Welfare and the Family: The Canadian Experience

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Welfare and the Family: The Canadian Experience

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Canada has a universal social assistance program that is almost completely administered through the federal Canada Assistance Program. However, provinces determine the levels of assistance for various groups eligible for welfare. This article exploits the variation in payments and uses microdata to estimate the effect of changes in welfare benefits on welfare participation, single parenthood, births out of wedlock, divorce, and labor force participation among low-income women. In Canada, it would appear that welfare benefits influence these decisions.

I. Introduction

For several years now there has been a great deal of intellectual activity in the United States to explain the effect of the "welfare system" on poverty, living arrangements, births out of wedlock, teenage pregnancy, and the like. It is probably fair to say that most economists agree that needs-tested aid to able-bodied individuals discourages work and encourages marital breakdown. However, there is much less agreement as to the magnitude of this effect. Some, like Murray (1984), have argued that the rise of poverty and the underclass, teenage pregnancy, and the like have been the indirect result of the War on Poverty and all of the welfare programs that came with and after it. Others, like Danziger, Jakubson, Schwartz, and Smolensky (1982) have argued that welfare is not a major factor in determining how or why people become poor.

I would like to thank Leigh Anderson, Yoram Barzel, Don Devoretz, Steve Easton, Jane Friesen, Herb Grubel, Mark Kamstra, Peter Kennedy, Dean Lueck, and Dennis Maki for their charitable comments. Saul Schwartz was instrumental in getting this project off the ground and also provided excellent comments along the way.

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Unlike the U.S. experience, there have been relatively few studies of welfare in Canada, and certainly no empirical work has been conducted to establish first estimates of the size of the impact of welfare on family structure. This article is an attempt in this direction and as such is quite broad in its approach. Section II of this article briefly discusses the rise of welfare payments over time in Canada and compares these expenditures to welfare payments in the United States. However, because of welfare definitional issues, but especially because of severe restrictions on Canadian historical data, there are limits to what can be learned from a time-series analysis of welfare in Canada. Section III contains the bulk of the analysis and uses the 1986 Canadian census to compare the effect of welfare across provinces on the incentive to participate in welfare, become a single parent, and participate in the labor force.

The results of this study are not too surprising—low-income women respond to the financial incentives provided by welfare, while high-income women do not. The frequency of children born to unwed women, single parenthood, and divorce among low-income women is shown to be positively related to welfare benefits, while the opposite relationship holds for labor force participation. What is surprising is that welfare seems to have a relatively large impact on decisions regarding family status.

II. Welfare in Canada

A. Canadian Welfare over Time and Compared to the United States

The phrase "welfare system" is broad and inspires a vast array of images and connotations. To compare such systems between Canada and the United States or across time is a difficult task, indeed. What is to be included as welfare? If welfare relates to the poor, how is poverty to be defined? Partly out of cowardice, but mostly out of necessity, I make some arbitrary decisions regarding these questions in this section. For the most part I use definitions provided by Canadian government agencies in charge of such things, or I make "reasonable" definitions of my own. However, official and reasonable definitions aside, it must be recognized that comparing welfare across countries or time is wrought with conceptual ambiguities. As much said, let me define welfare in general as payments to the poor, given as a last resort because they are poor. For Canada this almost limits welfare to payments made under the Canada Assistance Plan (CAP) and the programs it replaced.[1] Table 1 provides some general statistics on wel-

[1] In the United States there has been some debate over what should be counted as welfare. In particular, studies that use only Aid to Families with Dependent Children (AFDC) payments have been criticized for not using broader definitions. This problem is almost completely resolved in Canada since nearly all welfare payments are made through CAP.

Table 1
Various Canadian Welfare Statistics

	1986	1980	1971	1960
Total real welfare expenditures (in millions of 1981 $)	8,502.2	6,302.9	3,825	955.1
Real per capita welfare expenditures	335	262	177	53.8
Real expenditures as % of GNP	2.29	1.85	1.68	.87
CAP recipients:				
Number (in millions)	1.892	1.334	1.460*	...
As % of population	7.46	5.55	6.76*	
People below the low-income cutoff:				
Number (in millions)	3.689	3.475	4.851	...
As % of population	14.5	14.4	23.8	
Average 1986 CAP payment for single parent with one 2-year-old child	9,308	...	...	...

SOURCES.—Statistics Canada (1983); National Council of Welfare (1987, 1988); Canada (various years).
NOTE.—GNP = gross national product; CAP = Canadian Assistance Plan.
* As a result of revisions in the calculation of low-income cutoffs, the low-income cutoff numbers for 1971 use a different base than the 1980 numbers. The numbers presented here are for 1969 and are comparable to the 1980 numbers.

fare in Canada that are comparable to table 1 in Murray's companion piece (in this issue).

Canada is often regarded as a welfare state—particularly by its American neighbors. However, this is only a recent phenomenon. Until the 1960s the timing, extent, and progression of Canadian welfare legislation lagged the U.S. experience. It is only in our recent past that the applicability and generosity of welfare in Canada became greater than in the United States. Since 1966, welfare in Canada has been universal, open to anyone who was poor, while in the United States assistance has always gone only to various categories of poor.[2] Figure 1 shows real per-capita expenditures on welfare for the two countries.[3] Figure 2 shows welfare payments as a

[2] This may explain why Canadian statistics on the Canada Assistance Plan, and the poor in general, are so broadly defined. Since the federal law makes no distinction in terms of race, marital status, or physical disability, no statistical categories for these groups are created.

[3] As noted, welfare in the two countries is not directly comparable because the programs are so different. Using my general definition as a guide, I include the following programs as welfare. In Canada, there is Registered Indians Social Assistance and Social Services, Blind Person Allowance, Disabled Person's Allowance, all CAP payments, provincial welfare programs, municipal social security, unemployment assistance (not insurance), and Mother's Allowance. Most of these programs were replaced by CAP. In the United States, there is Supplemental Security Income, Food Stamps, AFDC payments, Other Social Welfare, Adult Assistance, General Assistance, and Emergency Assistance, according to the definitions of

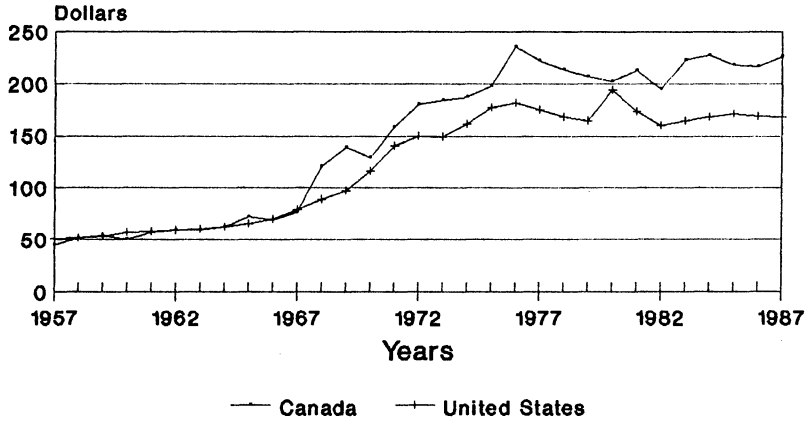

FIG. 1.—Real per capita expenditures (1980 $U.S.) (Canada, various years; U.S. Department of Health and Human Services, various years).

percentage of gross national product (GNP) for Canada and the United States. Both graphs show that until the middle of the 1960s both countries were quite comparable in terms of expenditures. Post 1966 though is a different story, as both real expenditures per capita and real expenditures as a percentage of GNP begin to be higher in Canada.

What accounts for this change in spending? Table 2 shows the timing of the major welfare legislation in Canada. Although there appears to be a steady progression of legislation throughout the twentieth century, the CAP of 1966 is the watershed in the history of welfare in Canada. With the exception of the Family Allowances Act, previous acts required those in need to fall into a specific category (such as the blind, aged, widowed, or disabled) in order to qualify for assistance—being poor was insufficient. The CAP not only replaced all earlier programs and extended benefits to areas such as rehabilitation, counseling, adoption, and day care, but for the first time it gave assistance to poor individuals who were capable of employment. By removing categories of need, CAP greatly broadened the scope of assistance. Under CAP the federal government shares equally in all costs, provinces are required to have no residency requirement for eligibility, and needs tests are compulsory. Figure 3 shows what has happened to real expenditures on welfare from 1955–87 in Canada—clearly a regime shift occurs in 1966–67.

Social Security Bulletin (U.S. Department of Health and Human Services, various years). Most notably, I exclude social security and other retirement benefits, unemployment insurance, health, education, and veteran payments that may be considered welfare as well.

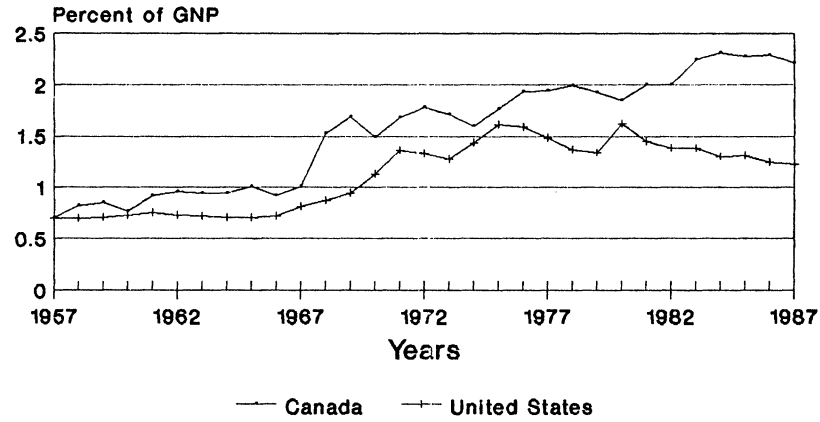

FIG. 2.—Real expenditures as percent of GNP (Canada, various years; Statistics Canada, *Canadian Economic Observer,* various years; U.S. Department of Commerce, various years; U.S. Department of Health and Human Services, various years).

Unfortunately, it is almost impossible to determine the impact of the Canadian welfare system over time because of the lack of information. For example, there are no published data available for births out of wedlock,[4] data on poverty rates are available only to 1969, and welfare participant numbers are available only since 1971. Since the major policy shift occurred in 1966, and since all of the published data start later, it is not possible to conduct formal time-series tests.[5]

B. The Canada Assistance Plan

The CAP allows provinces the freedom to make their own needs tests and to determine their own assistance levels. Thus, unlike the categorical acts of the past that had ceilings on benefits, CAP allows for potentially large benefits.[6] Federal funds have no set ceiling and extend to any voluntary agency receiving provincial or municipal funds.[7] However, the freedom

[4] In the United States these data have been collected since the early 1940s.

[5] Further, some of the data are completely uninformative. For example, the only proxy measure of poverty rates is Statistics Canada's "low-income cutoff." This gives the number of people in a given year spending a certain percentage of their income or more on food, shelter, and clothing. There are two problems with this measure. First, it ignores the level of wealth of the individuals. Second, in an economy that grows over time the number of people spending a certain percentage of income on "necessities" falls (Engel's law). Statistics Canada corrects the latter problem by lowering the percentage number every 10 years. This, of course, causes a huge jump in the number of people counted as poor every 10 years. To my knowledge, the only time-series work closely related to this article is an article on poverty in Canada by Perron and Vaillancourt (1988).

[6] See Hum (1983), p. 30.

[7] Ibid., p. 31.

Table 2
Welfare Legislation in Canada

Year	Legislation
1918	Pension Act, Soldiers' Settlement Act
1927	Unemployment Relief Acts
1930–37	Unemployment Relief Acts
1941	Unemployment Insurance Act
1943–44	Veterans Charter
1944	Family Allowances Act
1951	Blind Persons Act, Old Age Security Act, and Old Age Assistance Act
1954	Disabled Persons Allowances Act
1955	Revised Unemployment Insurance Act
1956	Unemployment Assistance Act
1957	Hospital Insurance and Diagnostics Services Act
1961	Vocational Rehabilitation of Disabled Persons Act
1964	Youth Allowances Act
1966	Canada Assistance Plan and Guaranteed Income Supplement
1973	Revised Family Allowances Act
1975	Spouse's Allowance
1978	Child Tax Credit Act
1979	Extended Spouse's Allowance

SOURCE.—Canada (1988), chart 6.2.

granted the provinces has led to a welfare system that varies considerably in terms of potential benefits from province to province. Every province gives higher benefits to those it considers "unemployable" as compared to those who are "employable." Although an "employable" person in one province may receive more than an "unemployable person" in another province, generally speaking, a healthy, single adult or a married couple with children are considered employable and generally receive less per person in terms of benefits. Unemployable individuals include the blind, the disabled, and single parents.[8] Table 3 shows a ranking of potential benefits for three typical users of welfare for the 10 provinces. The three categories are (1) a single, employable person, age 19–25; (2) a single parent with one child, age 2; and (3) a two-parent family with two children ages 10 and 15.[9] As can be seen, there is a considerable variation in welfare

[8] Generally, a single parent is considered unemployable as long as the children are preschool age. In Alberta and British Columbia, however, single parents are only unemployable if the children are less than 4 or 6 months old, respectively.

[9] The ratio of welfare payments to the poverty line is used to rank potential benefits instead of actual payments for two reasons: first, the cost of living varies across different parts of the country, and so equal nominal payments will not be equal in real terms; second, couples with children receive higher nominal payments than do single parents, yet in real per capita terms they may receive less. Although using the ratio of welfare payments to the poverty line addresses both of these issues, it should be pointed out that practically all of the variation comes from differences in payments. In Canada the poverty line, or low-income cutoff, is where, on average, 58.5% of income goes to "essentials."

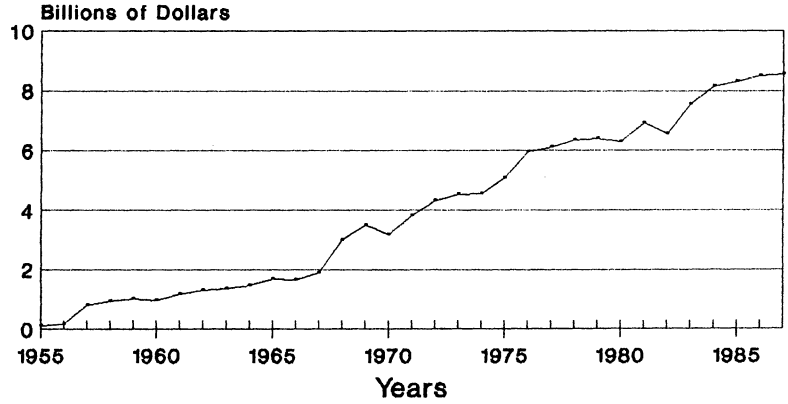

FIG. 3.—Real expenditures on welfare, 1981 $ (Canada, various years)

benefits across the country. Prince Edward Island appears to be the most generous on average, while its neighbor New Brunswick is the least. Payments as a percentage of the provincial poverty line range from 22.5% to 84.3%.

The information for table 3 was calculated by the National Council of Welfare (1987) and reported in *Welfare in Canada: The Tangled Safety Net.* Although this report was published in 1987, it still remains the most comprehensive study of the Canadian welfare system. In making this table, the National Council of Welfare made several assumptions, two of which were that young single persons along with two-parent families were considered employable, while single parents were considered unemployable, except in British Columbia and Alberta. Also, the figures are based on the maximum amounts that provinces allow for basic needs.[10] Other assumptions are made, but the point is that these calculations were done by an independent body interested in describing typical rates of assistance. This ranking will be used later in the cross-sectional analysis of the effect of welfare as one of the indexes for the welfare system. One benefit of this index is that it includes the social assistance levels for more than one class of welfare recipients. Ellwood and Bane (1985) have argued that one method to test for the effect of welfare benefits on family structure is to compare eligibles versus noneligibles. Since this index includes both employable and unemployable individuals, it meets this requirement. Although it is not a perfect index, it is probably the best available.

Because this welfare index is not perfect, however, I exploit one further piece of variation between provinces. In order to collect welfare, an individual or family must deplete their liquid assets to a certain level. Table

[10] For more information, see National Council of Welfare (1987), chap. 3.

Table 3
Rank of Welfare Income in Canada by Household Type and Province

Household Type	Province	Welfare Income per Year ($)	Total Welfare Income as % of Provincial Poverty Line
Single parent	Prince Edward Island	9,739	84.3
Couple	Prince Edward Island	14,840	82.9
Single parent	Saskatchewan	9,804	73.5
Single parent	Ontario	10,249	72.9
Single parent	Newfoundland	9,559	71.7
Single employable	Prince Edward Island	6,294	71.7
Couple	Alberta	15,416	71.2
Single parent	Alberta	9,860	70.2
Couple	Saskatchewan	14,388	69.9
Single parent	Nova Scotia	9,074	68.0
Single parent	Quebec	9,101	64.8
Couple	Manitoba	14,038	64.8
Single parent	Manitoba	8,925	63.5
Single parent	British Columbia	8,861	63.0
Couple	Ontario	13,560	62.6
Single parent	New Brunswick	7,911	59.3
Couple	British Columbia	12,777	59.0
Couple	Quebec	12,733	58.8
Couple	Newfoundland	11,954	58.1
Couple	Nova Scotia	11,769	57.2
Single employable	Alberta	6,062	56.9
Single employable	Ontario	5,129	48.1
Single employable	Manitoba	5,089	47.8
Couple	New Brunswick	9,534	46.3
Single employable	Nova Scotia	4,626	45.7
Single employable	Saskatchewan	4,260	42.1
Single employable	British Columbia	4,330	40.6
Single employable	Newfoundland	3,389	33.5
Single employable	New Brunswick	2,280	22.5
Single employable	Quebec	2,400	22.5

SOURCE.—National Council of Welfare (1987), table 5.

4 provides a ranking of the various levels across provinces and family types. In Ontario a single parent is allowed to have $5,000 in liquid assets, while a single, employable person in Nova Scotia is not allowed to have any. Clearly, the higher the liquid asset level allowed, the more attractive opting into welfare becomes. I use these liquid asset levels as a second index for the welfare system in Canada.[11]

III. The Impact of Welfare—across Households and Provinces

Although an economic model of family structure can be quite complicated, the economic implications of welfare on marital, birth, and labor

[11] A third index of the welfare system would be the different earned income exemption levels in each province. However, these exemption levels are very nonlinear and not easily comparable across provinces, and so I have left this index out of the reduced-form models below.

Table 4
Rank of Liquid Asset Levels in Canada by Household Type and Province

Household Type	Province	Liquid Asset Exemption Level ($)
Single parent	Ontario	5,000
Single parent	Saskatchewan	3,000
Couple	Saskatchewan	3,000
Single parent	Newfoundland	2,500
Single parent	Alberta	2,500
Couple	Alberta	2,500
Single parent	Nova Scotia	2,500
Single parent	Quebec	2,500
Couple	Quebec	2,500
Single parent	British Columbia	1,500
Couple	British Columbia	1,500
Single employable	Alberta	1,500
Single employable	Saskatchewan	1,500
Single employable	Quebec	1,500
Single parent	Prince Edward Island	1,200
Couple	Ontario	1,000
Single parent	New Brunswick	1,000
Couple	New Brunswick	1,000
Single parent	Manitoba	800
Single employable	Ontario	500
Single employable	New Brunswick	500
Single employable	British Columbia	160
Couple	Newfoundland	100
Couple	Prince Edward Island	50
Single employable	Prince Edward Island	50
Single employable	Newfoundland	40
Couple	Nova Scotia	0
Single employable	Manitoba	0
Single employable	Nova Scotia	0
Couple	Manitoba	0

SOURCE.—National Council of Welfare (1987), table 3.

force participation decisions are straightforward.[12] To begin, consider the decision to participate in welfare. Not everyone who is poor collects social assistance. Welfare has social stigmas and may be perceived to adversely affect one's children, future earnings potential, or human capital skills. Regardless of reason, individuals do not automatically participate in welfare when their income under welfare is higher on than off the system. We could say that people have different "tastes" for welfare, and we could define these tastes as[13]

$$\begin{aligned}\theta &= U^*(1, p, \bar{I}) - U^*(0, p, I) \\ &= U^*(1, p, \bar{A} + \overline{wL} + \bar{M}) - U^*(0, p, A + wL).\end{aligned}$$

[12] For examples of the former, see Becker (1981) or Allen (1990); for examples of the latter, see Murray (1984) or Burtless (1990).

[13] The model here is different from, but inspired by, the model developed by Suen (1989) to analyze heterogeneous consumers.

That is, our taste or distaste for participating in welfare is the difference in utility when we are on or off welfare. Here, U^* is the indirect utility function, p is the price of goods, $\bar{I}$ is the level of money income with welfare, and I is the level of income when not on welfare. When on welfare, one's level of liquid assets is restricted to $\bar{A}$ and the level of market earnings is restricted to $\overline{wL}$, while $\bar{M}$ is the income received from social assistance. Individuals will participate in welfare when $\theta > 0$.

There are several implications from this model. Any increase in liquid asset exemptions ($\bar{A}$), earnings exemptions ($\overline{wL}$), or welfare payments ($\bar{M}$) will lead to higher θ's. For example, changes in $\bar{M}$ imply

$$\begin{aligned}\partial\theta/\partial\bar{M} &= U_{\bar{I}}^{*} \times \bar{I}_{\bar{M}} \\ &= \lambda^{m} > 0,\end{aligned}$$

where λ^m is the marginal utility of money income that is positive given nonsatiation. Figure 4 gives a graphic explanation. Prior to the rise in $\bar{M}$, the number of participants in welfare equaled the area below $f_1(\theta)$ and where $\theta > 0$. Increases in $\bar{M}$ shifts everyone's θ, and as a result participation increases by an amount equal to area B. Increases in $\bar{A}$ and $\overline{wL}$ result in identical increases in participation; hence, an implication here is that it does not matter how welfare income is increased (e.g., a $1,000 increase in direct payments or a $1,000 increase in liquid asset levels), the effect will be the same.[14] The effect of welfare on family status is easily seen from a slight modification of the model. Welfare income depends on the marital status and number of children present in the home. Let s denote marital status and, assuming that marital status only influences welfare payments, we have[15]

$$\theta = U^*[1, p, \bar{A} + \overline{wL} + \bar{M}(s)] - U^*(0, p, I)$$

and

$$\partial\theta/\partial s = \lambda^{m} \times \partial\bar{M}/\partial s.$$

Changes in marital status that increase welfare payments will increase θ and will therefore increase participation in welfare among this group.[16]

[14] This statement is true only when the liquid asset constraint is binding. Given the low liquid asset exemptions, this assumption is not too unreasonable.

[15] Changes in marital status influence the liquid asset and earnings exemptions as well. The direction of the effect being the same as the effect on welfare payments.

[16] When liquid assets and labor force earning exemptions are functions of marital status, the derivative is $\partial\theta/\partial s = \lambda^{m} \times [\partial\bar{M}/\partial s + \partial\bar{A}/\partial s + \partial\overline{Lw}/\partial s]$. In Canada, unlike some places such as Wisconsin where welfare payments are greater when

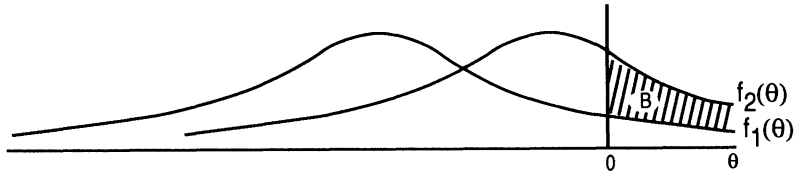

FIG. 4.—The effect of changes in welfare income

However, the decision over marital status is not exogenous. A similar model can be developed for this choice, where welfare income lowers the cost of becoming a single parent. Hence, the structure of welfare payments implies that some categories of marital status are more likely to participate in welfare and that some individuals will substitute into marital categories favored by the welfare structure. As Becker (1981) has stated: "[AFDC] raises separation and divorce rates among eligible families in that the incomes of divorced and separated persons are raised relative to the incomes of married persons. These programs, in effect, provide poor women with divorce settlements that encourage divorce" (p. 230). Welfare changes the relative cost of family structures to some individuals by basing payments on marital status. Changes in relative costs lead utility maximizers to substitute into new living arrangements.

The welfare system in Canada is a system of last resort. To collect welfare payments one must be poor: liquid assets must be depleted, and expenditures on certain types and levels of food, shelter, and clothing must be greater than one's income. As a result, for most Canadians θ is well below zero and has no effect on choices made regarding participation and marital status. However, for those people near the margin (θ's close to zero), the implications are clear, and the large variation in payments across provinces allows for an excellent opportunity to test these implications and to judge the magnitude of the effect of the welfare system on the family.[17] I now turn to these tests.

A. Participation in Welfare

For an individual with poor working options, welfare may provide more resources to live on. If a province provides more income relative to the

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teen mothers marry, all of these derivatives move in the same direction. Single parents with dependent children receive higher benefits, as well as larger liquid asset and earnings exemptions.

[17] An alternative hypothesis might be that individuals participate in welfare, choose living accommodations, get married, etc., for reasons either beyond their control or independent of the welfare system. If this is the case, there should be no systematic relationship between the welfare variables and the various independent variables. A corollary to this is that no relationship should exist for women in high-income groups since these women are not eligible for welfare.

poverty line and has higher liquid asset level exemptions than another province, then more individuals are expected to participate in welfare in the province with the higher benefits.[18] In order to test this and the other implications within this article, I have used a sample from the 1986 census of Canada, microdata file on individuals. In this sample individuals were selected from the census to match the "typical" welfare user categories discussed in the last section and used by the National Council of Welfare (1987). Accordingly, only women under 45 were selected, single women were between the ages 19 and 25, and single-parent families contained one child while two-parent families contained two children.[19] I was unable to restrict single-parent children to 2 years of age, nor was I able to restrict the ages of children within two-parent families. Finally, only women with low incomes who had lived in the same province for the past 5 years were selected.[20] The Appendix lists the variables and their definitions used in the logit regressions of this section. Table 5 provides the means for these variables. To test the proposition that participation in welfare is higher the higher the benefits, a logit regression was run. It is reported in column 2 of table 6, where WELFARE and LIQUID ASSETS are the two variables indexing the welfare system. The dependent variable is the probability of collecting government transfer payments given that the woman is on or below the provincial poverty line.[21] This regression shows that older and more educated women participate less in welfare. In addition, as per capita provincial gross domestic product (GDP) increases, the likelihood of receiving social assistance falls. Indians and urban residents are more likely to receive social assistance. Of interest here is that WELFARE and LIQUID ASSETS have the predicted positive signs and are statistically significantly different from zero.[22] Whether they are both economically significant is another question.

[18] This ignores migration from one province to another for the purpose of finding higher welfare payments.

[19] A sample of women were chosen, rather than a sample of men and women, in order to hold as many things constant as possible. It is plausible that more men as single parents would be considered "employable" than women as single parents. In any event, the selection of women made no qualitative difference in the results, although it did raise the magnitude of some coefficients.

[20] Women were considered to have low incomes if their household income was below $12,000 if single, below $15,000 if a single parent, and below $25,000 if part of a married or common-law couple. These cutoffs were the closest I could match the census categories to the provincial poverty lines.

[21] The census does not have an income category called "welfare income." To construct the dependent variable I used the variable "other income from government sources." This variable includes all welfare income, payments to veterans and their widows, and some provincial income supplements to seniors (although there are no seniors in this sample). It does not include family allowance, federal child tax credits, old age pensions, and unemployment insurance benefits.

[22] These results are very robust. Adding neither provincial dummies, nor provincial dummies with welfare group dummies changed the result. The WELFARE coef-

Table 5
Variable Means

Variable	Low-Income Sample	High-Income Sample
Dependent variables:		
TRANSFER	.187	.017
SINGLE PARENT	.275	.067
DIVORCE	.12	.016
CHILD BORN OUT OF WEDLOCK	.193	.347*
LABOR FORCE	.567	.842
Independent variables:		
WELFARE	60.43	62.67
LIQUID ASSETS	1.93	1.69
NO ENGLISH	.24	.06
INDIAN	.02	.002
EDUCATION	5.37	8.47
EDUCATION2	34.76	81.66
AGE	30.14	33.12
AGE2	959.40	1,171.47
CMA	.40	.68
GDP	5.38	5.92
KIDS	1.50	1.92

* This large number, coupled with the relatively low divorce and single-parent rate, suggests that a large number of high-income women live in common-law marriages. This may be explained by the Canadian tax treatment for common-law couples. In Canada, each common-law spouse can claim a child "as if" he or she were a dependent spouse. If both parents are working, this amounts to a nontrivial deduction. I thank Jane Friesen for this information.

The interpretation of the WELFARE coefficient is that, for a 1% increase in welfare income relative to the poverty line, there is a .39% increase in the probability of a woman participating in welfare, given that she is poor. Depending on the woman's welfare category (single, single parent, or a couple with two children), a 1% increase in welfare income would be approximately $100–$200 per year. Given that there are approximately five million individuals below the poverty line cutoff used in this article (half of whom are women), an increase in welfare payments of 1% ($100–$200 per year) would lead to an increase of about ten thousand women participating in welfare. In 1986 there were 1.89 million individuals receiving social assistance in Canada.[23] Although this would represent an increase of only one-half of 1% in welfare participation, an increase in welfare benefits of $100–$200 is almost trivial. Although unreported, changes in the WELFARE index of 10% ($250–$1,500 per year depending on household classification) lead to changes in probabilities of about 10

ficient remained positive and significant, while LIQUID ASSETS remained both positive and significant in the former but only positive in the latter case. Furthermore, regressions were run that did note select women on the basis of income. In this regression both welfare variables were again positive and significant. Copies of the results of these regressions are available from the author on request.

[23] National Council of Welfare (1987), p. 8.

Table 6
Logit Regression: Participation in Welfare
(Dependent Variable = TRANSFER)

Variable	Estimated Coefficients	
	Low-Income Sample	High-Income Sample
CONSTANT	13.515	−1.433
	(1.43)	(−.40)
WELFARE	.389	−.020
	(5.88)*	(−.31)
LIQUID ASSETS	6.665	.220
	(14.58)*	(.69)
NO ENGLISH	−.871	.014
	(−.74)	(.03)
INDIAN	14.327	4.468
	(5.53)*	(2.16)*
EDUCATION	−4.094	−.580
	(−6.03)*	(−1.23)
EDUCATION2	.213	.035
	(4.10)*	(1.29)
AGE	−2.104	−.158
	(−3.66)*	(−.51)
AGE2	.024	.002
	(2.66)*	(.46)
CMA	2.491	−.485
	(2.59)*	(−.87)
GDP	−3.978	.247
	(−7.35)*	(.67)
Sample size	8,009	2,473

NOTE.—Coefficients are $\partial\%/\partial X = \beta[\bar{P}(1 - \bar{P})] \times 100$ from the logit $P = 1/(1 + e^{-X\beta})$, where $\bar{P}$ is the mean of the dependent variable. Asymptotic t-statistics are in parentheses.

* Significant at the .05 level (one-tailed t-test).

times as large. Therefore, an increase in welfare benefits of about $1,000 per year would lead to an increase of about one hundred thousand women on welfare.

The interpretation of LIQUID ASSETS is more straightforward. Given a $1,000 increase in the level of liquid assets allowed in order to collect welfare, there is a 5.4% increase in the probability of participation. This effect seems slightly larger than the impact of direct benefits. It suggests that a $1,000 increase in exemption would lead to an increase of 135,000 people on welfare. An implication of the above model was that the effect of changes in benefits was independent of the method of benefit change. These crude back-of-the-envelope calculations would seem to support this.

Because the sample contains three different household types, across 10 different provinces, the coefficients reported in table 6 are only average changes in the probability of participating in a government transfer. Table 7 sheds more light on the effect of welfare payments and liquid asset levels. Table 7 reports the change in the probability of an individual receiving a

Table 7
Estimated Changes in Probability of Welfare Participation

Household Type	Province	With a 1% Change in WELFARE Index (%)	With a $1,000 Change in LIQUID ASSET (%)	Probability of Welfare Participation
Single parent	Prince Edward Island	.37	7.19	.172
Couple	Prince Edward Island	.18	3.62	.074
Single parent	Saskatchewan	.38	7.42	.181
Single parent	Ontario	.47	8.94	.243
Single parent	Newfoundland	.43	8.24	.212
Single employable	Prince Edward Island	.25	4.92	.106
Couple	Alberta	.17	3.49	.071
Single parent	Alberta	.24	4.78	.102
Couple	Saskatchewan	.27	5.33	.117
Single parent	Nova Scotia	.35	6.80	.160
Single parent	Quebec	.30	5.90	.133
Couple	Manitoba	.08	1.72	.030
Single parent	Manitoba	.15	3.10	.062
Single parent	British Columbia	.17	3.54	.072
Couple	Ontario	.07	1.44	.027
Single parent	New Brunswick	.19	4.20	.081
Couple	British Columbia	.11	2.20	.044
Couple	Quebec	.19	3.84	.079
Couple	Newfoundland	.10	2.07	.040
Couple	Nova Scotia	.08	1.61	.031
Single employable	Alberta	.15	3.16	.063
Single employable	Ontario	.07	1.57	.029
Single employable	Manitoba	.10	2.01	.039
Couple	New Brunswick	.10	2.06	.040
Single employable	Nova Scotia	.11	2.28	.044
Single employable	Saskatchewan	.15	3.11	.062
Single employable	British Columbia	.08	1.60	.031
Single employable	Newfoundland	.10	2.17	.042
Single employable	New Brunswick	.09	1.80	.035
Single employable	Quebec	.10	2.14	.041

government transfer when there is a 1% increase in WELFARE or a $1,000 increase in the liquid asset exemption, given that the woman speaks English; is not an Indian; has completed high school; lives in a metropolitan area; and is 21 years old if single, 25 if a single parent, or 35 if married. Also shown in table 7 is the estimated probability that a given type of household will receive a government transfer. These probabilities are calculated by substituting actual values of the independent variables into the logit $P = 1/1(1 + e^{-X\beta})$. To calculate changes in the probability, new levels of WELFARE or LIQUID ASSETS are used, with all other variables but age held constant, to calculate a new P', which is then subtracted from P.

Table 7, like table 6, shows that, as welfare payments increase relative to the poverty line or liquid asset levels rise, the likelihood of a transfer increases. In addition, table 7 also shows that, as a group participates more in welfare, it becomes more sensitive to changes in benefits. For a single, employable woman in Quebec, a movement in welfare payments from

22.5% to 23.5% of the poverty line makes little difference. Whereas for a single parent in Ontario, where welfare benefits come closer to the poverty line and where welfare is more likely to be used, a 1% increase in WELFARE has an effect of almost five times as large.

These results, of course, may be spurious. One implication of the hypothesis that individuals do respond to financial incentives is that welfare payments should have no impact on nonpoor women (i.e., women with θ's well below zero). To test this I drew another sample from the 1986 census that met all of the requirements mentioned above but that contained only women with household incomes greater than $40,000 per year. From table 5 we see that, while close to 19% of women below the poverty line received a government transfer, only 1.7% of the nonpoor women did.[24] Column 3 of table 6 shows that the two welfare indexes are not statistically different from zero for this group of women and, therefore, cannot explain the variation in these payments.

B. Family Status

Although welfare in Canada is universal and allows access to anyone who is poor, the potential benefits are still higher for some categories of poor than for others. In particular, there is a large difference between being classified as employable or unemployable—the latter receiving higher benefits, all else being constant. For most provinces in Canada, a single parent with preschool children is classified as unemployable. Two-parent families and single individuals are usually classified as employable.[25]

As mentioned above, for many people the decision to get married, divorced, or have children is not influenced by marginal changes in welfare. These are all-or-nothing decisions where the benefits are likely to be greater or lower than the costs, with the difference perhaps being quite large. For some people, however, the decision might be close. A young person may be uncertain between marrying or living in a common-law relationship. A young woman who unexpectedly finds herself pregnant may be indifferent between marriage, establishing a single-parent household, having an abortion, or giving the child up for adoption. A married individual may find that the value of being married has unexpectedly fallen close to the value of being divorced. In situations such as these, if the individual qualifies, the structure of the welfare system encourages more single parents, more births out of wedlock, and more divorces by lowering the costs of these decisions to people who might otherwise be indifferent.

Table 8 shows the results of several logit regressions on family status. Column 2 reports the impact of the same independent variables on the

[24] The fact that government transfers include worker compensation may explain why this number is not zero.

[25] With the obvious exception of blind and otherwise disabled individuals.

Table 8
Logit Regressions: Family Status
(Dependent Variables = SINGLE PARENT, CHILD BORN OUT OF WEDLOCK, and DIVORCE)

	Estimated Coefficients		
Variable	SINGLE PARENT	CHILD BORN OUT OF WEDLOCK	DIVORCE
CONSTANT	−153.17	119.025	−28.726
	(−9.27)*	(9.64)*	(−11.29)*
WELFARE	5.019	2.191	1.045
	(25.55)*	(19.91)*	(11.76)*
LIQUID ASSETS	14.605	6.35	5.630
	(17.26)*	(10.69)*	(13.34)*
NO ENGLISH	3.032	5.541	−1.476
	(1.72)	(3.69)*	(−1.33)
INDIAN	13.920	4.272	−1.672
	(3.31)*	(1.19)	(−.62)
EDUCATION	−3.064	−2.838	.211
	(−3.01)*	(−3.36)*	(.36)
EDUCATION2	.208	.283	−.021
	(2.69)*	(4.62)*	(−.49)
AGE	−7.147	−13.668	2.312
	(−8.39)*	(−18.38)*	(4.21)*
AGE2	.105	.173	−.021
	(7.83)*	(14.53)*	(−2.66)*
CMA	13.102	5.812	4.25
	(9.39)*	(4.97)*	(5.17)*
GDP	−18.894	−9.36	−4.51
	(−17.92)*	(−13.62)*	(−8.92)*

NOTE.—Coefficients are $\partial\%/\partial X = \beta[\bar{P}(1 - \bar{P})] \times 100$ from the logit $P = 1/(1 + e^{-X\beta})$, where $\bar{P}$ is the mean of the dependent variable. $N = 8{,}009$. Asymptotic t-statistics are in parentheses.
* Significant at the .05 level (one-tailed t-test).

probability of a woman being a single parent. Column 3 shows the effect of the variables on the probability of a woman bearing a child out of wedlock, while column 4 shows the effect of the variables on the probability of a woman divorcing. All of these are conditional on household income being low. Once again the welfare indexes have the predicted signs, although this time the magnitudes are larger. An increase of $100–$200 per year leads to a 5% increase in the probability of being a single parent, a 2% increase in the probability of a child being born out of wedlock, and 1% increase in the probability of divorce.[26] One must be careful in interpreting the equation for single parenthood. This result does not imply that a rise in welfare benefits leads to increased teenage pregnancies (although

[26] It is possible that in low-benefit provinces a woman might marry rather than remain single *and* that the subsequent household income would remove this person from the sample. If this were the case, the coefficient for WELFARE and LIQUID ASSET would be biased downward, and the actual effect would be larger than reported. Given that people tend to marry individuals of similar socioeconomic position, this seems unlikely—Cinderella is just a fairy tale.

this is possible). What seems more likely is that women who find themselves pregnant may choose not to get married or that some married women in high benefit provinces decide to divorce. Column 3 and 4 bear both of these implications out, showing that social assistance, when providing additional benefits to single parents, encourages births of children to unwed women (although, note that a common-law father may still be present) and divorce or separation over marriage or abortion. What is perhaps most surprising here is not that women, at the margin with respect to these decisions, would respond this way but rather how sensitive this response is to relatively minor changes in benefits.[27]

C. Labor Force Participation

Welfare payments are based on a budget deficit. Once an employability category is established and it is determined that an individual's liquid assets do not exceed the allowed levels, a needs test is performed. This amounts to the welfare office calculating the monthly dollar "needs" of the individual and subtracting it from any monthly resources. If there is a budget deficit, then the individual becomes eligible for assistance. Although the various provinces have different earnings exemption levels, they are all quite low—usually exempting less than $100 per month. As a result of these large marginal tax rates individuals on welfare have little incentive to participate in the labor force.

Table 9 presents the results of a logit regression for labor force participation, with the dependent variable being the probability of a woman working, given that her household income is on or below the provincial poverty line. As expected, the WELFARE and LIQUID ASSET variables are negative and statistically different from zero—provinces with more generous welfare payments have lower participation in the work force by their low-income women. However, in this particular instance the coefficients seem rather small, especially relative to the other explanatory variables.

IV. Summary and Concluding Remarks

Table 10 summarizes the results of the last section. It shows the change in the likelihood of the various dependent variables for 1-unit changes in WELFARE and LIQUID ASSETS around the mean of the dependent variable. Are the numbers large? To the extent that they are not dwarfed by the other variables in the regression it must be concluded that they

[27] One final caution should be mentioned in interpreting these coefficients. Although Canada, unlike the United States, has a fairly unified social assistance package through CAP, it is possible that other social services, stigma, hassles, and the like may vary province to province and be correlated with the welfare package. If this were so, and I have no evidence one way or the other, then it would be incorrect to attribute these coefficients simply to changes in welfare benefits.

Table 9
Logit Regression: Labor Force Participation
(Dependent Variable = LABOR FORCE)

Variable	Estimated Coefficients
CONSTANT	4.190
	(.34)
WELFARE	−.204
	(−2.32)*
LIQUID ASSETS	−2.26
	(−3.68)*
NO ENGLISH	−11.097
	(−7.03)*
INDIAN	−16.105
	(−3.93)*
EDUCATION	6.186
	(6.85)*
EDUCATION2	−.202
	(−2.93)*
AGE	.357
	(.46)
AGE2	−.001
	(−.11)
CMA	−3.838
	(−3.05)*
GDP	2.347
	(3.74)*
KIDS	−15.753
	(−13.75)*
Sample size	8,009

NOTE.—Coefficients are $\partial\%/\partial X = \beta[\bar{P}(1 - \bar{P})] \times 100$ from the logit $P = 1/(1 + e^{-X\beta})$, where $\bar{P}$ is the mean of the dependent variable. Asymptotic t-statistics in parentheses.

* Significant at the .05 level (one-tailed t-test).

should not be ignored—changes in welfare payments do not just change the incomes of current recipients.[28] However, other variables influence welfare participation and family structure as well, and these should not be ignored in a policy discussion.[29] These results do not show that groups of nonpoor individuals are masking as poor and collecting social assistance. These results merely demonstrate that poor women do respond to financial incentives when making decisions regarding marriage, family status, and

[28] The effects found here are larger than some found in U.S. studies (e.g., Ellwood and Bane 1985). This may result from the fact that virtually all welfare payments in Canada are made under CAP. Hence, variations in the two indexes here do measure actual variations in social assistance payments, whereas many studies in the United States have only used AFDC payments.

[29] Changes in welfare payments, on the one hand, require increased tax burdens to finance them, which further increase their costs. Reductions in poverty that result from increase economic growth, on the other hand, lack this problem. Although ignored here, a general welfare policy should take this into consideration.

Table 10
Summary of WELFARE and LIQUID ASSET Coefficients

	Estimated Coefficients	
Changes in the Likelihood	WELFARE	LIQUID ASSETS
Particiption in welfare	.39	6.66
Single parenthood	5.02	14.60
Birth of a child out of wedlock	2.19	6.35
Divorce or separation	1.04	5.63
Being in the labor force	−.204	−2.27

NOTE.—Coefficients are $\partial\%/\partial X = \beta[\bar{P}(1 - \bar{P})] \times 100$ from the logit $P = 1/(1 + e^{-X\beta})$, where P is the mean of the dependent variable.

labor force participation. Welfare payments are low, and the fact that so many individuals participate in welfare testifies to their poor alternatives and standard of living.[30] These results, however, do suggest that some policy conclusions found in *Welfare in Canada* (National Council of Welfare 1987) or *Transitions,* the 1988 report of the Social Assistance Review Committee, may be misdirected. Few can disagree with the objective of reducing poverty, and these reports are certainly no exception. However, both reports recommend increases in benefit levels, in liquid asset exemptions, and in allowed earnings exemptions. The results here suggest that this would lead to increases in the number of participants in welfare, single parents, births to unwed women, and divorces, along with lower labor force participation rates among low-income individuals.

Larger numbers participating in welfare may not necessarily be a bad thing. If a group of previously poor people are made better-off (and this was the objective), then it should be of no concern if they are counted as on welfare or off.[31] However, the subsequent changes in family structure are of more consequence. Some economists have argued that marital and family law is designed to facilitate the production of family goods and to protect those individuals (mostly women and children) from being exploited during the long production process.[32] To the extent that increases in welfare payments encourage individuals, and women in particular, to choose lifestyles that do not provide the same institutional protection, they may actually worsen their economic position.[33] For example, marriage can

[30] Yoram Barzel has pointed out to me that this could also testify to an ability to conceal earnings and liquid assets. Again, the evidence here does not allow us to discriminate on this margin.

[31] Over time, welfare may become more socially acceptable, and so the cross-sectional estimates reported here would underestimate the total response. However, if these people were poor and eligible all along, it would be a good thing to assist them.

[32] Peters (1986), Cohen (1987), Becker and Murphy (1988), and Allen (1990).

[33] This is a strange argument for an economist. If a woman freely chooses a certain life-style, it must make her as best-off as possible, and she cannot worsen

provide protection to a spouse investing in the human capital of their partner.[34] If a 20-year-old woman opts to live as a common-law spouse or as a single parent in order to capture higher welfare benefits, human capital investments in herself or her partner are likely to be too risky given the lack of legal protection and bargaining power over such investments when not married. Similarly, since welfare reduces the incentive to participate in the labor force, welfare recipients suffer further reductions in human capital *relative* to higher income groups. Hence, a poverty gap is created and exacerbated by increases in welfare payments.

Further, since welfare payments do affect family structure, more work should be done on the effect of changing family status on members of the family—particularly children—before changes in benefits are made. If family breakdown, caused partly by changing welfare benefits, increases the welfare of the parent but reduces that of the child, then changes in benefits should be made carefully. Finally, it must be noted that changes in GDP, education, and language influence participation in welfare, family status, and labor force participation. It is quite possible that the most effective way to benefit the poor is indirectly through programs that promote growth and education rather than through direct payments to the poor. The point is that all such issues must be addressed given the evidence of this article.

Appendix
Variable Definitions

Dependent Variables

TRANSFER	= 1 if woman received a government transfer payment in 1986;
SINGLE PARENT	= 1 if woman was a single parent;
DIVORCE	= 1 if woman was divorced or separated;

her economic position. However, individuals opting for welfare could systematically make mistakes if they fail to realize the institutional protection offered by marriage. Probably no one considers such issues when getting married, but the point is that they might not have to. If the set of legal rules and social customs we call marriage generate wealth by reducing transaction costs, and participants may be completely ignorant of this fact, then all that matters is that they have chosen the wealth-maximizing strategy (Alchian 1950). If those who get married fail to consider the legal and economic property right issues related to marriage, then why should those who choose against marriage be any different? Hence, when higher welfare benefits encourage some individuals to choose welfare over work or single parenthood over marriage, abortion, or adoption, then that choice reflects perceived cost and benefits that may differ from actual costs and benefits. If one errs and chooses a successful strategy, it matters not; however, if one errs and chooses an unsuccessful strategy, it may matter a great deal.

[34] Recent changes in divorce laws in both Canada and the United States have provided "windows" where this protection was temporarily absent. Allen (1990) shows that the consequences for women in the United States were detrimental.

CHILD BORN OUT OF WEDLOCK	= 1 of woman had children and was never married (includes common-law arrangements);
LABOR FORCE	= 1 if woman was working or actively seeking work in 1986.

Independent Variables

WELFARE	= values given in column 4 of table 3;
LIQUID ASSETS	= values given in column 3 of table 4;
NO ENGLISH	= 1 if woman did not speak English;
INDIAN*	= 1 if woman was a native Indian, Metis, or Inuit;
EDUCATION	= 1 if highest grade is less than grade 5; 2 if highest grade is between grade 5 and 8; 3 if highest grade is grade 9; 4 if highest grade is grade 10; ⋮ 14 if woman has 6 or more years of postsecondary education;
EDUCATION2	= EDUCATION × EDUCATION;
AGE	= woman's age in years;
AGE2	= AGE × AGE;
CMA	= 1 if woman lived in a census metropolitan area;
GDP	= the per capita gross provincial domestic product in thousands of dollars;
KIDS	= number of children in household.

* The census makes no distinction between status vs. nonstatus Indians. The inclusion of this variable does not imply any racial difference in participation or family status. It is included to broadly capture differences in constraints faced by natives not reflected in the other independent variables.

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