THE DEMOGRAPHY OF CHILD POVERTY IN CANADA: 1973-1986

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Résumé— Cette étude examine les tendances dans l'incidence et la rigueur de la pauvreté infantile au Canada entre 1973 et 1986. On a porté une attention particulière au rapport entre la pauvreté infantile et les variables démographiques telles que le nombre d'enfants par famille. On a utilisé l'analyse multivariée pour déterminer quelle proportion du changement dans l'incidence de la pauvreté infantile peut être statistiquement justifiée par un changement démographique. Diverses définitions du revenu ont été utilisées pour analyser l'impact des transferts gouvernementaux, des impôts et des salaires des épouses sur la pauvreté infantile.

Abstract — This paper examines trends in the incidence and severity of child poverty in Canada between 1973 and 1986. Particular attention is paid to the relation between child poverty and demographic variables such as number of children per family. Multivariate analysis is used to assess how much of the change in the incidence of child poverty can be accounted for statistically by demographic change. Various definitions of income are used to analyze the impact of government transfers, taxes and the earnings of wives on child poverty.

Key Words — **poverty, children, demography**

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Introduction

Child poverty is an issue of major policy concern in Canada. Committees of both the House of Commons and the Senate have recently addressed the problems of low income families with particular emphasis on families with children. Seven organizations concerned with social policy have formed a coalition to promote greater awareness of the various problems facing Canadian children (Canadian Child Welfare Association *et al.*, 1988). Child poverty was the subject of the first "Fact Sheet" published by this coalition. Child poverty was the theme of Ed Broadbent's (1989) final speech to the House of Commons as leader of the New Democratic Party.

Several recent publications have demonstrated that concern with the problem of child poverty in Canada is well justified (Arnoti, 1986; Freiler, 1986; National Council of Welfare, 1988; and Ross, 1989). The most salient conclusions of these studies are the following. (*a*) The 1970s witnessed a substantial reduction in the incidence of poverty among all age groups. (*b*) During the early 1980s, poverty rates continued to fall among the elderly, but grew sharply among children and adults less than age 65. (*c*) After 1984, poverty rates started falling again for children and non-aged adults. (*d*) As of 1986, however, poverty was still the plight of 17.4 per cent of all Canadian children, especially those in the rapidly growing category of lone-mother families.

The motivation for studying child poverty goes beyond the alleviation of current economic deprivation. There is a large literature on the long-run consequences of childhood poverty for an individual's health, educational attainment, socioeconomic achievement and other adult characteristics. For several recent excellent examples, the reader is referred to McLanahan (1985) and Offord *et al.* (1987).

Demography can contribute to our understanding of this problem. One such contribution arises from the strong statistical association between the incidence of low income and family characteristics such as the number and ages of both parents and children. The distribution of these family characteristics in the population, in turn, reflects changes in such demographic behaviour as fertility, marriage, divorce, household arrangements and others.

This paper has two objectives. The first is to describe trends in the incidence and severity of low income among Canadian children. The second objective is to assess the extent to which recent trends in child poverty are associated with changes in demographic variables, such as family size, as opposed to changes in public policy. This objective is pursued both by estimating a multivariate model of low income status and by comparing various measures of poverty

which reflect the changing impact of transfers, taxes and the earnings of married women.

Data and Measurement

The data used in this study are for economic families from the Survey of Consumer Finances (SCF) in the income years 1973, 1979 and 1986. The year 1973 is the earliest for which economic family microdata tapes are available from the SCF. The year 1979 provides a pre-recessionary midpoint.

This paper focuses on children less than age 18 in economic families headed by married couples or lone mothers. These two types of families account for over 97 per cent of the children in the SCF. The residual category of "other families" is very heterogeneous and too small in sample size for extensive analysis.

The "incidence of low income" or "poverty rate" refers to the proportion of families, or individuals in families, in which total income is less than the Low Income Cutoff (LICO) estimated by Statistics Canada. This LICO is likely the most commonly used "poverty line" in Canada. Furthermore, Wolfson and Evans (1989) provide a convincing case that Statistics Canada's LICO is neither more nor less arbitrary than other proposed cutoffs.

Wolfson and Evans also make a good case that poverty is both a relative and an absolute concept. Perceptions of what constitutes an "adequate" income have risen over time along with average family income. However, families undoubtedly benefit from access to better housing, food, health care and clothing regardless of the average consumption level of society.

This paper uses an absolute poverty line, which is the LICO based on the 1978 Family Expenditure Survey adjusted over time only for the cost of living (see Dooley, 1989a, for details of how the LICOs were estimated for each year). In Dooley (1989a), this author also uses a relative poverty line which is one-half of the median family income in each year. Ross (1989) uses another relative poverty line, which is the Statistics Canada LICO adjusted over time for real increases in average family income.

The incidence of low income is a useful though limited measure of economic deprivation. The severity of poverty among the low income population is another important measure which generally receives much less attention than does the poverty rate. This author uses the LICO to calculate two measures of the severity of poverty. The "poverty gap" is the LICO minus family income. This measure indicates the number of dollars needed by the family to become non-poor. The "income/needs ratio" is total family income divided by the

family's LICO. This provides a proportionate measure of the shortfall in the family's income.

Basic Trends in Low Income

The Incidence of Low Income

Table 1 presents the incidence of low income among *individuals* in three different age groups: children (<18), non-elderly adults (18-64) and the elderly (65+). The 1973 SCF tape does not provide separate counts of elderly and non-elderly adults. The elderly were clearly the most poverty-prone age group in 1973 and 1979. By 1986, however, children and the elderly were almost equally likely to be poor. This author's estimates with the "1969-base" LICO (not reported here) show children to be the most poverty prone group and the aged to be the least prone as of 1986. Canada was not alone in making greater progress against poverty among the elderly than among the young (see Preston, 1984, and Smeeding *et al.*, 1986, for analyses of other countries). However, Table 1 does show that the overall incidence of child poverty declined in Canada over the sample period.

One demographic change which clearly did *not* serve to ameliorate child poverty is the growth in lone-parent families. In 1973, 7.2 per cent of the children in the SCF were in lone-mother families and 90.7 per cent in families headed by married couples. By 1986, the proportion of children in lone-mother families had increased to 10.4 per cent and the proportion in married-couple familes had declined to 86.6 per cent. What about child poverty within these two types of families?

Table 2 breaks down the incidence of low income among children by family type and age of husband or lone mother. The children of lone mothers are far more poverty prone than not only the children of married couples, but also the children of "other families" who live with lone fathers or neither parent. Table 2 also shows that rate of child poverty generally declines with age of parent, although there is a slight upturn with the oldest category.

Table 2 highlights some interesting patterns of intertemporal change. Most of the decline in the incidence of low income occurred in the 1970s. The changes between 1979 and 1986 represent the net outcome of the recession and recovery during the first half of the 1980s. For most age groups, this net outcome was a modest decline in poverty rates. However, for lone mothers less than age 25 and married couples with the husband less than 35, the net outcome of the early

TABLE 1.   INCIDENCE OF LOW INCOME AMONG PERSONS,
UNATTACHED INDIVIDUALS, AND FAMILIES BY AGE AND
AGE OF HEAD: 1973, 1979 AND 1986

	1973 (% Poor)	1979 (% Poor)	1986 (% Poor)
Age		Persons	
<18	23.2	16.8	17.4
18+	20.4	16.5	14.2
18-64	n.a.	13.4	13.4
65+	n.a.	36.7	19.2
Total	21.4	16.6	15.1
		Unattached Individuals	
<65	55.1	30.2	31.2
65+	73.3	67.2	43.5
Total	46.8	40.5	34.5
Age of Head		Families	
<65	16.2	12.6	13.0
65+	32.6	23.9	9.7
Total	18.3	14.0	12.5

TABLE 2.   INCIDENCE OF LOW INCOME CHILDREN <18
BY FAMILY TYPE AND AGE OF HUSBAND OR LONE MOTHER:
1973, 1979 AND 1986

Age of Husband or Lone Mother	1973 (% Poor)	1979 (% Poor)	1986 (% Poor)
	Married Couples		
<25	24.0	21.9	30.3
25-34	18.1	12.4	15.4
35-44	19.4	11.8	9.9
45-54	17.7	11.1	8.6
55+	23.4	16.8	16.4
Subtotal	19.0	12.4	12.0
	Mother-Only		
<25	91.3	74.0	85.0
25-34	80.6	69.6	68.1
35-44	73.0	53.4	46.7
45+	57.7	57.3	49.1
Subtotal	72.9	61.9	60.1
	All Other Families		
Subtotal	32.5	28.0	23.9
Total	23.2	16.8	17.4

1980s was an increase in the incidence of low income. Indeed, the children of the youngest married couples had a higher poverty rate in 1986 than in 1973. This in part reflects the very difficult labour market conditions faced by young workers over the entire sample period (Dooley, 1986).

Table 2 shows that the largest percentage-point decline in the incidence of low income was for the children of lone mothers. Despite this fact, the proportion of all *poor* children who live in lone-mother families increased from 22.7 per cent in 1973 to 35.8 per cent in 1986. This latter change reflects the fact that the

children of lone mothers grew as a proportion of all children and continued to have much higher poverty rates than the children of married couples.

The Severity of Poverty

Table 3 provides estimates of two complementary measures of the severity of poverty among low income children: the median poverty gap and the median income/needs ratio (see the previous section of this paper for more details). Careful interpretation is required since both measures can indicate a worsening of the average severity of poverty even though no individual family has become poorer. For example, if the government were to guarantee an adequate income to all families except the poorest one in the country, then the incidence of poverty would drop to virtually zero, but both the median poverty gap and the median income/needs ratio among the poor would increase.

The relevance of this problem can be seen by comparing the bottom rows of Tables 2 and 3. Between 1973 and 1979, the aggregate poverty rate was falling while the severity of poverty was increasing. The opposite was true for the period from 1979 to 1986. These seemingly contradictory trends in part reflect the fact that it is usually the families nearest the LICO that move in and out of poverty over the business cycle, as the rate of unemployment rises or falls. The almost-poor become the moderately poor during a recession and return to the status of almost-poor during a recovery. Nevertheless, these measures of the severity of poverty still answer a very important question: Among those children still poor, how seriously do their families' incomes fall short of the LICO?

The estimates in Table 3 show the importance of asking this question. For the children of married couples with a husband age 25-54, the severity of poverty changed little over the sample period. This contrasts with the more optimistic picture painted by the declining rates of poverty for these families in Table 2. Table 3 further shows that the youngest couples with children became not only more likely to be poor over the sample period, but also more likely to become more severely poor. Among the children of married couples, the severity of poverty decreased only for the small number with a father age 55 or over.

Table 3 indicates that the severity of poverty among the children of poor lone mothers did decrease along with the incidence of poverty over the sample period. However, Table 3 still highlights the double economic disadvantage of the children of lone mothers. As of 1986, children of lone mothers were still not only more likely to be poor, but also to be more severely poor than were the children of married couples.

TABLE 3.   MEDIAN POVERTY GAP AND INCOME/NEEDS RATIO
AMONG *LOW INCOME* CHILDREN <18 BY FAMILY TYPE AND AGE
OF HUSBAND OR LONE MOTHER: 1973, 1979 AND 1986

Age of Husband or Lone Mother	Median Poverty Gap*			Median Income/Needs Ratio[+]		
	1973	1979	1986	1973	1979	1986
		Married Couples				
<25	3,112	6,331	5,525	0.82	0.67	0.67
25-34	4,778	5,129	4,945	0.77	0.76	0.75
35-44	4,917	6,282	5,531	0.79	0.71	0.74
45-54	5,435	6,052	4,875	0.74	0.72	0.77
55+	6,373	4,879	4,029	0.68	0.72	0.78
Subtotal	5,064	5,696	5,137	0.77	0.72	0.75
		Mother-Only				
<25	9,408	8,008	7,633	0.37	0.51	0.57
25-34	10,989	8,616	7,685	0.45	0.52	0.58
35-44	9,319	8,936	6,219	0.57	0.53	0.66
45+	6,870	6,847	4,519	0.58	0.55	0.72
Subtotal	9,714	8,140	6,765	0.51	0.53	0.61
Total	6,062	6,576	5,767	0.71	0.66	0.69

*Poverty Gap = Low Income Cutoff minus Total Income.

[+]Income/Needs Ratios = Total Income divided by Low Income Cutoff.

The Role of Demographic Change

The second objective of this paper is to assess the extent to which recent trends in child poverty are associated with changes in demographic variables such as family size and the age and education of parents. Table 4 provides summary data for various characteristics of both married-couple and lone-mother families in 1973 and 1986. All of the variables in Table 4 typically have a strong, simple correlation with the incidence of low income (for examples, see

TABLE 4.   DISTRIBUTION OF MARRIED COUPLE AND LONE
MOTHER FAMILIES WITH CHILDREN <18: 1973 AND 1986

	Married Couples		Lone Mother	
	1973	1986	1973	1986
Age of Husband/Lone Mother				
<25	4.2	2.5	9.1	12.9
25-34	30.6	31.0	29.8	39.0
35-44	34.4	43.2	31.7	33.3
45-54	22.9	18.2	24.7	12.5
55+	7.9	5.1	4.7	2.3
	100.0	100.0	100.0	100.0
Number of Children <18				
1	31.0	37.7	39.7	55.1
2	35.4	42.9	30.6	32.2
3	18.8	15.1	15.0	10.0
4	8.8	3.3	8.7	2.3
5+	6.0	1.0	6.0	0.4
	100.0	100.0	100.0	100.0
% with Child <6 (<7 in 1986)	48.2	51.0	35.4	40.2
Region				
Atlantic	9.3	9.7	7.6	8.8
Quebec	28.1	26.5	26.8	26.6
Ontario	36.1	36.0	36.2	31.7
West	26.5	27.8	29.4	32.9
	100.0	100.0	100.0	100.0
Education of Husband/Lone Mother				
Elementary	29.9	13.4	28.6	12.9
Secondary	46.9	47.4	54.7	57.8
Some Post-Secondary	14.6	21.6	13.3	20.3
University Degree	8.6	17.6	3.4	9.0
	100.0	100.0	100.0	100.0
% Never Married	---	---	10.3	22.6

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Arnoti, 1986; Freiler, 1986; National Council of Welfare, 1988; and Ross, 1989).

The principal demographic changes for married couples between 1973 and 1986 were the decrease in the number of children and the increase in the husbands' levels of education. Both changes would have contributed, other things being equal, to a decline in the incidence of poverty. Age and schooling trends for married women were similar to those for husbands in Table 4.

The effect of demographic change was more mixed for lone mothers. The decline in number of children and increases in levels of schooling for lone mothers are comparable to those for married couples. However, the average lone mother also became younger, more likely to be never married and more likely to have a preschooler. These last three factors would have served to increase the likelihood of low income.

Multivariate analysis is required in order to sort out properly the relationship between changes in these demographic characteristics and the probability of low income. To this end, this author estimated logit functions for the probability that a family with children has total income below the LICO conditional on the demographic characteristics in Table 4. Separate sets of estimates are reported for married couples and lone mothers in 1973 and 1986.

These logit estimates are used to decompose the overall decrease in the incidence of child poverty into those portions which can and cannot be associated with changes in demographic variables, such as family size. This provides potentially useful information for policy evaluation. For example, if declines in family size have played a major role in child poverty reduction and there is thought to be little prospect of further fertility decline, then new policy initiatives may be needed to achieve further reductions in poverty among children.

The relationship between family income and the "independent" variables in the logit functions is more complex than that postulated in this paper. For example, this author's logit function, strictly speaking, specifies the probability of poverty as a function of the number of children in the family. However, the reverse order of causation from family income to family size is also plausible. The estimates presented below should be viewed as simply one way to describe the joint distribution among these variables, rather than as an attempt to make causal inferences from a structural model.

The logit estimates were obtained with unweighted observations for families rather than children, since there is no informational gain from weighting. For married couples, the use of the wife's age and schooling — instead of the husband's — produces similar estimates. Table 5 provides the logit estimates. All variables are in dummy form. The omitted case is a husband or ever-married

TABLE 5.   LOGIT ESTIMATES OF THE PROBABILITY THAT
FAMILY INCOME IS LESS THAN LOW INCOME CUTOFF: MARRIED
COUPLES AND LONE MOTHERS WITH CHILDREN <18
(ASYMPTOTIC NORMAL STATISTICS IN PARENTHESES)

	Married Couples		Lone Mother	
	1973	1986	1973	1986
Constant*	-2.80	-2.65	-0.047	-0.22
	(26.3)	(20.9)	(0.2)	(1.1)
Age of Husband/Lone Mother				
<25	0.55	0.93	0.75	0.85
	(4.5)	(6.4)	(1.8)	(3.4)
35-44	-0.23	-0.37	-0.50	-0.53
	(3.0)	(4.6)	(2.0)	(3.3)
45-54	-0.23	-0.27	-0.62	-0.76
	(2.6)	(2.4)	(2.4)	(3.6)
55+	0.30	0.27	---	---
	(2.9)	(1.9)	---	---
Number of Children <18				
2	0.24	0.14	0.65	0.70
	(3.3)	(1.8)	(3.2)	(4.8)
3	0.71	0.78	1.40	0.92
	(8.8)	(8.6)	(5.1)	(4.2)
4	1.13	0.93	1.49	1.67
	(11.9)	(6.7)	(4.2)	(3.0)
5+	1.20	1.27	1.54	1.18
	(11.8)	(6.8)	(3.5)	(1.1)
Presence of Child <6+	0.32	0.30	0.81	0.37
	(4.9)	(3.8)	(3.3)	(2.3)
Region				
Atlantic	0.83	0.51	0.70	0.56
	(10.7)	(5.0)	(2.6)	(2.8)
Quebec	0.72	0.35	-0.091	0.73
	(8.8)	(2.9)	(0.4)	(3.4)
West	0.48	0.50	0.33	0.25
	(5.9)	(5.1)	(1.5)	(1.5)
Education of Husband/Lone Mother				
Elementary	0.79	0.63	1.08	1.08
	(13.7)	(7.9)	(5.0)	(5.2)
Some Post-Secondary	-0.75	-0.62	-1.17	-0.87
	(7.1)	(6.8)	(4.9)	(5.9)
University Degree	-1.49	-1.07	-1.69	-2.43
	(8.0)	(8.1)	(3.4)	(6.8)
Never Married	---	---	0.40	0.44
(Lone-Mother Only)	---	---	(1.1)	(2.5)
Pseudo R-square	.16	0.11	0.31	0.30
No. of Observations	11248	10824	886	1406

*Omitted case is husband or ever married lone mother, age 25-34,
 from Ontario with secondary education and one child age 6(7) to
 17.
+Less than 7 in 1986.

lone mother, age 25-34, from Ontario with a secondary education and one child age 6 (or 7 in 1986) to 17. Most of the coefficients have the expected sign and asymptotic normal statistics which exceed conventional threshold levels.

The logit estimates alone do not readily indicate the magnitude of the differences between families in the probability of low income. Table 6 provides conditional probabilities based on the coefficient estimates in Table 5. The first row corresponds to the characteristics of the omitted case in Table 6. In the other rows, the characteristics of the omitted case are altered one at at time. The last row of Table 6 presents the sample proportions of poor families which differ slightly from the sample proportions of poor children in Table 2, due to differences in weighting.

First let us consider the differences among families at a point in time. The probability of low income falls with age of parent until the mid-50s. The probability of poverty is increased if the family has more children, a pre-school child or a less educated parent. Never-married lone mothers are more likely to be poor, even controlling for the other variables. This indicates that the status of never-married is not just a proxy variable for youth and lack of schooling.

Now let us consider the changes over time in Table 6. The bottom row shows that the overall proportion of married couples who were poor declined from 18.1 per cent to 12.0 per cent over the sample period. However, the conditional probabilities of low income actually increased for almost all types of married couples, especially the youngest. The major exceptions were the Atlantic provinces and Quebec.

The changes in the conditional probabilities reflect the influence of variables which have not been included in the estimated logit functions. The fact that most of the conditional probabilities increased implies that the decrease in the overall poverty rate among married couples cannot be accounted for statistically by changes in unobserved (in this study) variables. The alternative is that there occurred a redistribution of married couples across the categories of the ob-served characteristics in Table 6. As Table 4 indicates, such redistribution was largely confined to numbers of children and schooling in the case of married couples.

The case of lone mothers in Table 6 is different from that of married couples. The conditional probabilities of low income are lower in 1986 than in 1973 for almost all cases, save a puzzlingly large increase in Quebec. These results imply that at least a portion of the overall decline in the poverty rate among lone-mother families from 68.4 per cent to 58.4 per cent can be accounted for by unobserved factors.

TABLE 6. PREDICTED PROBABILITY THAT FAMILY INCOME IS LESS THAN LOW INCOME CUTOFF: MARRIED COUPLES AND LONE MOTHERS WITH CHILDREN <18

	Married Couples		Lone Mother	
	1973	1986	1973	1986
Age 25-34, Ontario, secondary education, one child age 6(7)-17.*	5.7	6.6	48.8	44.5
Age of Husband/Lone Mother				
<25	9.6	15.2	66.9	65.2
35-44	4.6	4.7	36.8	32.0
45-54	4.6	5.1	33.9	27.2
55+	7.6	8.5	---	---
Number of Children <18				
2	7.2	7.5	64.5	61.7
3	11.0	13.3	79.5	66.7
4	15.9	15.2	80.8	80.9
5+	16.8	20.2	81.7	72.3
Presence of Child <6+	7.7	8.7	68.3	53.8
Region				
Atlantic	12.3	10.6	65.7	58.5
Quebec	11.1	9.1	46.5	62.6
West	8.9	10.5	57.1	51.0
Education of Husband/Lone Mother				
Elementary	11.8	11.8	73.7	70.2
Some Post-Secondary	2.8	3.7	22.8	25.1
University Degree	1.3	2.4	15.0	6.5
Never Married	---	---	58.8	55.4
Sample % With Low Income	18.1	12.0	68.4	58.4

*This probability corresponds to the constant in Table 16.

+Less than 7 in 1986.

Table 7 provides a further analysis of the role played by observed versus unobserved variables. This author uses the logit estimates to decompose explicitly the change in a measure of overall poverty into those portions which can be accounted for statistically by changes in observed characteristics and unobserved characteristics respectively.

The decomposition proceeds in the following manner. The probabilities of low income in the first row of Table 7 were derived from the 1973 logit coefficients and the 1973 mean values of the family characteristics in Table 4. The probabilities in the second row were derived from the 1986 logit coefficients and 1986 mean family characteristics.

The probabilities in the first two rows of Table 7 differ from the sample proportions of married couples and lone mothers who were poor in the last row of Table 6. This is due to the nonlinearity of the logit function. With a linear conditional probability function — as in linear regression — the sample mean of the dependent variable would be equal to the function evaluated at the sample means of the independent variables. This need not be the case with a nonlinear function. However, the decomposition process used below is still a useful way to view the data.

The total change in the probability of low income can be decomposed by using the probability of market work predicted by either: (*a*) the 1973 logit coefficients and the 1986 sample means of family characteristics or (*b*) the 1986 logit coefficients and the 1973 sample means of family characteristics. The probabilities predicted by these two approaches are presented in the third and fourth rows of Table 7, respectively. The fifth row of Table 7 presents the differences in the probabilities in the first two rows. The balance of Table 7 provides a decomposition of the differences in the fifth row using the probabilities from the third and fourth rows.

The two approaches give similar answers. For married couples, changes in the observed characteristics can account for virtually all (either 100 per cent or 86 per cent) of the estimated decrease in poverty between 1973 and 1986. Changes in unobserved factors, as reflected in the logit coefficients and conditional probabilities, played little role. Fewer children and more schooling can account for all the poverty reduction among married couples.

The results for lone mothers in Table 7 are different from those for married couples. Changes in the observed and unobserved characteristics of lone mothers each account for approximately one-half of the overall decline in the incidence of low income. The relatively smaller role played by observed variables for lone mothers reflects the mixed nature of demographic change for this group. Lone mothers did come to have fewer children and more schooling

TABLE 7.   DECOMPOSITION OF CHANGE IN THE PROBABILITY OF
FAMILY INCOME LESS THAN LOW INCOME CUTOFF OF MARRIED
COUPLES AND LONE MOTHERS WITH CHILDREN <18: 1973-1986

Values of coefficient estimates and sample characteristics used to estimate low income probabilities	Probability of low income associated with average characteristics	
	Married Couples (%)	Lone Mothers (%)
1973 coefficients, 1973 characteristics*	12.6	70.3
1986 coefficients, 1986 1986 characteristics*	8.3	57.0
1973 coefficients, 1986 characteristics	8.3	62.1
1986 coefficients, 1973 characteristics	12.0	63.6
Change in probability of market work due to changes in both coefficients and characteristics	-4.3 = 8.3 - 12.6	-13.3 = 57 - 70.3

Decomposition using 1973 coefficients
and 1986 characteristics

Proportion of total change due to change in characteristics	(-4.3)/(-4.3) = 100%	(-8.2)/(-13.3) = 62%
Proportion of total change due to change in coefficients	(0.0)/(-4.3) = 0%	(-5.1)/(-13.3) = 38%

Decomposition using 1986 coefficients and 1973 characteristics

Proportion of total change due to change in characteristics	(-3.7)/(-4.3) = 86%	(-6.6)/(-13.3) = 50%
Proportion of total change due to change in coefficients	(-0.6)/(-4.3) = 14%	(-6.7)/(-13.3) = 50%

*These probabilities differ from the sample proportions poor in
Table 6 due to the nonlinearity of the logit function.

over the sample period. However, they also became younger, more likely to be never-married and more likely to have a preschooler.

What can we deduce from this decomposition exercise? These results imply that there was little change in the probability of low income for married couples with given levels of age, numbers of children and levels of schooling. This is consistent with a world in which there has been little improvement in the effectiveness of income support policies for married couples. However, this need not necessarily have been the case. The period from 1973 to 1986 was also one which presented many challenges for income support programs, including rising unemployment, falling productivity and the worst recession in half a century. It possible that improvements to the system may have kept a difficult situation from becoming much worse.

This author's results showed that the likelihood of low income for lone mothers of a given age, education and region did drop over the sample period. These results are consistent with a period in which public policy did become more effective at alleviating poverty for a group very much in need of such alleviation. However, these estimates also imply that public policy may be only partly responsible, since declining numbers of children and growing levels of schooling appear to have played an equally important role.

The demographic variables most strongly associated with poverty reduction were number of children and parental schooling. One possible implication of this finding is that, as a society with below replacement fertility, we may be unable or unwilling to rely on further reductions in family size as a mechanism for poverty reduction. Alternative solutions may have to be sought. However, there is no obvious corresponding upper limit on the average levels of schooling.

Finally, this author would like to emphasize the very tentative nature of the policy inferences in this and the preceding paragraphs. Firmer policy conclusions require both direct measures of policy change and a more elaborate structural model of low income status.

The Role of Government Transfers and the Earnings of Wives

This section uses additional data from the SCF to shed a bit more light on multivariate findings. This author presents estimates of the incidence of child poverty by family type and age of parent using two different definitions of income. These definitions provide more information concerning the role of policy versus demographic variables in reducing child poverty.

The first definition is family income minus government transfers or "pre-transfer" income. Changes in the "poverty-reducing" impact of government

transfers are assessed by comparing the incidence of child poverty using pre-transfer and post-transfer income.

The second definition appplies to married couples only and is family income minus the wife's earnings. It was concluded above that fewer children and increased schooling could account statistically for virtually all of the decline in child poverty among married couples. One way in which fewer children reduce the likelihood of poverty is by lowering the family's LICO. Another way in which both fewer children and more education lower the likelihood of poverty is by facilitating more market work by the wife. Dooley (1989b) showed that market work by married women with children did increase dramatically over our sample period. This second income definition allows one to assess changes in the "poverty-reducing" impact of the earnings of married women by comparing the incidence of low income both with and without this component of family income.

Table 8 presents the incidence of low "pre-transfer income". The differences between the post-transfer and pre-transfer poverty rates in Tables 2 and 8, respectively, show how much higher the incidence of low income is when government transfer payments are omitted. The pre-transfer poverty rates are, by definition, never lower than the post-transfer poverty rates in Table 2.

The overall difference for married couples increases from 4.3 percentage points (23.3 per cent minus 19.0 per cent) in 1973 to 7.0 percentage points in 1986. The increase for the youngest married couples was from 7.9 percentage points in 1973 to 15.5 percentage points in 1986.

The impact on poverty of omitting transfers also increased for lone mothers. The overall difference in post-transfer and pre-transfer poverty rates grew from 6.4 percentage points (79.3 per cent minus 72.9 per cent) to 8.7 percentage points (68.8 per cent minus 60.1 per cent) in 1986. Unlike married couples, however, the impact of transfers did not grow disproportionately for the youngest lone mothers.

The evidence in Table 8 is consistent with the judgement that government transfers became more effective in reducing child poverty among both married couples and lone mothers. However, such a judgement requires the assumption that the pre-transfer distribution of income did not respond greatly to any changes in transfer policy. Furthermore, the magnitude of the estimated change in the impact of transfers on poverty is quite modest and is consistent with a major role for demographic factors in poverty reduction.

In Dooley (1989a), this author also estimated child poverty rates using total family income minus estimated income tax, that is, "post-tax income" or "take-home income." Trends in the incidence of low take-home income and the

TABLE 8.   INCIDENCE OF LOW PRE-TRANSFER* INCOME AMONG
CHILDREN <18 BY FAMILY TYPE AND AGE OF HUSBAND OR
LONE MOTHER: 1973, 1979, AND 1986

Age of Husband or Lone Mother	1973 (% Poor)	1979 (% Poor)	1986 (% Poor)
	Married Couples		
<25	31.9	29.0	45.8
25-34	21.5	15.5	22.7
35-44	23.3	15.7	15.9
45-54	22.0	16.0	14.9
55+	33.0	26.9	32.5
Subtotal	23.3	16.6	19.0
	Mother-Only		
<25	94.1	81.1	93.2
25-34	83.5	73.6	74.5
35-44	81.5	63.5	57.7
45+	66.2	64.4	58.8
Subtotal	79.3	69.0	68.8
Total	27.7	21.4	24.7

*Pretransfer income is total family income minus government
transfer income.

incidence of low pre-tax income were found to be very similar for both
married-couple and lone-parent families of all ages. Hence, these data gave no
indication of a change in the impact of income taxes on child poverty over the
sample period.

The top panel of Table 9 presents the incidence of low income among children
of married couples using the definition of total family income minus the earnings
of wives. The differences between the poverty rates in the top panels of Tables
2 and 9 indicate how much higher the incidence of low income is when the wife's
earnings are omitted. The overall difference for married couples increases from
4.6 percentage points (23.6 per cent minus 19.0 per cent) in 1973 to 8.8
percentage points (20.8 per cent minus 12.0 per cent) in 1986. The increase in

TABLE 9.   INCIDENCE OF VARIOUS LOW INCOME MEASURES
AMONG CHILDREN OF MARRIED COUPLES BY AGE OF
HUSBAND: 1973, 1979, AND 1986

Age of Husband	1973 (% Poor)	1979 (% Poor)	1986 (% Poor)
Total Family Income Minus Wife's Earnings			
<25	30.5	29.5	46.1
25-34	23.3	18.1	23.7
35-44	24.0	17.1	19.2
45-54	21.6	15.3	16.7
55+	27.2	20.8	23.3
Total	23.6	17.5	20.8
Total Family Income Minus Government Transfers and Spouse's Earnings			
<25	38.7	37.6	59.1
25-34	27.7	22.5	33.8
35-44	28.6	22.5	26.2
45-54	26.4	20.5	22.6
55+	36.8	30.5	40.0
Total	28.6	22.8	29.1

this difference was easily the largest for the youngest married couples. By 1986, the poverty rate of this group is 15.8 percentage points higher if the earnings of wives are omitted, as compared with a difference of 6.5 percentage points in 1973.

The evidence in Table 9 indicates that one way in which fewer children and more schooling reduced child poverty was by facilitating greater earned income among married mothers. One interpretation of these data is that the poverty-reducing impact of the earnings of married women grew between 1973 and 1986. However, this needs to be qualified in two ways.

First, this interpretation makes the assumption that other sources of family income would have been the same if the wife had earned zero income. Second, this interpretation ignores the time and money sacrificed by the family in order to increase the wife's earnings. In related research (Dooley, 1988, 1989b), this author has found that the major source of earnings growth for married women with children has been more hours of market work rather than better-paid work.

Furthermore, this author knows of no studies which show that the reduction in maternal time at home has been adequately replaced by paternal time at home (Fuchs, 1988). Hence, any measured decrease in child poverty due to greater market work by married women may well overstate the true gain in child welfare, given that both parental time and money have a positive impact on child welfare.

The poverty rates in the bottom panel of Table 9 are derived by omitting both transfers and wife's earnings from family income. These rates declined less in the 1970s and increased more in the 1980s than any other set of poverty rates reported in this paper. In particular, the incidence of low income in the last row of Table 9 is 29.1 per cent in 1986 versus 28.4 per cent in 1973. This implies that growth in transfers and the earnings of wives can account entirely for the overall reduction in poverty among the children of married couples. The same is true of most age groups.

This final set of estimated poverty rates is very consistent with the slow growth in productivity and, hence, the real earnings of full-time workers over the sample period (Dooley, 1988). The problem this raises is that the absence of growth in real wages and the tax base places both economic and political limits on the extent to which child welfare can be increased by either devoting more parental time to the market or by increasing transfer payments.

Summary and Conclusion

The objectives of this paper were to describe trends in the incidence and severity of poverty among Canadian children and to assess the extent to which these trends were associated with changes in demographic variables, such as family size. Estimates with data from the Survey of Consumer Finances showed that there were improvements in both the incidence and severity of child poverty between 1973 and 1986 for most types of families considered. This trend is encouraging, but the findings also revealed the following reasons for concern.

First, the levels of both measures of poverty remain disturbingly high, especially among lone mothers and very young married couples. Second, changes in demographic variables, such as declining family size, could account statistically for all of the decline in the child poverty rate among married couples and one-half of the decline among lone mothers. Further reductions in child poverty from this source may be limited, given current below-replacement fertilty rates. Third, a limited attempt to assess the impact of the tax and transfer system on child poverty indicated only a modest improvement over the sample period. Fourth, the apparently growing reliance on the earnings of married

women to reduce child poverty is a mixed benefit both for mothers and their children. This is because the earnings increases have been largely the result of more hours of market work by the wife not matched by increased paternal work in the home.

Future research in this area should incorporate explicit policy variables, especially measures of differences over time and between provinces in income support policy. More attention is also needed to the link between child welfare and the changing patterns of work both in the home and in the market. Finally, we know very little about the length of spells of child poverty or about which events trigger a change in poverty status for children in Canada. Research in other countries has shown that such information is crucial both for understanding and for policy formation. The case for a longitudinal survey of Canadian family income dynamics is compelling.

Acknowledgments

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