6	132.8	94.9	39.3	5.1
1934	26.2	113.1	151.2	133.1	93.0	39.2	4.9
1935	26.5	112.5	148.5	128.6	92.6	37.3	4.9
1936	25.7	112.1	144.3	126.5	90.0	36.3	4.4
1937	25.6	113.6	142.2	123.4	85.3	34.7	4.2
1938	26.9	121.2	145.3	123.9	84.8	34.0	4.1
1939	27.2	119.7	144.0	120.4	83.0	32.6	3.9
1940	29.3	130.3	152.6	122.8	81.7	32.7	3.7
1941	30.7	138.4	159.8	122.3	80.0	31.6	3.7
1942	32.0	145.1	168.7	128.0	83.0	32.3	3.6
1943	32.1	146.8	175.4	131.9	86.5	31.9	3.5
1944	31.3	143.3	168.7	134.1	88.1	33.0	3.4
1945	31.6	143.3	166.8	134.3	90.3	33.5	3.7
1946	36.5	169.6	191.4	146.0	93.1	34.5	3.8
1947	42.6	189.1	206.4	150.5	93.1	34.1	3.3
1948	43.2	181.1	197.6	141.4	89.0	32.6	3.3
1949	45.2	181.5	201.2	139.7	88.8	31.5	3.2
1950	46.0	181.3	200.6	141.3	87.9	30.8	3.0
1951	48.1	188.7	198.8	144.5	86.5	30.9	3.1
1952	50.4	201.0	205.2	150.7	87.4	30.7	2.8
1953	52.0	208.2	208.4	153.2	88.1	31.2	2.9
1954	54.3	217.4	213.2	156.5	88.5	32.4	3.2
1955	54.2	218.3	215.1	153.8	89.8	32.3	2.9
1956	55.9	222.2	220.1	150.3	89.6	30.8	2.9
1957	60.2	227.1	224.1	149.4	90.7	30.7	2.8
1958	59.2	226.5	223.3	147.9	87.6	28.9	2.7
1959	60.4	233.8	226.7	147.7	87.3	28.5	2.7
1960	59.8	233.5	224.4	146.2	84.2	28.5	2.4
1961	58.2	233.6	219.2	144.9	81.1	28.5	2.4
1962	55.0	231.6	214.6	143.1	77.1	27.6	2.1
1963	53.1	226.0	210.6	140.3	75.8	25.9	2.1
1964	50.2	212.8	203.1	134.9	72.0	25.1	2.1
1965	49.3	188.6	181.9	119.4	65.9	22.0	2.0
1966	48.2	169.1	163.5	103.3	57.5	19.1	1.7
1967	45.2	161.4	152.6	91.8	50.9	15.9	1.5
1968	43.0	152.6	148.7	86.3	44.8	13.8	1.4

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.1 Age-specific Fertility Rate per 1,000 Women, Canada, 1926 - 1982 - Concluded

Year	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
1969	42.2	147.7	149.8	85.0	42.6	12.5	1.1
1970	42.8	143.3	147.2	81.8	39.0	11.3	0.9
1971	40.1	134.4	142.0	77.3	33.6	9.4	0.6
1972	38.5	119.8	137.1	72.1	28.9	7.8	0.6
1973	37.2	117.7	131.6	67.1	25.7	6.4	0.4
1974	35.3	113.1	131.1	66.6	23.0	5.5	0.4
1975	35.3	112.7	131.2	64.4	21.6	4.8	0.4
1976	33.4	110.3	129.9	65.6	21.1	4.3	0.3
1977	32.0	108.0	129.8	67.1	20.5	3.6	0.3
1978	29.7	103.1	128.1	67.1	19.5	3.6	0.3
1979	27.9	101.8	130.8	69.1	19.5	3.4	0.2
1980	27.6	100.1	129.4	69.3	19.4	3.1	0.2
1981	26.4	96.7	126.9	68.0	19.4	3.2	0.2
1982	26.5	95.4	124.7	68.6	20.2	3.1	0.2

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.2 Percentage Distribution of Live Births by Age of Mothers and Median Age, Canada,[1] 1926 - 1982

Year	− 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 +	Not stated	Median age
1926	0.027	5.557	23.439	27.018	21.590	15.088	5.947	0.595	0.011	0.727	29.7
1927	0.034	5.767	23.900	26.717	21.331	15.113	5.879	0.627	0.017	0.616	29.7
1928	0.033	5.989	24.379	26.609	21.052	14.771	5.834	0.598	0.014	0.721	29.6
1929	0.032	6.221	25.101	26.963	20.514	14.213	5.647	0.563	0.013	0.732	29.4
1930	0.031	6.224	25.452	26.796	20.454	14.152	5.590	0.565	0.012	0.723	29.4
1931	0.035	6.325	25.357	27.214	20.428	14.007	5.409	0.572	0.009	0.643	29.4
1932	0.025	6.255	25.137	27.494	20.377	14.021	5.584	0.608	0.008	0.491	29.4
1933	0.036	6.257	24.945	27.694	20.490	14.012	5.402	0.594	0.013	0.557	29.5
1934	0.026	6.016	24.761	27.803	20.851	13.812	5.516	0.590	0.009	0.617	29.6
1935	0.032	6.105	25.246	27.962	20.361	13.762	5.323	0.596	0.014	0.600	29.6
1936	0.034	6.089	25.542	27.951	20.456	13.514	5.261	0.539	0.013	0.599	29.5
1937	0.027	6.199	26.094	28.133	20.417	12.933	5.056	0.522	0.015	0.604	29.4
1938	0.034	6.397	26.438	28.471	20.322	12.497	4.776	0.505	0.010	0.550	29.2
1939	0.026	6.551	26.058	28.944	20.358	12.429	4.571	0.483	0.009	0.570	29.1
1940	0.025	6.664	26.692	29.531	20.098	11.761	4.323	0.444	0.009	0.454	28.8
1941	0.028	6.610	27.750	29.804	19.640	11.309	4.029	0.417	0.008	0.405	28.6
1942	0.033	6.391	27.989	29.831	19.816	11.220	3.920	0.386	0.008	0.406	28.5
1943	0.027	6.106	27.789	29.946	20.177	11.443	3.761	0.365	0.007	0.380	28.5
1944	0.028	5.918	27.508	28.943	21.084	11.890	3.953	0.353	0.011	0.312	28.8
1945	0.023	5.842	27.164	28.649	21.278	12.330	4.017	0.388	0.007	0.303	28.8
1946	0.033	5.841	28.070	29.491	20.721	11.554	3.685	0.358	0.004	0.243	28.4
1947	0.027	6.245	28.953	29.867	20.002	10.934	3.458	0.291	0.004	0.218	28.1
1948	0.034	6.495	28.500	29.988	19.772	11.153	3.509	0.309	0.004	0.235	28.0
1949	0.029	6.608	27.903	30.640	19.565	11.309	3.444	0.300	0.004	0.198	27.9
1950	0.026	6.580	27.384	30.731	19.969	11.407	3.428	0.278	0.005	0.193	27.9
1951	0.027	6.595	27.430	30.436	20.256	11.328	3.454	0.280	0.008	0.187	27.8
1952	0.029	6.614	27.668	30.042	20.673	11.131	3.381	0.257	0.003	0.202	27.7
1953	0.032	6.676	27.745	29.701	20.863	11.093	3.429	0.251	0.005	0.204	27.7
1954	0.032	6.813	27.868	29.206	21.104	10.978	3.541	0.280	0.004	0.175	27.6
1955	0.033	6.855	27.736	29.118	21.029	11.220	3.591	0.264	0.003	0.150	27.5
1956	0.033	7.101	27.854	29.198	20.710	11.215	3.467	0.264	0.003	0.155	27.4
1957	0.038	7.668	27.957	29.007	20.175	11.325	3.408	0.260	0.005	0.157	27.3
1958	0.045	7.843	28.205	28.919	20.061	11.244	3.263	0.256	0.003	0.162	27.3
1959	0.047	8.120	28.672	28.559	19.674	11.279	3.229	0.266	0.002	0.153	27.2
1960	0.045	8.390	28.959	28.248	19.489	11.176	3.299	0.243	0.003	0.148	27.1

See footnote(s) at end of table.

TABLE 2.2 Percentage Distribution of Live Births by Age of Mothers and Median Age, Canada,[1] 1926 - 1982 – Concluded

Year	– 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 +	Not stated	Median age
1961	0.050	8.563	29.493	27.726	19.352	11.052	3.387	0.249	0.004	0.125	27.1
1962	0.046	8.760	30.356	27.307	19.150	10.696	3.397	0.228	0.002	0.147	27.1
1963	0.042	8.956	31.005	26.993	18.720	10.585	3.322	0.229	0.002	0.147	27.0
1964	0.048	9.209	31.291	26.952	18.405	10.291	3.410	0.246	0.002	0.147	27.1
1965	0.049	10.287	31.519	26.606	17.642	10.176	3.313	0.259	0.004	0.146	27.1
1966	0.057	11.306	32.350	26.594	16.530	9.593	3.167	0.247	0.003	0.152	26.9
1967	0.062	11.463	34.241	26.873	15.389	8.795	2.787	0.222	0.001	0.167	26.7
1968	0.071	11.510	34.975	27.909	14.827	7.832	2.473	0.220	0.001	0.182	26.6
1969	0.075	11.401	35.067	29.105	14.515	7,287	2.188	0.178	0.001	0.182	26.7
1970	0.083	11.762	35.403	29.852	14.062	6.588	1.937	0.151	0.001	0.162	26.6
1971	0.084	11.501	35.576	31.144	13.960	5.830	1.639	0.107	0.001	0.158	26.5
1972	0.089	11.853	34.203	32.953	14.018	5.244	1.406	0.105	0.001	0.128	26.6
1973	0.101	11.922	33.655	34.347	13.921	4.681	1.179	0.072	0.001	0.120	26.4
1974	0.093	11.423	33.216	35.550	14.353	4.214	0.994	0.066	0.001	0.090	26.5
1975	0.106	11.151	33.212	35.745	14.284	3.895	0.847	0.062	0.002	0.695	26.4
1976	0.101	10.721	32.943	36.098	14.796	3.890	0.764	0.051	0.001	0.635	26.5
1977	0.092	10.225	32.836	35.989	16.075	3.884	0.628	0.049	0.001	0.222	26.5
1978	0.094	9.660	32.325	36.292	16.976	3.829	0.621	0.045	–	0.157	26.6
1979	0.086	8.893	37.721	36.936	17.709	3.973	0.580	0.032	–	0.069	26.8
1980	0.076	8.602	31.229	37.131	18.121	4.056	0.540	0.030	–	0.216	26.8
1981	0.074	8.045	30.605	37.539	18.737	4.244	0.576	0.031	–	0.146	26.8
1982	0.077	7.766	30.214	37.626	18.887	4.699	0.581	0.026	–	0.122	26.5

[1] Newfoundland not included. Before 1951, Yukon and Northwest Territories not included.

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.3 Fertility Rate by Birth Order Per 1,000 Women, Canada, 1944 - 1982

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
First order																				
15 - 19	25.3	25.2	29.5	34.8	34.2	35.1	35.3	36.9	38.8	39.6	41.4	40.8	42.0	45.6	44.2	44.6	43.7	42.5	40.0	38.9
20 - 24	71.8	71.4	87.8	101.0	88.4	84.0	82.5	86.2	93.4	95.2	97.6	95.8	95.4	97.8	97.5	97.8	96.4	94.4	93.2	92.5
25 - 29	47.9	44.9	55.1	61.3	51.2	48.7	46.4	45.5	47.3	46.4	47.3	46.2	46.5	47.0	45.6	44.1	41.8	39.4	37.4	36.3
30 - 34	22.1	20.9	24.9	25.5	21.0	18.8	17.7	17.8	18.0	18.3	17.8	17.1	16.2	16.2	15.4	15.0	14.2	13.7	12.7	11.9
35 - 39	8.1	8.4	8.6	9.4	8.3	7.8	7.0	6.9	6.7	6.6	6.5	6.3	6.4	6.1	5.9	5.5	5.3	4.8	4.6	4.4
40 - 44	1.6	1.5	2.0	2.0	2.0	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.4	1.2	1.2	1.1
Second order																				
15 - 19	5.2	5.3	5.7	6.5	7.6	8.4	8.7	9.1	9.4	10.0	10.4	10.8	11.5	11.9	12.4	12.9	13.0	12.7	12.2	11.5
20 - 24	42.1	41.8	49.5	53.7	57.0	59.1	58.0	59.9	61.6	65.6	69.3	70.0	71.8	72.5	72.6	76.8	76.0	76.4	75.0	72.6
25 - 29	47.0	47.3	55.2	60.3	59.5	62.1	61.1	59.3	58.6	60.2	60.0	60.5	61.1	61.2	60.3	61.0	59.6	56.6	55.3	54.6
30 - 34	29.7	30.0	33.5	34.3	31.5	31.5	31.3	30.9	31.0	30.5	30.4	28.7	27.5	26.7	25.6	25.0	24.4	23.6	23.2	22.1
35 - 39	11.5	12.1	13.1	13.5	12.6	12.4	12.5	12.1	11.5	11.3	10.8	10.4	10.4	10.2	9.8	9.4	8.8	8.1	7.8	7.5
40 - 44	2.1	2.2	2.4	2.5	2.4	2.6	2.5	2.5	2.5	2.6	2.5	2.4	2.3	2.2	2.1	1.9	1.9	1.9	1.8	1.7
Third order																				
15 - 19	0.8	0.9	1.0	0.9	1.1	1.3	1.6	1.6	1.6	1.8	1.9	1.9	1.9	2.2	2.1	2.3	2.6	2.4	2.4	2.2
20 - 24	18.4	18.7	20.2	21.7	23.0	25.0	26.2	26.9	28.8	29.9	31.7	33.0	34.7	35.7	35.4	38.9	38.6	39.2	39.0	37.9
25 - 29	30.7	31.0	35.3	37.5	38.0	40.4	41.7	42.3	44.2	45.1	46.7	47.2	49.4	50.7	50.6	52.3	52.6	51.9	50.8	50.4
30 - 34	23.4	24.3	27.0	28.2	27.6	28.0	29.1	30.3	32.8	33.2	34.0	33.8	32.3	32.0	31.6	31.1	31.1	30.5	29.4	29.3
35 - 39	11.4	12.3	13.4	13.7	13.7	14.2	14.4	14.3	14.6	14.9	14.3	14.7	14.3	14.6	13.7	13.6	12.9	12.5	11.4	11.3
40 - 44	2.3	2.7	2.8	3.1	3.0	3.0	3.0	3.3	3.2	3.6	3.7	3.4	3.3	3.4	3.0	3.0	3.0	2.9	2.9	2.7
Fourth order																				
15 - 19	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2
20 - 24	7.4	7.5	7.9	8.0	8.5	9.1	9.7	10.7	11.5	11.7	12.2	12.8	13.6	14.0	14.3	15.1	15.2	15.8	16.4	15.6
25 - 29	18.9	19.2	20.7	21.7	22.3	22.7	23.8	24.1	26.1	26.7	27.7	28.6	29.6	31.1	31.7	32.6	33.1	33.4	33.1	32.3
30 - 34	16.8	16.8	18.4	19.1	19.1	19.8	20.2	21.7	23.6	24.7	25.5	25.7	25.7	25.5	25.7	26.4	26.3	26.1	26.0	25.2
35 - 39	9.8	10.6	10.8	11.5	11.2	11.7	12.1	12.4	12.8	13.1	13.5	14.1	14.3	14.5	13.8	14.3	13.5	13.1	12.6	12.2
40 - 44	2.7	2.6	2.8	2.9	3.0	3.0	3.2	3.3	3.4	3.6	3.8	3.9	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2

See source and note at end of table.

TABLE 2.3 Fertility Rate by Birth Order Per 1,000 Women, Canada, 1944 - 1982 - Concluded

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
First order																			
15 - 19	37.9	38.5	38.3	36.6	35.5	35.1	36.1	33.0	31.9	31.2	29.4	28.4	26.4	26.4	24.6	23.1	23.1	22.2	21.6
20 - 24	90.9	85.6	82.0	82.1	80.2	77.7	75.9	71.2	65.8	64.1	62.9	60.7	57.9	60.5	58.9	57.8	57.6	56.4	54.6
25 - 29	36.6	35.2	35.6	37.1	38.6	40.7	42.0	43.1	43.6	45.7	46.9	45.3	44.4	48.9	49.1	50.4	51.5	50.9	50.0
30 - 34	12.0	11.2	10.6	10.7	10.8	11.1	11.4	11.5	12.1	12.4	13.4	13.0	13.2	14.6	15.5	16.0	16.6	17.1	17.3
35 - 39	4.3	4.1	3.8	3.8	3.6	3.5	3.4	3.0	3.1	3.1	3.1	3.0	3.1	3.3	3.4	3.4	3.4	3.6	3.8
40 - 44	1.1	1.0	1.0	0.8	0.8	0.7	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5
Second order																			
15 - 19	10.1	9.0	8.4	7.4	6.7	6.5	6.2	6.1	5.8	5.5	5.5	5.5	5.3	5.0	4.6	4.3	4.1	3.8	3.7
20 - 24	68.9	60.8	54.7	52.2	49.7	49.0	47.5	45.2	42.7	41.1	39.3	38.2	36.9	36.4	35.0	33.7	32.8	30.9	29.4
25 - 29	54.5	51.1	48.9	47.6	49.3	50.5	50.7	50.4	50.4	52.1	53.2	52.2	51.4	52.1	51.6	52.2	51.1	50.1	47.6
30 - 34	21.7	20.0	19.0	17.9	18.1	18.4	18.8	19.0	19.9	20.7	22.5	22.2	23.0	25.0	25.6	26.6	27.0	26.4	26.0
35 - 39	7.6	7.1	6.6	6.1	5.6	5.5	5.2	5.1	4.8	4.9	5.0	4.9	5.0	5.4	5.2	5.6	5.8	6.0	6.0
40 - 44	1.7	1.5	1.5	1.2	1.1	1.1	0.9	1.0	0.9	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Third order																			
15 - 19	1.8	1.5	1.2	1.0	0.9	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4
20 - 24	34.0	27.2	21.6	18.6	16.2	15.2	14.8	13.5	11.5	10.4	9.5	9.5	9.1	8.9	8.4	8.4	8.1	7.7	7.5
25 - 29	48.8	43.0	37.4	33.7	32.2	32.2	31.5	28.9	25.2	23.2	22.5	22.4	21.3	21.4	20.5	21.5	20.3	19.5	18.9
30 - 34	29.2	26.0	23.0	20.9	20.2	20.6	20.4	19.3	17.8	16.7	16.5	16.1	16.1	16.8	16.6	17.4	17.0	16.3	15.7
35 - 39	10.8	10.3	9.6	8.4	7.8	7.6	6.9	6.2	5.6	5.2	4.9	4.7	4.7	4.9	4.6	4.8	5.0	4.8	5.0
40 - 44	2.7	2.4	2.0	1.8	1.6	1.5	1.4	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6
Fourth order																			
15 - 19	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	-	-	-
20 - 24	13.0	10.4	7.5	6.1	4.9	4.4	3.9	3.6	2.8	2.3	2.0	1.9	1.7	1.6	1.5	1.5	1.4	1.3	1.3
25 - 29	30.5	26.1	21.0	17.7	15.5	14.8	13.2	11.9	9.3	7.6	6.8	6.4	5.6	5.3	5.1	4.9	4.8	4.8	4.7
30 - 34	24.9	22.0	18.7	16.4	15.1	14.5	13.6	12.2	10.6	8.8	7.9	7.3	6.6	6.3	6.0	6.0	5.7	5.4	5.4
35 - 39	12.0	11.1	9.7	8.8	7.6	7.5	6.9	5.8	4.8	4.3	3.6	3.3	3.1	3.0	2.7	2.8	2.7	2.6	2.6
40 - 44	3.2	2.9	2.5	2.1	1.9	1.7	1.6	1.2	1.0	0.9	0.8	0.6	0.6	0.5	0.5	0.4	0.5	0.4	0.5

Note: Excludes Newfoundland.

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.4 Age of Mother at the Birth of Child, Canada, 1944-1982

Year	First order			Second order			Third order		
	Median	Mean	Mode	Median	Mean	Mode	Median	Mean	Mode
1944	–	25.26	–	27.29	27.74	26.39	27.58	29.40	23.94
1945	24.27	25.19	22.43	27.23	27.80	26.09	29.09	29.53	28.21
1946	24.24	25.13	22.46	27.22	27.69	26.22	29.05	29.50	28.15
1947	24.07	24.93	22.35	27.09	27.56	26.15	28.99	29.47	27.93
1948	23.87	24.74	22.13	26.74	27.26	25.70	28.83	29.33	27.83
1949	23.75	24.58	22.09	26.65	27.16	25.43	28.67	29.19	27.63
1950	23.66	24.46	22.06	26.67	27.17	25.67	28.62	29.11	27.64
1951	23.52	24.34	21.88	26.51	27.05	25.43	28.65	29.14	27.67
1952	23.43	24.23	21.83	26.39	26.96	25.25	28.64	29.08	27.76
1953	23.38	24.19	21.76	26.20	26.81	24.98	28.62	29.08	27.70
1954	23.32	24.10	21.76	26.00	26.67	24.66	28.48	28.94	27.56
1955	23.30	24.07	21.76	25.88	26.54	24.56	28.40	28.87	27.46
1956	23.25	24.00	21.75	25.73	26.42	24.35	28.16	28.68	27.12
1957	23.14	23.86	21.70	25.65	26.35	24.25	28.10	28.63	27.04
1958	23.12	23.82	21.72	25.53	26.24	24.11	28.03	28.54	27.01
1959	23.04	23.73	21.66	25.31	26.08	23.77	27.80	28.34	26.72
1960	22.99	23.68	21.61	25.24	26.02	23.68	27.78	28.29	26.76
1961	22.96	23.61	21.66	25.05	25.93	23.29	27.71	28.22	26.69
1962	22.93	23.60	21.59	25.04	25.93	23.26	27.61	28.13	26.57
1963	22.90	23.55	21.60	25.08	25.93	23.38	27.66	28.16	26.66
1964	22.94	23.59	21.64	25.30	26.07	23.76	27.81	28.34	26.75
1965	22.88	23.51	21.62	25.48	26.16	24.12	28.08	28.57	27.10
1966	22.89	23.49	21.69	25.68	26.25	24.48	28.29	28.78	27.31
1967	22.98	23.57	21.80	25.69	26.24	24.59	28.35	28.83	27.39
1968	23.07	23.64	21.93	25.90	26.33	25.10	28.66	28.93	28.12
1969	23.17	23.72	22.07	25.99	26.38	25.21	28.57	29.02	27.67
1970	23.21	23.74	22.15	26.08	26.42	25.40	28.55	28.97	27.71
1971	23.39	23.87	22.43	26.20	26.51	25.58	28.57	28.94	27.83
1972	23.54	24.04	22.54	26.36	26.61	25.86	28.72	29.06	27.04
1973	23.60	24.12	22.56	26.53	26.72	26.15	28.77	29.10	28.11
1974	23.87	24.29	23.03	26.74	26.87	26.48	28.86	29.16	28.26
1975	23.88	24.29	23.06	26.74	26.86	26.50	28.77	29.06	28.19
1976	24.00	24.41	23.18	26.84	26.99	26.54	28.88	29.14	28.36
1977	24.19	24.56	23.45	27.00	27.15	26.70	29.01	29.24	28.55
1978	24.37	24.74	23.63	27.10	27.24	26.82	29.07	29.28	28.65
1979	24.54	24.86	23.90	27.25	27.39	26.97	29.13	29.35	28.69
1980	24.62	24.92	24.02	27.33	27.48	27.03	29.24	29.44	28.84
1981	24.71	25.01	24.08	27.42	27.57	27.12	29.23	29.44	28.81
1982	24.79	25.08	24.21	29.00	27.63	31.74	29.27	29.50	28.81

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.4 Age of Mother at the Birth of Child, Canada, 1944-1982 - Concluded

Year	Fourth order			Fifth order			Sixth order		
	Median	Mean	Mode	Median	Mean	Mode	Median	Mean	Mode
1944	30.40	30.79	29.62	31.75	30.47	34.31	33.10	33.28	32.74
1945	30.47	30.85	29.71	33.85	32.09	35.39	33.15	33.26	27.93
1946	30.44	30.81	29.70	32.05	32.21	31.73	33.10	33.24	32.82
1947	30.47	30.86	29.69	31.90	32.11	31.48	33.10	33.24	32.82
1948	30.33	30.76	29.47	31.70	31.95	31.20	33.00	33.17	32.66
1949	30.31	30.71	29.51	31.70	31.96	31.18	32.90	33.08	32.54
1950	30.23	30.68	29.33	31.70	31.92	31.26	32.75	32.92	32.41
1951	30.29	30.64	29.59	31.90	32.07	31.56	32.95	33.13	32.59
1952	30.21	30.55	29.53	31.65	31.86	31.23	32.90	33.05	32.60
1953	30.28	30.59	29.66	31.65	31.84	31.27	32.80	32.98	32.68
1954	30.26	30.58	29.62	31.65	31.85	31.25	32.80	32.98	32.68
1955	30.19	30.55	29.47	31.65	31.76	31.43	32.85	33.02	32.51
1956	30.10	30.42	29.46	31.55	31.76	31.13	32.75	32.90	32.45
1957	30.10	30.35	29.60	31.55	31.80	31.05	32.80	32.92	32.56
1958	29.75	30.26	28.73	31.45	31.75	30.85	32.60	32.76	32.28
1959	29.72	30.21	28.74	31.35	31.61	30.83	32.60	32.77	32.26
1960	29.58	30.10	28.54	31.20	31.51	30.58	32.60	32.76	32.28
1961	29.48	30.00	28.44	31.15	31.50	30.45	32.40	32.61	31.98
1962	29.41	29.92	28.39	31.10	31.36	30.58	32.35	32.58	31.89
1963	29.30	29.94	28.02	31.10	31.39	30.52	32.40	32.60	32.00
1964	29.70	30.19	28.72	31.45	31.69	30.97	32.60	32.77	33.28
1965	29.93	30.40	28.99	31.65	31.85	31.25	32.75	32.94	32.37
1966	30.31	30.68	29.57	31.95	32.13	31.59	33.15	33.29	32.87
1967	30.52	30.82	29.92	32.15	32.31	31.83	33.30	33.41	33.08
1968	30.68	30.93	30.18	32.35	32.45	32.15	33.35	33.47	33.11
1969	30.76	30.99	30.30	32.35	32.44	32.17	33.50	33.78	32.94
1970	30.90	31.08	30.54	32.50	32.62	32.26	33.70	33.78	33.54
1971	30.74	30.89	30.44	32.55	32.61	32.43	33.60	33.70	33.40
1972	30.99	30.66	31.65	32.70	32.74	32.62	34.05	34.05	34.05
1973	31.16	31.22	31.04	32.95	32.94	32.97	34.30	34.25	34.40
1974	31.08	31.11	31.02	32.85	32.88	32.79	34.25	34.17	34.41
1975	30.96	30.97	30.94	32.80	32.82	32.76	34.30	34.14	34.62
1976	31.14	31.16	31.10	32.90	32.92	32.86	34.55	34.31	35.03
1977	31.15	31.15	31.15	32.75	32.75	32.75	34.35	34.24	34.57
1978	31.04	31.02	31.08	32.70	32.73	32.64	34.20	34.10	34.40
1979	31.17	31.12	31.27	32.65	32.71	32.53	34.10	33.99	34.32
1980	31.18	31.21	31.12	32.80	32.78	32.84	33.85	33.82	33.91
1981	31.02	31.00	31.06	32.60	32.61	32.58	34.15	34.09	34.27
1982	31.15	31.22	31.01	32.70	32.64	32.82	35.50	35.35	35.80

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.5 Percentage Distribution of Ever-married Women by Number of Children, Canada, 1981

Age of mother	Number of children								
	0	1	2	3	4	5	6	7	8
15+	17.21	16.05	26.89	17.19	9.40	5.02	2.93	1.76	3.54
15 - 19	64.92	28.86	5.13	0.65	0.37	0.01	0.04	0.01	0.00
20 - 24	53.96	27.84	14.71	2.82	0.50	0.08	0.03	0.02	0.03
25 - 29	30.01	27.02	30.98	9.42	1.96	0.40	0.13	0.05	0.03
30 - 34	14.24	19.09	41.41	18.20	5.04	1.28	0.46	0.16	0.12
35 - 39	9.34	13.13	38.33	23.84	9.58	3.34	1.37	0.55	0.51
40 - 44	7.34	9.92	29.17	25.40	14.68	6.88	3.36	1.52	1.73
45 - 49	7.20	8.98	22.88	22.89	16.53	9.30	5.30	2.86	4.06
50 - 54	8.35	9.43	21.23	20.80	15.43	9.47	5.74	3.48	6.07
55 - 59	9.59	10.84	21.48	19.51	13.91	8.76	5.49	3.50	6.92
60 - 64	11.53	12.51	22.02	18.04	12.40	7.77	4.92	3.32	7.49
65+	14.59	14.79	20.49	15.48	10.42	6.96	4.76	3.36	9.14

Source: Statistics Canada, Unpublished data.

TABLE 2.6 Percentage Distribution of Births By Birth Order, Canada,[1] 1927 - 1982

Year	1st	2nd	3rd	4th	5th	6th +	Not stated
	Legitimate births only						
1927	20.98	17.58	14.01	11.21	8.94	27.19	0.11
1928	21.81	17.82	13.89	10.75	8.67	26.96	0.14
1929	22.93	18.43	13.85	10.51	8.16	25.98	0.17
1930	23.60	18.79	13.75	10.32	7.89	25.52	0.17
1931	22.98	19.28	13.96	10.46	7.92	25.31	0.13
1932	22.06	19.41	14.19	10.55	7.96	25.76	0.10
1933	21.72	19.32	14.59	10.75	8.03	25.52	0.09
1934	22.24	18.97	14.43	10.69	7.99	25.53	0.13
1935	24.01	18.86	14.02	10.59	7.87	24.55	0.13
1936	25.29	19.16	13.45	10.19	7.73	24.09	0.11
1937	26.60	19.81	13.44	9.63	7.39	23.06	0.09
1938	28.16	20.60	13.27	9.34	6.86	21.73	0.07
1939	28.63	21.27	13.73	9.08	6.52	20.72	0.08
1940	30.32	22.06	13.78	8.85	6.06	18.88	0.06
1941	32.68	21.84	13.46	8.77	5.92	17.27	0.08
1942	32.81	23.12	13.44	8.65	5.78	16.14	0.06
1943	32.06	23.68	14.25	8.82	5.73	15.33	0.05
1944	29.96	24.20	14.93	9.29	6.02	15.56	0.06
	All births[2]						
1944	31.68	23.74	14.51	9.03	5.86	15.07	0.14
1945	30.70	23.84	14.96	9.22	6.07	15.15	0.08
1946	32.62	24.37	14.81	8.82	5.76	13.56	0.05
1947	34.43	24.43	14.65	8.63	5.42	12.43	0.02
1948	31.26	25.51	15.52	9.19	5.69	12.79	0.04
1949	29.43	26.17	16.33	9.52	5.81	12.74	0.01
1950	28.42	25.82	16.98	9.95	6.09	12.75	0.01
1951	28.36	25.37	17.17	10.36	6.16	12.57	0.01
1952	28.58	24.45	17.48	10.74	6.30	12.43	0.02
1953	28.08	24.60	17.53	10.87	6.49	12.42	0.02
1954	27.78	24.26	17.55	10.98	6.66	12.75	0.02
1955	27.09	24.06	17.75	11.33	6.88	12.88	0.02
1956	26.76	23.96	17.79	11.45	6.93	13.07	0.05
1957	27.16	23.55	17.81	11.48	6.95	13.00	0.06
1958	27.03	23.51	17.67	11.63	7.14	13.01	0.01
1959	26.54	23.66	17.75	11.81	7.25	12.99	0.01
1960	26.22	23.46	18.01	11.83	7.25	13.22	0.01
1961	25.90	23.21	18.03	12.01	7.48	13.36	0.01
1962	25.87	23.26	17.86	12.09	7.51	13.41	0.01
1963	26.39	23.16	17.89	11.92	7.42	13.23	0.01

See footnote(s) at end of table.

TABLE 2.6 Percentage Distribution of Births By Birth Order, Canada,[1] 1927 - 1982 - Concluded

Year	1st	2nd	3rd	4th	5th	6th +	Not stated
	All live births[3]						
1963	26.73	23.39	17.98	11.90	7.33	12.66	0.01
1964	27.70	23.56	17.73	11.58	7.20	12.22	0.02
1965	30.10	23.86	17.00	11.03	6.55	11.50	0.02
1966	33.12	24.84	16.18	9.94	5.97	9.94	0.02
1967	35.96	25.66	15.45	9.09	5.25	8.58	0.02
1968	37.81	26.75	15.14	8.33	4.58	7.39	0.01
1969	38.54	27.48	15.17	8.01	4.26	6.52	0.02
1970	39.94	28.00	15.16	7.44	3.88	5.56	0.02
1971	40.64	29.28	14.88	7.01	3.40	4.76	0.02
1972	41.90	30.94	14.26	6.21	2.84	3.84	0.02
1973	43.36	32.26	13.68	5.39	2.32	2.96	0.03
1974	43.96	33.35	13.53	4.94	1.93	2.27	0.02
1975	42.38	32.87	13.51	4.60	1.65	1.83	3.17
1976	41.85	33.39	13.47	4.28	1.49	1.53	3.99
1977	44.74	34.25	13.85	4.13	1.34	1.29	0.41
1978	44.81	34.69	13.83	4.07	1.26	1.17	0.18
1979	44.58	34.70	14.38	4.04	1.22	1.02	0.07
1980	45.17	34.54	14.07	3.97	1.11	0.87	0.20
1981	45.36	34.44	13.99	3.99	1.15	0.89	0.16
1982	45.28	34.19	14.09	4.11	1.17	0.89	0.26

[1] Excluding Newfoundland.
[2] The order of births takes into account all children born to the mother, legitimate and illegitimate, born alive and still born.
[3] The order of birth takes into account all children born alive to the mother.

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.7 Births to Single Women[1] as a Percentage of Total Live Births, Canada, the Provinces and Territories, 1921 - 1982

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.
1921	2.0	–	2.3	3.0	1.7	–	2.1	2.3	1.1	1.8	1.2	–	–
1922	2.1	2.0	2.6	3.6	1.9	–	2.1	2.3	1.2	1.9	1.3	–	–
1923	2.2	2.1	2.2	3.8	2.4	–	2.3	2.3	1.3	2.0	1.2	–	–
1924	2.3	2.0	2.3	4.1	2.3	–	2.4	2.7	1.5	2.0	1.7	–	–
1925	2.6	2.2	2.3	4.4	2.7	–	2.7	2.7	1.7	2.6	2.0	–	–
1926	2.6	2.6	2.3	4.4	2.6	2.5	2.7	3.2	1.9	2.8	1.9	–	–
1927	2.8	2.2	2.1	5.2	2.8	2.8	2.9	3.3	2.1	2.8	2.0	–	–
1928	3.1	2.4	3.0	5.7	3.0	2.9	3.2	3.5	2.2	3.0	2.6	–	–
1929	3.2	2.3	2.4	5.2	3.1	2.9	3.5	3.6	2.5	3.2	2.6	–	–
1930	3.3	3.0	2.3	4.9	3.0	3.0	3.7	3.7	2.8	3.2	2.4	–	–
1931	3.5	2.7	3.6	5.4	3.4	2.9	4.0	3.6	3.0	3.7	2.8	–	–
1932	3.6	2.9	3.7	5.5	3.4	3.0	4.2	3.6	3.1	3.6	3.4	–	–
1933	3.8	3.3	3.0	6.0	3.6	3.2	4.4	3.8	3.2	3.9	3.7	–	–
1934	3.6	3.7	4.3	5.8	3.6	3.1	4.0	3.8	3.4	3.6	3.5	–	–
1935	3.7	2.7	4.1	5.7	3.9	3.3	4.2	3.5	3.3	3.8	3.2	–	–
1936	3.9	3.9	3.4	6.1	3.9	3.3	4.5	3.8	3.7	3.8	3.6	–	–
1937	3.9	3.7	3.0	6.0	3.6	3.2	4.5	3.7	3.5	3.9	3.9	–	–
1938	4.0	3.1	4.5	6.4	3.8	3.2	4.7	3.7	3.5	4.3	4.1	–	–
1939	3.9	2.9	4.7	6.3	3.6	3.4	4.5	3.7	3.7	3.7	4.0	–	–
1940	3.9	2.7	4.7	6.9	3.8	3.1	4.6	3.7	3.3	3.9	4.0	–	–
1941	4.0	4.0	4.7	7.0	3.5	3.0	4.7	3.5	3.5	4.2	4.6	–	–
1942	4.1	5.0	4.6	6.8	3.7	3.2	4.8	3.6	3.2	4.2	4.5	–	–
1943	4.1	5.3	4.7	6.2	4.5	3.2	4.6	3.5	3.3	4.5	4.4	–	–
1944	4.2	3.6	4.4	7.5	5.2	3.0	4.8	4.1	3.9	4.4	5.5	–	–
1945	4.5	4.1	6.1	7.9	5.6	2.9	5.2	4.2	4.4	5.3	5.9	–	–
1946	4.1	4.2	5.3	7.2	4.7	2.7	4.3	4.0	4.5	5.5	5.6	–	–
1947	4.0	3.0	5.0	6.9	4.3	2.8	4.4	3.6	4.1	4.7	5.7	–	–
1948	4.3	3.2	4.7	7.0	4.6	3.0	4.6	4.2	4.3	5.1	6.1	–	–
1949	3.9	3.9	5.7	6.6	4.5	3.0	3.6	4.0	3.9	4.9	6.0	–	–
1950	3.9	3.5	5.7	6.9	4.2	3.1	3.5	4.0	4.2	4.6	5.9	12.7	7.2
1951	3.8	3.6	5.2	6.7	4.0	3.0	3.3	3.9	4.5	4.7	5.8	12.0	7.2
1952	3.8	2.5	4.4	5.8	3.9	3.1	3.2	4.6	4.4	4.5	6.2	13.6	8.3
1953	3.8	3.2	5.3	5.7	4.0	3.2	3.1	4.7	4.4	5.0	6.0	10.2	6.7
1954	3.9	3.6	4.7	5.6	4.0	3.3	3.1	4.9	4.5	4.6	6.2	16.0	7.8
1955	3.8	3.4	6.0	5.9	4.1	3.2	3.1	4.6	4.4	5.0	6.0	12.6	7.5

See footnote(s) at end of table.

TABLE 2.7 Births to Single Women[1] as a Percentage of Total Live Births, Canada, the Provinces and Territories, 1921 - 1982 – Concluded

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.
	Per cent of total live births												
1956	3.9	3.6	5.8	6.2	4.2	3.3	3.1	4.6	4.4	4.8	6.1	12.5	9.6
1957	4.0	4.1	5.3	6.0	4.2	3.2	3.2	4.8	4.9	5.1	6.4	12.8	9.7
1958	4.0	4.0	5.1	6.2	4.3	3.3	3.2	5.4	4.8	5.1	6.4	15.9	11.4
1959	4.2	3.7	5.1	6.5	4.3	3.4	3.3	5.4	5.3	5.6	6.6	14.2	11.8
1960	4.3	4.1	4.6	6.5	3.9	3.6	3.2	5.8	5.5	5.6	6.7	15.6	11.2
1961	4.5	4.3	4.8	6.9	4.4	3.6	3.5	6.3	5.9	6.2	6.9	16.8	12.6
1962	4.8	4.1	4.7	7.2	4.5	3.8	3.7	6.8	5.9	6.6	7.4	16.6	11.9
1963	5.3	4.9	4.4	7.7	5.1	4.2	4.1	7.4	6.7	7.1	8.2	15.6	12.3
1964	5.9	5.1	4.2	8.1	5.8	4.6	4.7	8.5	7.4	8.3	9.5	17.5	12.7
1965	6.7	5.2	5.9	9.2	5.9	5.2	5.5	9.0	8.6	9.8	11.1	23.4	15.3
1966	7.6	5.9	6.6	10.2	6.9	5.8	6.4	10.2	10.1	10.5	12.1	19.5	15.2
1967	8.3	6.7	6.7	10.8	7.0	6.6	7.0	11.1	10.6	11.5	12.7	22.3	18.4
1968	9.0	7.4	7.4	10.5	7.7	7.3	7.5	12.1	11.8	12.0	13.4	21.4	19.8
1969	9.2	7.9	6.7	11.7	8.3	7.6	7.5	12.1	11.8	12.3	13.8	24.7	18.5
1970	9.6	8.9	9.1	11.4	9.3	8.0	7.6	12.8	13.5	12.8	13.7	26.4	19.8
1971	9.0	9.6	8.1	11.7	9.7	7.9	6.5	13.0	14.1	11.9	12.2	24.7	21.7
1972	9.0	10.4	8.5	12.3	10.1	7.4	6.7	13.0	14.5	11.8	11.4	22.2	25.0
1973	9.0	11.3	9.9	11.9	10.7	7.4	6.7	13.4	15.4	11.0	11.5	24.8	26.6
1974[2]	9.0	–	9.2	12.1	9.8	7.5	7.3	12.7	14.2	11.7	10.5	20.8	28.7
1975[2]	10.1[3]	–	10.4	12.8	10.6	–	7.8	12.9	14.9	11.7	11.3	25.0	33.4
1976[2]	10.5[3]	–	10.5	12.5	12.3	–	8.4	13.8	14.9	11.2	11.5	23.7	30.8
1977[2]	11.3	–	12.0	14.7	12.8	11.6	8.7	15.1	15.7	12.0	12.2	25.9	34.8
1978[2]	11.7	–	11.8	15.2	13.8	11.7	9.2	15.7	16.7	12.6	12.4	26.0	37.6
1979[2]	12.2	–	12.7	15.7	14.0	12.6	9.4	15.8	16.8	13.1	13.2	27.8	37.8
1980[2]	13.2	–	13.0	16.1	16.0	14.2	9.9	16.7	17.9	14.1	14.2	26.5	41.3
1981[2]	14.2	–	15.0	17.0	16.6	15.6	10.4	17.9	19.0	14.8	15.4	28.5	42.2
1982[2]	15.5	–	14.6	17.8	16.4	18.1	11.4	18.6	19.2	16.2	15.7	34.7	43.5

1 Births from 1921 through 1973 refer to these in which the parents reported themselves as not having been married to each other at the time of birth or registration and, in the case of Ontario, since 1949, these in which the marital status of the mother was reported as single.
2 Births occured to single, widowed and divorced women, including "not stated".
3 Quebec not included for 1975 and 1976.

Source: Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 2.8 Births to Women 15 - 19 Years, Canada,[1] 1950 - 1982

Year	Total births age 15 - 19 (1)	Illegitimate births[2] age 15 - 19 (2)	Not-stated[3] (3)	Ratio $\frac{(2)-(3)}{(1)} \times 100$	Ratio $\frac{(2)}{(1)} \times 100$
1950	23,549	4,366	-	-	18.54
1951	24,293	4,382	-	-	18.04
1952	25,793	4,493	-	-	17.42
1953	26,973	4,804	-	-	17.81
1954	28,717	5,025	-	-	17.50
1955	29,264	4,993	-	-	17.06
1956	30,975	5,374	-	-	17.35
1957	34,797	6,123	-	-	17.60
1958	35,708	6,301	-	-	17.65
1959	37,711	6,977	-	-	18.50
1960	38,879	7,101	-	-	18.26
1961	39,398	7,548	-	-	19.16
1962	39,417	7,648	-	-	19.40
1963	40,329	8,788	-	-	21.79
1964	40,358	9,604	-	-	23.80
1965	41,544	10,401	-	-	25.04
1966	42,243	11,393	-	-	26.97
1967	41,043	11,775	-	-	28.69
1968	40,457	12,534	-	-	30.98
1969	40,663	13,366	-	-	32.87
1970	42,277	14,801	-	-	35.01
1971	40,188	13,859	-	-	34.49
1972	39,640	13,679	-	-	34.51
1973	39,518	13,708	-	-	34.69
1974	38,314	14,197	4,524	25.25	37.05
1975	38,818	17,805	5,271	32.29	45.87
1976	37,402	19,578	6,663	34.53	52.34
1977	35,971	17,248	405	46.82	47.95
1978	33,703	17,191	348	49.97	51.01
1979	31,649	17,049	338	52.80	53.87
1980	31,000	17,512	270	55.62	56.49
1981	29,062	17,481	219	59.40	60.15
1982	28,262	18,045	126	63.40	63.84

[1] Data for Newfoundland excluded.
[2] Illegitimate includes births to mothers, single, widowed or divorced at time of birth and not-stated after 1974.
[3] Prior to 1974 data for not-stated were not listed separately, these were assumed to be illegitimate.

Source: 1950 - 1970 Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-202, Annual.
1971 - 1981 Statistics Canada, *Vital Statistics, Births and Deaths,* Catalogue 84-204, Annual.

TABLE 4.1 Percentage Distribution of Women Ever-married by Age Groups, Highest Level of Schooling and Number of Children Ever-born, Canada, 1981
(Based on 20% Sample Data)

	None	1	2	3	4	5	6+	Total	Children ever-born per 1,000 ever-married women
15 - 19 years									
Total	64.9	28.9	5.1	0.6	0.4	-	0.1	100.0	429
Less than Grade 9	41.6	42.4	11.0	2.5	2.1	0.1	0.3	100.0	823
Grades 9 - 13	64.7	29.7	4.9	0.5	0.2	-	-	100.0	418
Some university or other non-university	78.5	18.4	2.2	0.5	0.4	-	-	100.0	259
Other non-university certificate	83.3	13.3	2.7	0.5	0.1	0.1	-	100.0	208
University certificate or degree	70.0	6.7	13.3	6.7	-	3.3	-	100.0	684
20 - 24 years									
Total	54.0	27.8	14.7	2.8	0.5	0.1	0.1	100.0	687
Less than Grade 9	22.6	32.1	30.5	10.1	3.1	0.7	0.9	100.0	1,456
Grades 9 - 13	46.8	31.3	18.0	3.3	0.5	0.1	-	100.0	798
Some university or other non-university	63.0	25.1	10.1	1.5	0.2	-	0.1	100.0	510
Other non-university certificate	69.6	22.2	7.0	1.0	0.2	-	-	100.0	403
University certificate or degree	85.2	11.7	2.7	0.3	0.1	-	-	100.0	188
25 - 29 years									
Total	30.0	27.0	31.0	9.4	2.0	0.4	0.2	100.0	1,285
Less than Grade 9	10.4	21.2	39.2	19.6	6.2	1.9	1.5	100.0	2,029
Grades 9 - 13	21.6	26.6	37.0	11.8	2.4	0.4	0.2	100.0	1,490
Some university or other non-university	34.1	27.5	28.2	8.2	1.6	0.3	0.1	100.0	1,171
Other non-university certificate	35.9	29.8	26.8	6.2	1.0	0.2	0.1	100.0	1,073
University certificate or degree	58.4	25.8	13.4	2.0	0.3	0.1	-	100.0	605
30 - 34 years									
Total	14.3	19.1	41.4	18.2	5.0	1.3	0.7	100.0	1,880
Less than Grade 9	6.7	13.2	36.6	25.3	10.7	4.0	3.3	100.0	2,478
Grades 9 - 13	10.8	17.4	43.8	20.4	5.6	1.4	0.6	100.0	1,999
Some university or other non-university	16.4	20.5	40.8	16.4	4.5	0.9	0.5	100.0	1,770
Other non-university certificate	15.3	20.4	43.4	16.4	3.6	0.6	0.3	100.0	1,757
University certificate or degree	26.6	25.2	35.1	10.7	2.0	0.3	0.1	100.0	1,380
35 - 39 years									
Total	9.4	13.1	38.3	23.9	9.6	3.3	2.4	100.0	2,330
Less than Grade 9	5.8	10.2	30.0	25.6	14.3	6.9	7.2	100.0	2,896
Grades 9 - 13	7.7	12.3	38.2	25.2	10.7	3.6	2.3	100.0	2,403
Some university or other non-university	11.1	13.9	39.6	23.4	8.2	2.5	1.3	100.0	2,173
Other non-university certificate	10.2	14.0	41.9	23.6	7.4	2.0	0.9	100.0	2,142
University certificate or degree	16.3	17.4	42.2	17.9	4.8	1.0	0.4	100.0	1,822
40 - 44 years									
Total	7.3	9.9	29.2	25.4	14.7	6.9	6.6	100.0	2,842
Less than Grade 9	5.5	8.4	24.2	22.9	16.2	9.7	13.1	100.0	3,355
Grades 9 - 13	6.6	9.3	28.2	26.2	15.8	7.5	6.4	100.0	2,887
Some university or other non-university	8.0	11.0	31.0	26.0	14.1	5.7	4.2	100.0	2,645
Other non-university certificate	8.1	11.2	33.2	26.9	12.9	4.7	3.0	100.0	2,531
University certificate or degree	13.1	13.1	36.1	23.8	9.6	2.7	1.6	100.0	2,190

Source: Statistics Canada, *1981 Census of Canada,* Catalogue 92-906, (Vol. I), Table 5.

TABLE 4.2 Percentage Distribution of Women Ever-married by Age Groups, Work Experience and Number of Children Ever-born, Canada, 1981
(Based on 20% Sample Data)

	None	1	2	3	4	5	6+	Total	Children ever-born per 1,000 ever-married women
15 - 19 years									
Total	64.9	28.9	5.1	0.6	0.4	-	0.1	100.0	429
In current labour force	79.2	17.6	2.6	0.4	0.2	-	-	100.0	247
Not in current labour force	54.4	38.7	5.9	0.6	0.4	-	-	100.0	541
Did not work since January 1, 1980	31.4	54.6	11.6	1.3	0.9	0.1	0.1	100.0	866
Worked prior to January 1, 1980	44.2	43.7	9.8	1.4	0.7	-	0.2	100.0	715
Never worked									
20 - 24 years									
Total	54.0	27.8	14.7	2.8	0.5	0.1	0.1	100.0	687
In current labour force	69.3	21.5	7.8	1.2	0.2	-	-	100.0	417
Not in current labour force	31.4	43.9	20.3	3.7	0.6	0.1	-	100.0	985
Did not work since January 1, 1980	14.1	41.7	35.3	7.4	1.3	0.1	0.1	100.0	1,412
Worked prior to January 1, 1980	19.7	33.3	33.9	9.4	2.5	0.6	0.6	100.0	1,467
Never worked									
25 - 29 years									
Total	30.0	27.0	31.0	9.4	2.0	0.4	0.2	100.0	1,285
In current labour force	42.8	27.2	23.1	5.6	1.0	0.2	0.1	100.0	956
Not in current labour force	14.9	36.2	35.7	10.3	2.3	0.4	0.2	100.0	1,510
Did not work since January 1, 1980	5.7	23.8	48.7	17.3	3.5	0.7	0.3	100.0	1,926
Worked prior to January 1, 1980	7.8	17.2	41.3	22.8	7.3	2.1	1.5	100.0	2,183
Never worked									
30 - 34 years									
Total	14.3	19.1	41.4	18.2	5.0	1.3	0.7	100.0	1,880
In current labour force	20.2	21.6	39.0	14.5	3.5	0.8	0.4	100.0	1,637
Not in current labour force	9.2	20.7	42.7	19.5	5.6	1.5	0.8	100.0	1,997
Did not work since January 1, 1980	4.3	14.3	47.4	24.3	7.1	1.7	0.9	100.0	2,248
Worked prior to January 1, 1980	4.9	11.0	35.6	27.6	12.1	4.6	4.2	100.0	2,656
Never worked									
35 - 39 years									
Total	9.4	13.1	38.3	23.9	9.6	3.3	2.4	100.0	2,330
In current labour force	11.7	14.7	39.1	22.2	8.2	2.6	1.5	100.0	2,153
Not in current labour force	7.2	12.1	37.4	25.3	11.2	3.8	3.0	100.0	2,472
Did not work since January 1, 1980	5.3	10.7	39.1	27.0	11.2	3.9	2.8	100.0	2,533
Worked prior to January 1, 1980	4.1	8.5	28.5	26.4	15.4	7.8	9.3	100.0	3,118
Never worked									
40 - 44 years									
Total	7.3	9.9	29.2	25.4	14.7	6.9	6.6	100.0	2,842
In current labour force	8.4	10.6	30.7	25.6	14.0	6.0	4.7	100.0	2,670
Not in current labour force	6.6	8.7	27.0	26.4	15.5	8.1	7.7	100.0	2,983
Did not work since January 1, 1980	5.9	9.5	28.5	25.8	15.4	7.4	7.5	100.0	2,950
Worked prior to January 1, 1980	4.1	6.9	20.6	21.9	16.9	11.5	18.1	100.0	3,753
Never worked									

Source: Statistics Canada, *1981 Census of Canada*, Catalogue 92-906, (Vol. I), Table 6.

TABLE 6.1 Canada Total Population as Simulated Under Three Specified Assumptions of Total Fertility Per Woman, 1980 - 2054

Year	Assumption I 1.5	Assumption II 2.1	Assumption III 2.5
1980	23,936,342	23,936,342	23,936,342
1981	24,114,926	24,119,357	24,138,882
1982	24,291,242	24,312,634	24,358,339
1983	24,463,501	24,515,321	24,593,942
1984	24,631,398	24,724,706	24,842,977
1985	24,793,428	24,939,236	25,103,806
1986	24,948,142	25,158,203	25,374,662
1987	25,094,242	25,380,408	25,653,782
1988	25,228,623	25,601,966	25,939,172
1989	25,350,000	25,821,497	26,229,497
1990	25,458,789	26,038,515	26,521,803
1991	25,554,364	26,252,195	26,814,588
1992	25,638,033	26,457,880	27,101,580
1993	25,712,032	26,651,597	27,375,073
1994	25,776,250	26,833,207	27,634,907
1995	25,830,791	27,002,854	27,881,255
1996	25,875,915	27,160,908	28,114,567
1997	25,912,023	27,307,948	28,335,622
1998	25,939,620	27,444,765	28,545,578
1999	25,959,273	27,572,347	28,745,933
2000	25,971,593	27,691,855	28,938,478
2001	25,977,160	27,804,533	29,125,179
2002	25,976,448	27,911,604	29,308,035
2003	25,969,944	28,014,372	29,489,148
2004	25,958,090	28,114,124	29,670,598
2005	25,941,127	28,211,949	29,854,243
2006	25,919,166	28,308,775	30,041,728
2007	25,892,292	28,405,449	30,234,534
2008	25,860,341	28,502,471	30,433,681
2009	25,823,038	28,600,084	30,639,780
2010	25,780,007	28,698,239	30,852,968
2011	25,730,747	28,796,560	31,072,866
2012	25,674,986	28,894,698	31,298,937
2013	25,612,411	28,992,078	31,530,254
2014	25,542,873	29,088,123	31,765,751
2015	25,466,197	29,182,101	32,004,098
2016	25,382,121	29,273,094	32,243,710
2017	25,290,437	29,360,174	32,482,966
2018	25,191,029	29,442,493	32,720,329
2019	25,083,747	29,519,180	32,954,291
2020	24,968,565	29,589,541	33,183,602

Source: Statistics Canada, Demography Division, Special Projections.

TABLE 6.1 Canada Total Population as Simulated Under Three Specified Assumptions of Total Fertility Per Woman, 1980 - 2054 – Concluded

Year	Assumption I 1.5	Assumption II 2.1	Assumption III 2.5
2021	24,845,418	29,652,925	33,407,163
2022	24,714,372	29,708,918	33,624,240
2023	24,575,465	29,757,201	33,834,343
2024	24,428,781	29,797,639	34,037,317
2025	24,274,598	29,830,430	34,233,489
2026	23,113,101	29,855,812	34,423,356
2027	23,944,493	29,874,160	34,607,666
2028	23,769,085	29,886,057	34,787,469
2029	23,587,108	29,892,079	34,963,871
2030	23,398,770	29,892,829	35,138,038
2031	23,204,411	29,889,067	35,311,293
2032	23,004,380	29,881,551	35,484,931
2033	22,799,000	29,870,981	35,660,131
2034	22,588,515	29,857,921	35,837,853
2035	22,373,378	29,843,071	36,019,089
2036	22,154,069	29,827,066	36,204,652
2037	21,930,939	29,810,313	36,395,001
2038	21,704,071	29,792,855	36,590,116
2039	21,474,219	29,775,316	36,790,441
2040	21,241,945	29,758,037	36,996,041
2041	21,007,689	29,741,167	37,206,695
2042	20,771,858	29,724,755	37,422,026
2043	20,534,874	29,708,825	37,641,586
2044	20,297,126	29,693,335	37,864,840
2045	20,059,032	29,678,261	38,091,281
2046	19,820,942	29,663,518	38,320,372
2047	19,583,408	29,649,244	38,551,850
2048	19,346,901	29,635,537	38,785,478
2049	19,111,868	29,622,517	39,021,128
2050	18,878,666	29,610,269	39,258,715
2051	18,647,557	29,598,843	39,498,205
2052	18,418,816	29,588,355	39,739,720
2053	18,192,836	29,579,096	39,953,645
2054	17,969,722	29,511,132	40,230,216

Source: Statistics Canada, Demography Division, Special Projections.

TABLE 6.2 Percentage Distribution of Population by Broad Age Groups Under Specified Fertility Assumptions, Canada

Year	Total fertility at 1.5				Total fertility at 2.1				Total fertility at 2.5			
	0 - 14	15 - 64	65 +	Mean age	0 - 14	15 - 64	65 +	Mean age	0 - 14	15 - 64	65 +	Mean age
1961*	33.95	58.42	7.63	29.51	33.95	58.42	7.63	29.51	33.95	58.42	7.63	29.51
1971*	29.58	62.32	8.09	30.75	29.58	62.32	8.09	30.75	29.58	62.32	8.09	30.75
1981	22.57	67.76	9.67	33.10	22.61	67.73	9.66	33.08	22.65	67.70	9.66	33.07
1986	21.38	68.23	10.39	34.21	22.05	67.65	10.30	33.94	22.71	67.08	10.21	33.67
1991	20.51	68.10	11.40	35.46	22.42	66.46	11.12	34.70	24.24	64.90	10.86	33.98
1996	18.99	68.87	12.14	36.84	22.30	66.06	11.64	35.56	25.36	63.47	11.17	34.39
2001	17.20	70.16	12.63	38.24	21.16	66.93	11.91	36.55	24.70	64.03	11.27	35.04
2006	15.85	71.04	13.11	39.58	19.78	68.07	12.15	37.49	23.24	65.45	11.31	35.65
2011	15.15	70.53	14.33	40.82	19.07	67.92	13.00	38.25	22.60	65.54	11.86	36.01
2016	14.74	68.73	16.53	42.01	19.14	66.24	14.62	38.86	23.23	63.76	13.01	36.12
2021	14.30	66.65	19.06	43.16	19.32	64.30	16.38	39.42	24.07	61.76	14.17	36.19
2031	13.21	62.49	24.30	45.11	18.73	61.68	19.59	40.32	23.82	60.21	15.97	36.37
2041	12.94	62.03	25.03	46.04	18.55	62.83	18.62	40.44	23.71	62.15	14.13	35.99
2051	12.99	61.18	25.83	46.22	19.00	62.99	18.01	40.15	24.53	62.46	13.01	35.49

* Figures are actual population data from censuses.

Source: Statistics Canada, Demography Division, Special Projection. (Based on 1976 census data.)

TABLE 6.3(a) Percentage Distribution of Population by Functional Age Groupings Assuming a Total Fertility of 1.5 Births, Canada

Year	Preschool population	School population	University/ job training	Marriage and child-bearing	Younger workers	Older workers	Elderly
	0 - 5	6 - 16	17 - 24	18 - 44	20 - 34	35 - 64	65 +
1961*	14.72	22.63	10.94	36.10	20.09	30.47	7.63
1971*	10.33	23.38	14.44	37.58	22.16	30.37	8.09
1981	8.90	17.27	15.68	46.93	27.05	31.21	9.66
1986	8.66	15.74	13.68	47.58	27.17	33.46	10.38
1991	7.85	15.37	11.44	46.85	25.38	35.91	11.39
1996	6.89	14.87	10.79	45.26	22.61	39.35	12.13
2001	6.29	13.62	10.99	43.60	20.62	42.66	12.63
2006	6.00	12.28	10.75	41.06	20.26	44.43	13.10
2011	5.88	11.46	9.81	38.33	20.04	44.80	14.32
2016	5.68	11.12	8.94	36.79	19.05	44.38	16.52
2021	5.37	10.97	8.49	35.81	17.70	43.77	19.05
2031	4.95	10.26	8.47	33.65	16.53	40.83	24.30
2041	4.95	9.85	8.11	32.66	16.64	40.59	25.03
2051	4.88	10.01	7.96	32.76	16.17	40.16	25.83

* Figures are actual population data from censuses.

Source: Statistics Canada, Demography Division, Special Projection. (Based on 1976 census data.)

TABLE 6.3(b) Percentage Distribution of Population by Functional Age Groupings Assuming a Total Fertility of 2.1 Births, Canada

Year	Preschool population	School population	University/ job training	Marriage and child-bearing	Younger workers	Older workers	Elderly
	0 - 5	6 - 16	17 - 24	18 - 44	20 - 34	35 - 64	65 +
1961*	14.72	22.63	10.94	36.10	20.09	30.47	7.63
1971*	10.33	23.38	14.44	37.58	22.16	30.37	8.09
1981	8.95	17.26	15.68	46.91	27.04	31.20	9.66
1986	9.44	15.61	13.56	47.18	26.94	33.18	10.29
1991	9.48	15.59	11.16	45.72	24.77	35.05	11.12
1996	8.79	16.22	10.34	43.38	21.67	37.72	11.63
2001	7.93	16.17	10.74	41.67	19.48	40.22	11.91
2006	7.60	15.11	11.48	39.94	19.53	41.18	12.14
2011	7.73	14.00	11.41	38.37	20.38	40.66	13.00
2016	7.89	13.70	10.55	37.66	20.66	39.31	14.62
2021	7.77	14.00	9.82	37.44	19.85	38.35	16.38
2031	7.27	14.07	10.20	37.22	18.49	36.66	19.59
2041	7.49	13.55	10.34	36.76	19.46	37.05	18.62
2051	7.53	13.98	9.97	37.22	19.20	37.52	18.01

* Figures are actual population data from censuses.

Source: Statistics Canada, Demography Division, Special Projection.

TABLE 6.3(c) Percentage Distribution of Population by Functional Age Groupings Assuming a Total Fertility of 2.5 Births, Canada

Year	Preschool population	School population	University/ job training	Marriage and child-bearing	Younger workers	Older workers	Elderly
	0 - 5	6 - 16	17 - 24	18 - 44	20 - 34	35 - 64	65 +
1961*	14.72	22.63	10.94	36.10	20.09	30.47	7.63
1971*	10.33	23.38	14.44	37.58	22.16	30.37	8.09
1981	8.99	17.25	15.67	46.89	27.02	31.18	9.65
1986	10.20	15.48	13.45	46.78	26.71	32.90	10.21
1991	11.03	15.80	10.90	44.65	24.19	34.22	10.86
1996	10.53	17.46	9.93	41.65	20.81	36.22	11.17
2001	9.40	18.45	10.52	39.94	18.47	38.05	11.26
2006	9.06	17.54	12.10	38.93	18.88	38.33	11.31
2011	9.52	16.12	12.69	38.27	20.60	37.09	11.86
2016	10.09	15.89	11.73	38.06	21.76	35.01	13.01
2021	10.14	16.68	10.71	38.19	21.19	33.79	14.17
2031	9.50	17.45	11.52	39.19	19.57	32.94	15.97
2041	9.99	16.70	12.00	39.04	21.27	33.40	14.13
2051	10.09	17.43	11.35	39.57	20.96	34.14	13.00

* Figures are actual population data from censuses.

Source: Statistics Canada, Demography Division, Special Projection.

TABLE 6.3(d) Percentage Distribution of Population by Functional Age Groupings Assuming a Cyclical Fertility in the Range of 1.5 to 2.5 Births, Canada

Year	Preschool population	School population	University/ job training	Marriage and child-bearing	Younger workers	Older workers	Elderly
	0 - 5	6 - 16	17 - 24	18 - 44	20 - 34	35 - 64	65 +
1961*	14.72	22.63	10.94	36.10	20.09	30.47	7.63
1971*	10.33	23.38	14.44	37.58	22.16	30.37	8.09
1981	8.97	17.26	15.67	46.90	27.03	31.19	9.65
1986	9.89	15.53	13.49	46.94	26.80	33.01	10.24
1991	10.45	15.71	11.00	45.06	24.41	34.54	10.96
1996	10.22	16.92	10.05	42.14	21.05	36.65	11.30
2001	8.83	17.83	10.56	40.47	18.80	38.76	11.47
2006	7.33	17.16	11.97	39.66	19.28	39.74	11.72
2011	6.50	15.12	12.78	39.80	21.18	39.63	12.67
2016	7.21	12.82	12.32	40.26	22.84	38.47	14.30
2021	8.70	12.15	10.37	39.64	22.22	37.51	15.84
2031	8.24	15.92	8.36	36.55	17.18	36.91	18.39
2041	5.75	14.58	12.15	37.35	18.51	38.57	17.77
2051	8.57	11.30	10.35	37.97	22.35	36.97	17.36

* Figures are actual population data from censuses.

Source: Statistics Canada, Demography Division, Special Projection.

TABLE 6.4 Number of Immigrants Required to Achieve a 1% Growth Rate at Specified Levels of Total Fertility Rates, Canada

Year	2.5	2.2	2.0	1.8	1.6	1.5	1.4
1979-1980	100.3	108.0	112.7	117.0	121.6	123.9	126.0
1980-1981	84.5	93.0	106.1	112.0	121.3	124.8	128.0
1981-1982	69.9	87.0	99.1	111.0	121.9	126.6	131.0
1982-1983	61.5	83.1	97.8	110.0	126.8	133.0	139.0
1983-1984	53.6	80.0	98.0	112.0	130.6	139.4	148.0
1984-1985	48.3	78.0	98.1	116.0	137.7	148.5	159.0
1985-1986	42.1	76.0	99.9	121.0	146.6	158.9	171.0
1986-1987	37.9	78.0	104.9	128.0	155.5	168.2	180.6
1987-1988	38.9	81.0	110.4	136.0	166.2	180.4	194.4
1988-1989	40.1	86.1	116.7	147.1	178.4	193.9	209.2
1989-1990	42.1	91.1	124.7	157.1	190.2	207.5	224.5
1990-1991	47.9	98.1	132.9	169.1	203.3	222.0	240.5
1991-1992	60.4	109.1	142.3	180.1	216.4	235.5	254.3
1992-1993	77.0	123.1	155.2	189.1	226.9	245.6	264.1
1993-1994	92.9	137.1	167.9	201.0	237.6	255.6	273.8
1994-1995	108.0	150.1	180.4	212.1	248.1	265.9	283.4
1995-1996	122.2	163.1	192.1	223.1	258.2	275.6	292.7
1996-1997	135.0	174.1	203.0	233.1	267.8	284.9	301.7
1997-1998	146.1	184.1	212.8	242.1	276.7	293.5	310.1
1998-1999	155.2	193.1	221.5	250.1	284.8	301.5	318.0
1999-2000	162.1	199.1	228.7	257.1	292.1	308.9	325.4
2000-2001	166.8	204.1	234.7	263.1	298.6	315.5	332.2
2001-2002	169.4	209.2	239.5	270.2	304.6	322.4	339.9
2002-2003	170.2	211.7	243.1	274.7	310.0	328.1	346.0
2003-2004	169.0	212.9	245.7	278.8	314.9	334.0	352.8
2004-2005	166.3	213.0	247.5	282.0	319.5	340.0	359.8
2005-2006	162.4	212.2	248.6	284.9	323.8	344.9	365.8
2006-2007	154.2	210.7	249.3	287.5	328.1	348.7	369.0
2007-2008	148.6	208.9	249.8	290.0	332.7	354.0	375.1
2008-2009	142.7	207.1	250.4	292.6	337.5	359.6	381.5
2009-2010	137.2	205.7	251.4	295.7	342.7	365.6	388.3
2010-2011	132.5	205.0	253.0	299.2	348.5	372.3	395.9
2011-2012	129.0	205.1	255.2	303.4	354.7	379.4	403.9
2012-2013	126.7	206.2	258.2	308.2	361.5	387.0	412.3
2013-2014	125.8	208.2	261.7	313.5	368.7	394.9	420.9
2014-2015	126.4	211.1	266.0	319.4	376.2	403.1	429.7
2015-2016	128.7	215.2	271.0	325.9	384.1	411.6	438.8
2016-2017	132.4	220.3	277.0	332.9	392.3	420.3	448.0
2017-2018	137.6	226.3	283.5	340.4	400.7	429.2	457.5
2018-2019	143.9	233.2	290.6	348.2	409.5	438.4	267.1
2019-2020	151.2	240.6	298.3	356.3	418.4	447.7	476.8
2020-2021	159.0	248.5	306.1	364.7	427.5	457.1	486.5
2021-2022	167.1	256.6	314.1	373.2	436.6	466.6	496.3
2022-2023	175.0	264.6	322.3	381.6	445.6	476.1	506.1
2023-2024	182.7	272.5	330.3	390.1	454.8	485.5	515.9

Source: Statistics Canada, Demography Division, Special Projection.

TABLE 6.4 Number of Immigrants Required to Achieve a 1% Growth Rate at Specified Levels of Total Fertility Rates, Canada – Concluded

Year	2.5	2.2	2.0	1.8	1.6	1.5	1.4
2024-2025	189.7	279.9	337.9	398.2	463.7	494.7	525.5
2025-2026	195.7	286.8	345.1	406.3	472.5	503.9	535.1
2026-2027	200.7	292.9	351.9	414.2	481.1	512.9	544.4
2027-2028	204.5	298.2	358.0	421.6	489.4	521.7	553.7
2028-2029	207.0	302.7	363.7	428.7	497.6	530.4	563.0
2029-2030	208.4	306.6	368.9	435.5	505.7	539.0	572.0
2030-2031	208.5	309.7	373.7	441.9	513.6	547.4	581.0
2031-2032	207.8	312.1	378.0	447.8	521.2	551.7	590.0
2032-2033	206.1	313.9	381.8	453.5	528.6	559.6	598.7
2033-2034	203.9	315.4	385.4	458.9	536.0	567.5	607.3
2034-2035	201.1	316.4	388.6	464.0	543.1	575.2	615.8
2035-2036	198.1	317.1	391.4	468.7	550.0	582.6	624.0
2036-2037	195.0	317.8	394.3	473.3	556.6	590.0	632.1
2037-2038	192.8	318.9	397.4	478.2	559.6	600.1	640.4
2038-2039	190.4	319.8	400.2	482.6	565.9	607.2	648.2
2039-2040	188.4	320.7	402.8	486.7	571.9	613.9	655.6
2040-2041	186.8	321.7	405.4	490.7	577.7	620.2	662.7
2041-2042	185.9	323.0	408.0	494.5	583.3	626.5	669.5
2042-2043	185.4	324.4	410.8	498.4	588.8	632.5	676.1
2043-2044	185.7	326.1	413.5	502.1	594.1	638.3	682.3
2044-2045	186.4	328.0	416.3	505.9	599.3	644.0	688.4
2045-2046	187.6	330.2	419.3	509.8	604.3	649.4	694.2
2046-2047	188.9	332.4	422.1	513.5	609.0	654.5	699.7
2047-2048	190.3	334.3	424.7	517.0	613.4	659.2	704.7
2048-2049	191.6	336.1	427.1	520.3	617.5	663.6	709.4
2049-2050	192.7	337.8	429.6	523.4	621.5	667.8	713.8

Source: Statistics Canada, Demography Division, Special Projection.

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