RESEARCH NOTES

A NOTE ON IMPLICATIONS OF CANADIAN FAMILY FORMATION IN THE NEAR FUTURE

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Résumé—Les changements dont la formation familiale au Canada a subis depuis les années soixantes ont donné lieu à des récentes chutes rapides de la fécondité du moment. Cet abaissement, soit-il la manifestation d'une modification temporaire du comportement des couples ou d'un retranchement réel de la dimension de la famille, met en question les tendances futures de la fécondité. Nous avons fourni ici quelques estimations des taux de natalité de la population canadienne projetée à 1981 pour démontrer les implications pour le Canada de la mise en force de diverses stratégies de la formation familiale.

Abstract—Recent declines in Canadian period fertility rates have been associated with changes in patterns of family formation. Since these declines may stem either from deferrals of births or from limitations in completed family size, future trends in fertility levels remain uncertain. Estimated birth rates for the Canadian population projected to 1981 have been provided here in order to show the implications which would result from the adoption of a number of different patterns of family formation in the near future.

Introduction

To be effective, social and economic policies must take factors associated with population growth and age structure into account. These factors could include, for example, the impact of the total size of the population or the effects of successive cohorts of different size entering critical phases of the life-cycle.

Fertility, a major determinant of fluctuations in post-World War II Canadian population growth and age structure, declined during the last decade. Between 1961 and 1971, the birth rate dropped from 26.1 to 16.2 per thousand, while the index of current marital fertility[1] decreased from 3.14 to 1.80. Variations in fertility levels appear to have resulted from changes in patterns of family formation and these changes have been associated in turn with macro-social phenomena such as urbanization and increases in levels of education and female labour force participation.

In another paper, we have discussed these issues in detail, with particular reference to changes which occurred over the last decade (Pool and Bracher, 1974). An analysis of past trends always leaves some critical questions unanswered. However, the available indices did imply increases in the average age at marriage, decreases in the proportion marrying, increases in childlessness, and decreases in the proportion of families with three or more children. One must emphasize the word "implied" as it is impossible to determine whether marriage and, in particular, first live births have been avoided totally or merely postponed. [We would tend to opt for "postponed" because, in the recent past, almost all women have married and had one live birth during the reproductive span (Pool and Bracher, 1974; see also Campbell, 1973).]

The present commentary departs from our previous analysis to inquire briefly into the implications if each of a number of diverse patterns of family formation were to become

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TABLE 1. FERTILITY RATES ESTIMATED ACCORDING TO VARIOUS TIMING AND SPACING PATTERNS, 1981

Pattern	Parity Progression Ratios (PPR)							Index of Current Marital Fertility	CBR[1]	GFR[2]	Total Population (millions)
	0	1	2	3	4	5	6				
1. Recovery of PPR_0	0.95	0.88	0.54	0.43	0.39	0.39	0.38	2.53	20.5	87.1	24.1
2. Recovery of PPR_0 and PPR_1	0.95	1.03	0.54	0.43	0.39	0.39	0.38	2.81	22.5	96.7	24.4
3. Return to 1961 Pattern*	0.81	0.95	0.78	0.68	0.65	0.65	0.66	3.15	24.9	108.2	24.7
4. Continued Decline in PPR_0	0.62	0.87	0.54	0.43	0.39	0.39	0.38	1.66	14.1	57.3	23.1
5. Continuation of 1971 Pattern	0.68	0.87	0.54	0.43	0.39	0.39	0.38	1.80	15.2	62.1	23.3

CBR[1] = Crude birth rate per 1000

GFR[2] = General fertility rate = $\dfrac{B}{F_{15-49}} \times 1000$

*The first parity progression ratio (PPR_0) in projection 3 would probably approximate the first parity progression ratio in projections 1 and 2 so that temporarily the CBR and GFR would be higher than implied here.

the norm for Canadian parents in the near future. In doing so, we will be comparing the effects of either recovering "deferred" births or total "avoidance" on various standard fertility indices.

Different Patterns of Family Formation

Table 1 contains estimated fertility measures for the Canadian population projected to 1981. The measures are based on fixed assumptions about the ratio of legitimate to total live births and the age-specific rates of first marriage for women in the fecund age groups[2] but different assumptions about the timing and spacing of births and future recoveries of deferred births.

The estimates allow for the possibility that low marital fertility in the recent past need not entail decreases in completed family size, since declines in period rates may reflect changes in the timing and spacing of births rather than, or as well as, limitations in family size. If past declines in period rates were a reflection of different patterns of family formation, the fertility of marriage cohorts presently within the reproductive span would increase as women who had previously deferred or averted births bear children. The recuperation of deferred births would have the greatest impact on the numbers of childless and one- and two-child families. The postponement of births at the lower parities during the period of greatest fecundity lessens, however, the overall risk of higher-order (4+) conceptions.

The five sets of estimated fertility rates fall into three groups postulating:
(i) the recovery of previously deferred births (1, 2, 3);
(ii) in contrast, further increases in levels of childlessness (4); and,
(iii) the standard "if present trends continue" projection, in this case based on the patterns of family formation observed in 1971 (5).

The first projection supposes that the proportion of women who will have a first live birth will be the same for women marrying about 1981 as it was in 1971 but that parity progression ratio zero will be augmented by deferred first-order births to women married in previous years. At the same time, the higher order parity progression ratios (the "probability" of having a second birth, having had a first; etc.) remain at the levels observed in 1971.[3] The second projection, although similar to the first, assumes that the trends observed between 1961 and 1971 will be reversed for both the first and second parity progression ratios. Projection number three represents the situation where all of the 1981 parity progression ratios will recover to the levels witnessed twenty years earlier. The value of the first parity progression ratio in the fourth projection has been estimated graphically from the trend observed between 1965 and 1971, while the higher-order probabilities remain at the 1971 levels. The final projection assumes the continuation of the 1971 patterns of family formation.

In 1971, there was considerable "convergence," or homogeneity, in reproductive behaviour, in the sense that differentials in timing and spacing, as well as in family size, were becoming minimal. In our projections, we have not looked at the maintenance of 1971 family size through "diversity" (Pool, 1972: 36-37). In such a case, a balance could be produced between increases in spinsterhood and childlessness on the one hand and large—3, 4, or 5 children—families on the other. Such an alternative would be, if we might introduce our own values, highly attractive in that it maximizes the range of choice available to individuals and to couples.

Implications

About 1970, Canada was reaching what appeared to be exact replacement: each adult couple was more or less replenishing itself. This is very different from the notion of "Zero

TABLE 2. BASIC DEMOGRAPHIC MEASURES ACCORDING TO TWO PATHS
TO EVENTUAL STATIONARY GROWTH: CANADA[1]

Paths to Stationarity

Quinquennium	Zero Population Growth Now		Exact Replacement Now (NRR = 1.00, 1970-75)	
	CBR^2	NRR^3	CBR^2	NRR^3
1965-70	17.6	1.22	17.6	1.22
1970-75	7.2	0.45	15.7 $(16.2)^4$	1.00
1985-90	9.2	0.47	16.8	1.00
2025-30	16.7	1.54	13.0	1.00
2045-50	12.2	0.83	13.0	1.00

Year	Total Population (millions)	Total Population (millions)
1970	20.5	20.5
1985	20.5	23.5
2000	20.5	26.2
2030	20.5	29.0
2050	20.5	29.3

[1] These projections and simulations were prepared by Dr. Thomas Frejka, Population Council, to whom grateful acknowledgment is made. They were drawn by him from Frejka (forthcoming), a companion volume to Frejka (1973).

[2] Crude birth rate per 1000, females only.

[3] Net reproduction rate, a measure of replacement of adult females by their daughters surviving from birth to reproductive ages.

[4] In parentheses, crude birth rate 1971.

Population Growth Now." Under the schedules of fertility and mortality prevailing in 1971-72, stationarity would not be achieved until early in the twenty-first century. In the interim, there would be population increases (from 21 to 30 million), but these increases would not be accompanied by the severe oscillations in period fertility—and, hence, in the sizes of successive birth cohorts—which would accompany the achieving of "Zero Population Growth Now." Some demographic rates implied by these two paths to stationarity are set out in Table 2.

It can be seen that in 1971 the Canadian population was close to the "Exact Replacement Now" path. However, even the apparently smooth transitions of this path may be achieved only following short-term cyclical effects. This is because, recovered or not, the averted births of 1971 (and thereabouts) cannot be placed back into the 1971 cohort. Thus, this will always be a relatively smaller birth cohort than its predecessors. In a sense, the bump introduced by the early part of the "baby boom" of the late 1940s will be smoothed, while a prolongation of the 1971 pattern of timing and spacing of births could further dampen its effects.

But what if declines in childlessness continue (projection 4), so that a plateau in the pattern of timing and spacing is not reached? Or if a recovery of deferred births by the 1968-72 marriage cohorts occurs when there are even larger marriage cohorts following the 1971 pattern of timing and spacing (projections 1 and 2)? Or, finally, if there is a return to the family formation patterns of 1961 (projection 3)?

The inflections in fertility resulting from such shifts and fluctuations in family formation over the short term, may create problems for social policy and planning as would the long-term effects of the "Zero Population Growth Now" path to stationarity. For example, there could be "stop-go" social accounting as comparatively large birth cohorts must be catered to, or "digested socially," at each stage of the life-cycle by what has been termed "population peristalsis" [Commission on Population (U.S.), 1972: 192-94], while the smaller birth cohorts of earlier or later years would not employ as fully the same amenities. The behavioural implications of such fluctuations may be even more severe, though they would seldom reach the state of "une acrobatie sociale qui est presque impensable" that Henripin (1969:6) was considering if perfect contraception and sex preferences for births were achieved. In such a case, "il faudrait passer de la polygynie à la polyandrie au gré des fantaisies qui ont présidé, vingt ans plus tôt, au choix des enfants à la naissance."[4]

The conditions represented by our projections may have implications for both population growth and oscillations in patterns of family formation. An appreciation of the effects of such cyclical variations may come in part from whether the changes in the macro-social factors influencing family formation—female labour force participation and a shift in values and norms in particular—are maintained by genuine changes in the social system, in turn sustaining the reasonably efficient practice of contraception apparently occurring at present.

Footnotes

[1] The index of current marital fertility is a synthetic period measure derived from parity progression ratios. It can be interpreted as couple replacement (see Pool and Bracher. 1974).

[2] The ratio of legitimate total live births was assumed equal to the mean of this ratio for the 1969-71 period (0.9170), while the age-specific rates of first marriage for women aged 15-49 years are those observed in 1971. In addition, the projections assume the continuation of the schedule of age-specific mortality prevailing in Canada in 1971.

[3] These parity progression ratios have been drawn from Pool and Bracher (1974).

[4] Authors' translation: It would be necessary to alternate between polygyny and polyandry according to the whims which directed the [sex] preferences for children born twenty years previously.

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