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SOCIAL POLICY

The Welfare Enigma:

Explaining the Dramatic Decline in Canadians'
Use of Social Assistance, 1993–2005

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In this issue...
What accounts for the truly remarkable drop in welfare dependency in Canada since the early 1990s? The authors provide a nationwide empirical analysis of the underlying factors, and draw implications for policymakers.

THE STUDY IN BRIEF

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Having seen welfare dependence increase dramatically from the late 1980s into the early 1990s, Canada has since witnessed an historic decline in this societal challenge. This paper explores the recent sea change in dependence on Social Assistance (SA) and assesses the factors responsible. It first sets the context by examining the economic and policy environment that framed these movements. The empirical part of the paper presents the patterns of annual welfare participation rates along with the underlying entry and exit rates for individuals in different kinds of households (unattached individuals, couples with and without children, single parents) based on an analysis of Canada's Longitudinal Administrative Database. This is followed by a modelling exercise that identifies the impacts of a variety of factors on SA outcomes. These factors include economic conditions (as captured by the unemployment rate), SA benefit levels, the generosity of the Employment Insurance system, and, lastly, a set of influences not captured by the above factors, such as changes in eligibility rules or procedures that took place in specific years. These estimates are then used to assess the contribution of each of these factors on the observed time trends. We find that the improvements in economic conditions over this period played the largest single role in explaining the downward trends in SA rates, but that the other factors also played significant roles.

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INDEPENDENT • REASONED • RELEVANT

Social assistance – or "welfare" to most of us – is a perennial Canadian economic and social policy issue. On the one hand, SA is a vital economic support for a disadvantaged segment of our society. For families, being on SA usually reflects impoverishment and in many cases an exclusion from the social and economic mainstream and can have lasting effects.

At the same time, SA programs can be costly for governments, the associated work disincentives can impede the integration of lower-income and lower-skilled individuals into the labour market, and dependence upon welfare at one point in time may lead to continued or repeat dependency in later years. In short, while SA exists for good reason – helping the less advantaged among us – it implies attendant costs and unwanted consequences of various types.

In Canada, SA participation rose sharply during the recession of the early 1990s, even more so than during the preceding recessions of the 1970s and 1980s. Furthermore, in those earlier instances, SA levels remained near the peak recessionary levels after economic recovery and raised the concern that SA rates – and SA spending – would stay fixed at those increased levels when the economy improved.

In response to this most recent rise, however, and in the context of severe fiscal pressures on governments at all levels, virtually all provinces instituted changes aimed at reducing SA rates. Eligibility rules were tightened (especially for new entrants – in some cases targeted on youth), benefit levels were cut, "snitch" lines were introduced, and other rule and procedural changes were instituted. That said, the more draconian elements of the legislation that was adopted in the US at about the same time – motivated by many of the same concerns – were avoided. Meanwhile, the Canadian economy recovered, especially after 1996, and subsequently experienced its longest expansion since the Second World War.

Following these developments, the number of individuals in SA-dependent households not only fell, but did so to a truly remarkable degree. Total recipients fell from a peak of 3.1 million to 1.7 million individuals by 2005, with a matching drop in real expenditures on SA from their peak of over $14 billion in 1994.[1] Given the concurrent population increase, the country has thus experienced an approximate halving of its SA dependency rate. This is an event of remarkable proportions.

Prescriptions in this area of social policy are, however, often very contentious. This is largely because measures introduced with the intention of reducing the welfare rolls often increase the financial hardship faced by those who still manage to receive benefits, as well as those who are denied benefits outright. At the same time, such measures can have positive effects not only in the form of government savings, but also with respect to the related work incentive effects, and thus even reduce long-run dependency. In short, there is pain as well as gain when welfare rates are targeted, and as a consequence, very opposing stances are adopted by individuals, groups and agencies with differing social philosophies.

The objective of this paper is to inform the debates surrounding SA reform by shedding light on the SA wave that rose, then fell so strikingly in Canada in recent years. The main focus is an empirical analysis of a number of major determinants of SA participation, which we have carried out using Statistics Canada's Longitudinal Administrative Database (LAD) – a large sample of Canadian tax returns.

In contrast to existing literature, our analysis represents a national-level study that adds entry rates, which are increasingly being appreciated as the prime drivers of SA participation rates, to the incidence and exit outcomes typically studied.[2] It covers the

1   http://www.hrsdc.gc.ca/en/cs/sp/sdc/socpol/tables/page02.shtml

2   A number of interesting and informative provincial-level studies of welfare dynamics have previously been published (e.g., Lemieux and Milligan 2008, Arneau, Crémieux and Fortin 2005, Charette and Meng 1994, Duclos et al.1999, Lacroix 2000, Barrett and Cragg 1998, and Christophides et al. 1998). These studies have, however, in each case covered only one particular province and have, furthermore, typically included at most the analysis of exit rates but not (due to data limitations) entry rates.

years from 1993 through 2005, thus spanning the period of greatest interest – that is, from the year SA rates peaked through to the very recent past, when they hit almost historic lows (at least by modern standards).

The principal effects considered are: (i) demographic characteristics (age, marital status, place of residence, etc.); (ii) economic conditions (as captured by the unemployment rate); (iii) SA benefit levels; (iv) the generosity of the EI system; and (v) other effects specific to particular calendar years. The estimates generated by this analysis are then used to assess the contribution of each of these sets of factors on the observed time trends in participation, entry and exit rates. The massive size of the LAD allows us to carry out this analysis broken down by family type – unattached individuals, couples with and without children, single parents – the record varying in important ways along this dimension.

All these factors are significant determinants of welfare outcomes, while the impacts vary by outcome and family type. We also find that improvements in economic conditions played the largest single role in explaining the downward trends in SA rates over time. This reflects the importance of the unemployment rate on individuals' participation, entry, and exit rates at any particular point in time and the substantial decline in unemployment rates observed over the period in question. We also find, however, that other factors were also important in reducing welfare rates.

The paper develops as follows. Section two details the economic and policy environment over the period 1993 – 2005 at the provincial and federal levels. Because SA is primarily a provincial jurisdiction, and provinces have differed substantially in their approaches to reform, we provide greater detail regarding the experiences of three large provinces that account for 60 percent of Canada's population (and where substantial changes in SA policy have taken place) – British Columbia, Alberta and Ontario. The third section details the Longitudinal Administrative Database, and the fourth section presents the trends in welfare dynamics by family

type and province based on these data. Section five reports the findings of our econometric modelling, identifies the effect of each of the major factors considered on the SA outcomes of interest, and assesses the importance of each of these influences on the observed declines in SA rates from their peaks in the early 1990s to the present time. A concluding section reviews the major findings, and puts these in the context of current SA policy discussions.

The Economic and Policy Environment

Developments at the National Level

Prior to the mid-1990s in Canada, as in several other western (mainly European) countries, many social policy analysts had become almost fatalistic about the prospects of reducing the number of dependents on SA. This resulted from the fact that the preceding two economic cycles had significantly ratcheted up the rate of SA dependence, but the rolls had declined only very modestly during the subsequent recovery periods.[3]

In 1980/81 for example, prior to the imminent recession, the number of recipients was 1.4 million, and this increased to 1.89 million by 1983/84 (Human Resources Development Canada 2002). Yet, even though the economy had well recovered from the recession by 1988/89, the number of welfare recipients in that year was similar to what it was in 1983/84 (albeit population growth meant that the rate was slightly lower). A similar pattern had characterized the slowdown in the early 1970s.

Such patterns prompted Lindbeck (1995) to write in despair on "hazardous welfare state dynamics," meaning that increases in the generosity of social programs could generate undesired and unforeseen dependence. His most specific concern was that recessions have the capacity to reduce the stigma effects of SA programs, because they put more people in a position of dependence and thus change social norms as more people become comfortable with

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3   Courchene (1994) has chronicled this in detail.

Table 1. Welfare Benefits per Family Group in Canada's Provinces, 2005 constant dollars

		1989	1991	1993	1995	1997	1999	2001	2003	2005
N&L	Single	5,430	5,582	5,655	5,528	1,546	1,545	3,583	8,468	8,198
	Parent, 1C*	15,273	15,957	16,239	15,869	16,353	16,894	16,845	16,433	16,181
	Couple, 2C	18,726	18,818	18,539	18,123	18,680	19,641	19,911	19,666	19,578
PEI	Single	10,030	10,264	10,229	7,154	6,525	6,353	6,393	6,406	6,214
	Parent, 1C	15,393	15,952	15,973	15,008	13,821	13,445	13,704	13,875	13,707
	Couple, 2C	23,417	24,165	23,897	22,615	21,058	20,505	21,216	21,393	21,213
NS	Single	8,511	7,996	7,628	7,456	5,474	5,268	5,268	5,407	5,422
	Parent, 1C	15,162	15,458	15,106	14,991	14,520	14,468	13,398	13,027	12,917
	Couple, 2C	20,148	19,470	18,896	18,472	19,687	19,162	20,235	19,031	19,032
NB	Single	4,122	4,243	4,072	4,025	3,983	3,879	3,690	3,521	3,427
	Parent, 1C	12,610	12,718	12,693	13,623	13,644	14,191	14,095	13,773	13,656
	Couple, 2C	14,827	15,148	15,195	16,195	16,341	17,476	17,724	17,540	17,567
Que	Single	5,128	7,774	7,898	7,573	7,227	7,169	7,016	7,035	6,947
	Parent, 1C	13,717	13,951	16,032	16,010	14,990	14,927	14,565	14,646	15,395
	Couple, 2C	18,890	19,642	20,322	19,674	18,351	18,456	18,503	18,802	20,704
Ont	Single	9,091	10,447	10,663	9,927	8,084	7,859	7,469	7,117	7,007
	Parent, 1C	17,841	20,805	20,995	19,598	16,205	15,779	15,123	14,486	14,451
	Couple, 2C	23,392	27,750	27,928	25,741	21,421	20,861	20,047	19,227	19,302
Man	Single	8,709	8,981	8,894	8,133	6,567	6,395	6,078	5,794	5,818
	Parent, 1C	14,269	14,432	14,238	13,843	13,405	13,050	13,485	13,475	13,282
	Couple, 2C	24,450	25,605	23,891	23,728	20,112	19,383	19,385	19,680	20,357
Sask	Single	7,052	6,957	7,448	6,684	6,472	6,611	6,599	6,466	6,663
	Parent, 1C	15,904	15,544	15,122	14,771	14,305	13,682	13,694	13,102	13,235
	Couple, 2C	22,731	22,047	21,736	21,320	19,625	20,264	20,204	19,522	19,327
Alb	Single	6,970	7,492	7,013	6,019	5,862	5,787	5,501	5,244	5,050
	Parent, 1C	14,468	15,030	14,373	13,194	12,859	13,105	12,707	12,383	12,326
	Couple, 2C	22,129	23,735	22,661	21,217	20,629	20,643	20,117	19,546	19,497
BC	Single	7,847	7,793	8,302	8,353	7,490	7,292	7,062	6,708	6,456
	Parent, 1C	15,699	16,126	16,688	16,736	16,149	15,737	15,387	14,232	13,948
	Couple, 2C	20,508	20,851	21,726	21,876	21,066	20,541	20,136	18,826	18,466

* C denotes child or children.

Source: National Council of Welfare

      http://www.ncwcnbes.net/documents/researchpublications/ResearchProjects/WelfareIncomes/2005Report_Summer2006/Factsheets/Factsheet03ENG.pdf

being on SA and less concerned with getting back into the labour market, especially in the longer run.

What is remarkable about Canada's experience with SA (and equally with Employment Insurance) recipiency in the late 1990s is that its pattern marked a complete break with those of the previous two recessions.

First, the economy lingered through a deep recession in the early 1990s but then, especially after 1996, recovered strongly, with the unemploy-

ment rate dropping five percentage points from its peak rate through 2005.[4] This improvement in the job market provided many individuals a greater opportunity to escape from – or avoid entering – welfare dependency. But macroeconomic improvement can only be part of the story, because earlier cyclical expansions were not accompanied by such dramatic declines in recipiency.

Meanwhile, the real value of SA (and related) benefits fell, and in many cases by large amounts. Table 1 shows these changes on a biennial basis

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4   See CANSIM table 282-0085

1989–2005, and although the trends varied by province and family type, some of the declines were substantial. For example, payments declined significantly to single individuals and single-parent households in Nova Scotia, Saskatchewan, Alberta and British Columbia.[5] Consequently, by the end of this period, payments typically provided recipients with less assistance – expressed as a percent of Statistics Canada's low-income cut-off (LICO) – than in the late 1980s and early 1990s. Such absolute and relative declines in the value of SA payments provided strong incentives for individuals to seek alternatives to SA.[6]

Third, many provincial governments changed the rules governing the receipt of SA and related administrative procedures. Examples include the employment of additional monitors, the opening of "snitch lines," the introduction of requirements that recipients collect their cheques rather than having them mailed out, and so on.[7] Again, these changes would be expected to reduce SA participation rates. Three provinces were particularly aggressive in reducing SA use, though not in identical ways – Alberta was the first mover in 1993, followed by Ontario in 1995 and British Columbia in 2002.

At the broader political level, this period also saw a major transformation in the manner of federal-provincial funding for SA. Welfare is provincially operated, but funded at least in part by the federal government, and in recent years has become more integrally related to direct federal support of families. The federal government took two radical steps in its 1995 budget. First, it cut transfers to the provinces. Second, it altered the method of transferring funds, by introducing a lump-sum transfer to cover SA, health, and postsecondary education under the Canada Health and Social Transfer (CHST). From being a shared-cost program (called the Canada

Assistance Plan, or CAP), SA expenditures became part of a fixed per capita transfer and thus were the full responsibility of provincial governments, thereby changing the financial incentives of provinces with respect to spending on SA.[8] These changes were seen both as a means of reducing the federal government's deficit, and as a way of imposing discipline on provincial governments.

Two other developments in Canadian federal programs with implications for SA participation took place in the 1990s. The Child Tax Benefit (CTB) was introduced in 1993, replacing the Family Allowance and Working Income Supplement, and the CTB was replaced, in turn, by the National Child Benefit (NCB) in 1998, which included the National Child Benefit Supplement (NCBS). These programs have been targeted on lower-income families with children. The NCBS, in particular, is designed to provide greater incentives to parents on welfare to return to work by effectively reducing the amount of income support that is lost when they move into the labour market. Most provinces, by agreement, reduced SA payments to households with children by an amount equal to their savings due to the introduction of the federal program, on the understanding that these savings would be invested in other programs benefiting children and families with children.

Another significant related policy development in this period was a general tightening of the rules governing the receipt of Employment Insurance (EI). Major changes to EI in 1990, 1994 and 1996 effectively increased the barriers and reduced the benefits available to recipients.[9] The impact of tighter EI regulations on the number of SA recipients is, however, indeterminate: individuals may substitute SA for EI as the latter becomes less available and less generous, thus driving SA participation

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5   Payments include the basic SA benefit, federal and provincial child benefits, and federal and provincial tax credits.

6   See National Council of Welfare (2006).

7   National Council of Welfare (1997).

8   The pre-existing system was, however, open-ended only up to a point. Increases in SA spending by provincial governments in principle meant an automatic commitment on the part of the federal government, but when increases in the CAP payments became too great in the eyes of the federal government in the late 1980s and early 1990s, it imposed a limit on annual transfer increases ("capping the CAP") to the provinces of Ontario, Alberta and British Columbia, thereby transferring spending responsibility at the margin wholly over to those provincial governments.

9   EI operates on the basis of variable work requirements and variable weeks of benefits: individuals living in higher unemployment regions require a smaller number of hours of work (formerly weeks of work) to qualify for benefits, and qualify for more weeks of benefits than individuals living (or more precisely, filing) in low unemployment regions.

upward. Alternatively, more stringent EI regulations may induce individuals to stay at their jobs longer (or search harder for an alternative job if faced with unemployment) rather than enter onto an EI-SA cycle.

To summarize this period: the 1990s were characterized by several well-defined economic and policy developments with important implications for SA participation. The decade started with a lingering recession but this was followed by strong growth after 1996. On the policy front, some provinces reduced the generosity of SA benefits and many instituted rule and procedural changes that made benefits more difficult and more onerous to obtain; federal funding for SA was combined into a lump sum payment that also covered health and postsecondary education, and overall payments were cut. As well, the CTB/NCB and the associated low-income supplement were introduced partly with the objective of taking children off welfare and increasing their parents' incentives to earn more income through paid work. EI eligibility was tightened and benefit levels were reduced. Furthermore, it can be assumed that there were interactions among these developments; for example, changes in SA program administration may have had a greater impact in an expanding economy with a greater demand for labour, or when people become more fully aware of SA program changes. The relative importance of these developments and reforms is critical for policymakers.

Developments in the United States

Similar changes were taking place in the US over the same period, but they took a distinctly different form. The US also switched from a federal-to-state, shared-cost system to a lump-sum transfer, while the new Temporary Aid for Needy Families (TANF) welfare program included a five-year lifetime limit on the receipt of welfare, regulations on the return to work after childbirth, "workfare" requirements, and penalties for rule breakers. In addition, the US Earned Income Tax Credit was enhanced, the minimum wage was increased, and benefits and support targeted on individuals moving from welfare dependence to work were strengthened as part of the new "make work pay" philosophy. The

number of caseloads fell precipitously, although the evidence suggests that the TANF reforms, the other incentives for low-skill individuals, and the expanding economy have all been important in reducing recent welfare use (see for example Moffitt 2002, or Mueser et al. 2000).

Developments in Specific Provinces: Some Major Policy Initiatives

Of the four most populous provinces, accounting for 80 percent of the economy's population, three embarked on major SA disincentive programs at different points during this period: Alberta, Ontario and British Columbia. (Quebec is the exception.) The measures adopted by these provinces varied considerably.

ALBERTA: Alberta was the first province in Canada to undertake a major overhaul of its welfare system. Even though it had the lowest rate of welfare recipiency in Canada in the early 1990s, the government of the day undertook to make welfare less appealing and more difficult to access in 1993. For example, first-time applicants were refused and instructed to seek work and were reconsidered only after proving that they had searched for work. As well, more frequent checks were made on eligibility and possible fraud. Subsequently, benefit levels were reduced.

The impact of these changes appears to have been substantial, even allowing for improving economic conditions. Based on data from what was then the Alberta Department of Family and Social Services, Boessenkool (1997) reports that the quarterly inflow at the end of 1992 stood at 37,000, dropped to 25,000 by mid-1993, and then to 20,000 by 1996. The largest effect therefore took place immediately following the initial administrative (access barrier) reforms, while a part of the decline was likely due to the later benefit reductions and improving economic conditions. The greater part of the entry reduction was attributed to first-time applicant refusals rather than refusals of repeat applicants.

Reductions in participation by every family type were registered between 1992 and 1996, although single-parent families experienced the smallest reduction (39 percent). Likewise, every age group

experienced large participation declines, though these were greatest for the "under-20" group. Three years after the first administrative changes were implemented, the number of beneficiaries in the system had fallen to about 50,000 from 95,000 initially.

The obvious concern about such reforms is that rejected claimants will find themselves poorer, "on the street," involved in crime, seeking welfare in an adjoining province, or claiming benefits under Employment Insurance (then called Unemployment Insurance). Boessenkool (1997) finds little evidence for these outcomes, and claims many rejected claimants were directed back into the educational system and to training and work projects, although it is difficult to know the true effects of the policy, and others have reported less positive indicators.[10] In addition, it cannot be forgotten that the economy in Alberta at this time was performing better than in the rest of Canada, which obviously would have helped cut into welfare case loads.

ONTARIO: The cutbacks to welfare in Ontario, in contrast to Alberta, came primarily in the form of rate reductions, and secondarily in the form of increased barriers to recipiency. In the June 1995 election campaign Mike Harris and his Progressive Conservative Party promised voters a "common sense revolution" that included income tax reductions, cuts in welfare rates and mandatory work-for-welfare programs. Subsequently, welfare benefits were cut in October 1995 by 21.6 percent for all recipients, aside from people with disabilities and seniors, which represented a dramatic change of direction from the preceding New Democratic Party and Liberal Party governments.

Ontario was hit particularly hard by the recession that began in 1990, and unemployment increased dramatically – virtually doubling between 1989 and 1991. The number of welfare-dependant individuals climbed to 929,900 in 1991 and further to almost 1.4 million by 1994.[11] Meanwhile, the government's finances were sharply affected by the federal government's decision in 1990 to limit increases in federal

SA cost-sharing to Ontario, Alberta and BC to 5 percent per annum.

BRITISH COLUMBIA: In British Columbia, welfare reform was launched in 2002 by the Campbell Liberal government with the twin objectives of (a) reducing the welfare caseloads in BC – out of the belief that welfare developed a culture of dependency, and (b) reducing the share of the provincial budget going to welfare.

The legislation was strongly influenced by the TANF developments in the US, and the idea that gainful employment was the key to reducing welfare recipiency, and that training, education and community work/service were of secondary importance in achieving this objective. The legislation also seems to have been influenced by the Alberta legislation of 1993. One key aspect was a two-year limit on benefits for "employable" welfare recipients without children in any cumulative five-year window, albeit with some exceptions after criticisms of the law. It also included a requirement that new applicants be financially independent for two consecutive years before being eligible for benefits; an obligatory employment search period of three weeks (after contacting the Ministry for support) before individuals were able to formally apply for assistance (with room for appeal in cases where this would cause unnecessary hardship); the introduction of on-line information and orientation sessions, which may have provided barriers to the less educated in particular; and some degree of privatization and the involvement of non-profit sector and charitable agencies. It should be noted, however, that the dollar values of benefits were not decreased.

The number of entrants declined dramatically, from approximately 8,000 per month in 2001/02 to about half this number by the end of 2004, and the average monthly caseload dropped from 155,000 to 108,000.[12]

There was also a significant structural shift in the composition of claimants, away from the "expected to work" category and towards those categories involving "disability," having "multiple barriers to

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10 The National Council of Welfare (1997) indicates that the number of clients at the Edmonton food bank doubled during this period. Nonetheless, this was accompanied by a very substantial increase in the proportion of food bank recipients who were actually receiving welfare in the later period, and a corresponding reduction in the percentage not on welfare.

11 http://www.hrsdc.gc.ca/en/cs/sp/sdc/socpol/tables/pre/tab361.shtml

12 Reitsma-Smith and Wallace (2004), based on data from the Ministry of Human Resources, British Columbia.

work," or being "temporarily excused" (as a result of having a medical condition or being a single parent with a child under three). While the "expected to work" category accounted for 75 percent of all claimants in 2001/02, it accounted for just 30 percent by 2004. Wallace et al. (2006) indicate that essentially the *entire* drop in cases in this period was due to a decline for this group.

As with the other provinces discussed above, we know little about the ultimate impact of these measures on the poverty or employment status of those individuals whose welfare applications were rejected or who did not even apply because of the changes. While we know that the number of homeless in Vancouver and its catchment area increased by several hundred during these years (see City of Vancouver 2005),[13] how much of this might be attributable to a tightening of welfare access is difficult to say. As with all of these major changes in system operation, an analysis of the "rejection" impact on individuals' subsequent status and labour-market outcomes is a challenging research agenda due at least partly to the data required to carry out such a study, and the difficulty in identifying who would have had what experience in the absence of the changes.

The Data, Samples, and Unit of Analysis

The Longitudinal Administrative Database (LAD) is a 20 percent representative sample of Canadian tax filers, constructed from Canada Revenue Agency records, which follows individuals over time and matches them into family units on an annual basis, thus providing individual- and family-level information on incomes, taxes, and basic demographic characteristics in a dynamic framework. The general characteristics of the LAD, the selection procedures used to create the samples used here, and other related data issues are discussed in detail in Finnie, Irvine and Sceviour (2004).

The large number of observations in the LAD allows for a robust and detailed analysis of SA participation and SA dynamics, including the breakdowns by family type and province presented here. The income information is detailed, and of excellent quality, including that regarding the receipt of SA.[14]

We restrict our analysis to individuals aged 18 to 64. Our methodology eliminates students and others in the early stages of the transition to economic independence who either are not eligible for SA (rules vary by province), or for whom SA status has a different significance than for others. Older individuals are deleted because they are not eligible for SA, and qualify instead for other income-support programs, including the Guaranteed Income Supplement.

We also delete all individuals who show evidence of a disability at the family level (i.e., the individual or his or her spouse) over the given five-year period. While these represent an important and interesting class of SA recipients, we chose to restrict the present analysis to the able-bodied class of SA recipient (or potential recipient), and to leave the disabled for a separate study.

In this study, we examine individual behaviour within a family context by classifying everyone as belonging to one of the following family types: single (i.e., no spouse and no children), married with no children, married with children, or lone parent.[15]

An individual is defined as receiving SA in any particular year if he/she reports SA income of at least $101 at the family level (i.e., the respondent and/or his or her spouse declare SA income in this amount). Using the $101 cut-off minimizes the effects of reporting and coding errors, and otherwise counts very small amounts as being (effectively) zero. The family basis of the measure is used because typically only one person in a family receives SA, and reports it on his or her tax form, while SA is awarded for the entire family – known as a "case."[16]

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13 The City of Vancouver report indicates that "Preliminary data from the March 2005 regional homeless survey shows a doubling in the count of the number of street homeless and those staying in shelters in the region – from about 1,000 homeless in 2002 to about 2,100. There was a similar doubling within the city from about 600 to about 1,300."

14 SA income was not reliably reported previous to 1993.

15 Those in common law relationships are classified as being married.

16 The LAD uses a census definition of the family – one that consists of a husband and wife (with or without children who have never been married, regardless of age) or a parent with one or more children never married, living in the same dwelling. For a three-generation family, the second and third generation are treated as one family unit, while the first generation family is also treated as one family unit.

Figure 1a: SA rates 1993 – 2005 By Family Type
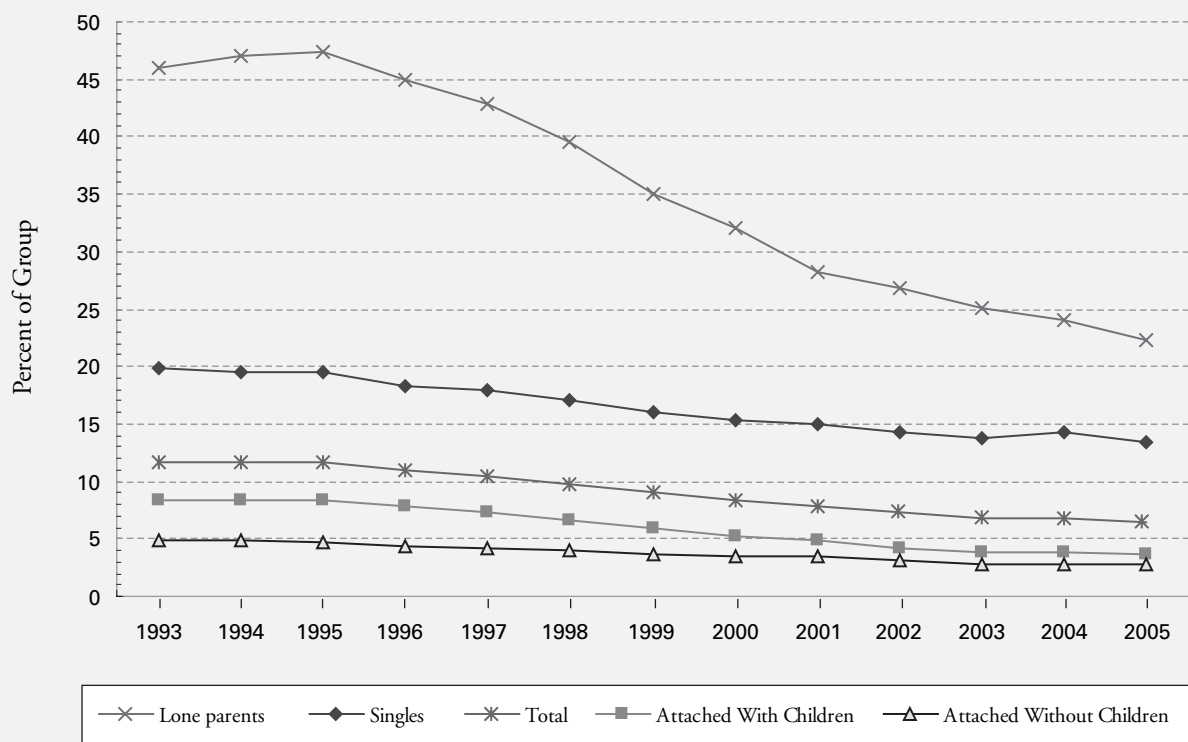
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

The definition of entry into SA is straightforward: for any two consecutive years, entry is deemed to have occurred in the second year if the individual is not on SA (as defined above) in the first year, but is on SA in the second. An exit is defined to have occurred in the first of a two-year period if the person was on SA then, but not the next.

These definitions draw attention to the annual nature of the data: SA analyses are more frequently based on monthly data, which is how SA is administered by the provinces (individuals qualify on a month-to-month basis), but here we examine participation, entry and exit on an annual basis. This approach, driven by the tax-based nature of the data, differentiates our analysis from province-based studies using a monthly time frame. The principal disadvantage of the annual approach is that in cases where an individual moves on and off SA over the

course of a year, we do not observe those movements, and instead simply record that the individual was on SA at some point over the year in question. But while missing such intra-year dynamics might be considered a limitation, an annual perspective may also be seen as providing a more robust, longer-term measure of SA participation precisely because it ignores short-run movements.

Trends in Welfare Use

Incidence

Figure 1a shows the percentage of all individuals receiving SA in each year from 1993 to 2005 based on our analysis of the LAD data (see line denoted "Total"). A plateau characterizes the period between

Figure 1b: SA rates 1993 – 2005 By Province and Region
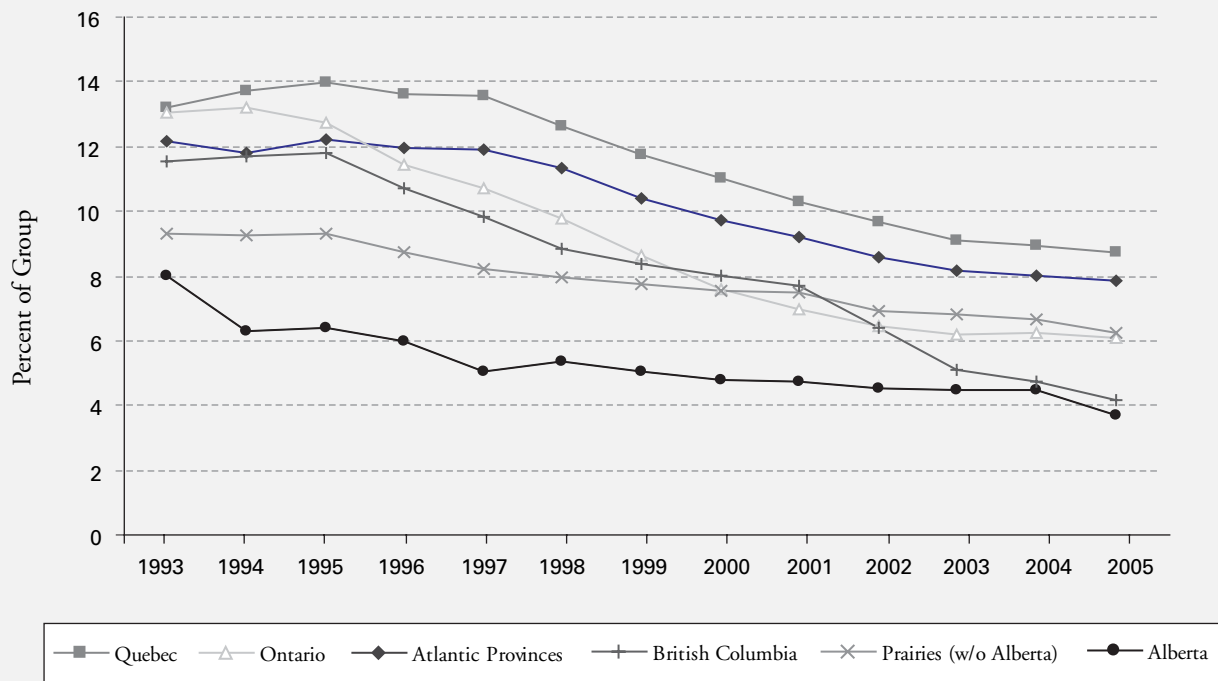
The percentage of groups for all family types in the Atlantic Provinces and Prairies is a weighted average using the population of the component provinces.
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

1993 and 1995, at almost 12 percent. The rate declines steadily thereafter, bottoming out at the end of the time frame at a rate of just above 6 percent.

Figure 1a also shows the patterns for the four different household types – singles/unattached, lone parents, couples with children, and couples without children. Differences are in evidence here: single parent households and couples with children experienced larger declines in SA incidence than unattached individuals and couples without children. This greater decline involving households with children may be attributable in part to the expansion of Canada's support for low-income

parents through the NCB supplement. Nonetheless, all groups experienced a substantial decline in recipiency relative to the 1993–1995 plateau.

Just as there are differences among households, there are also differences in the provincial patterns, as illustrated in Figure 1b. While the general downward pattern is similar, timing is very different across the provinces, as is the extent of the percentage decline from the peak of the dependency. For example, the chart indicates that Alberta witnessed a major decline early on (1993–1994), whereas British Columbia witnessed one in the 2002–2004 period.

Figure 2a: Entry rates 1993/94 – 2004/05 By Family Type
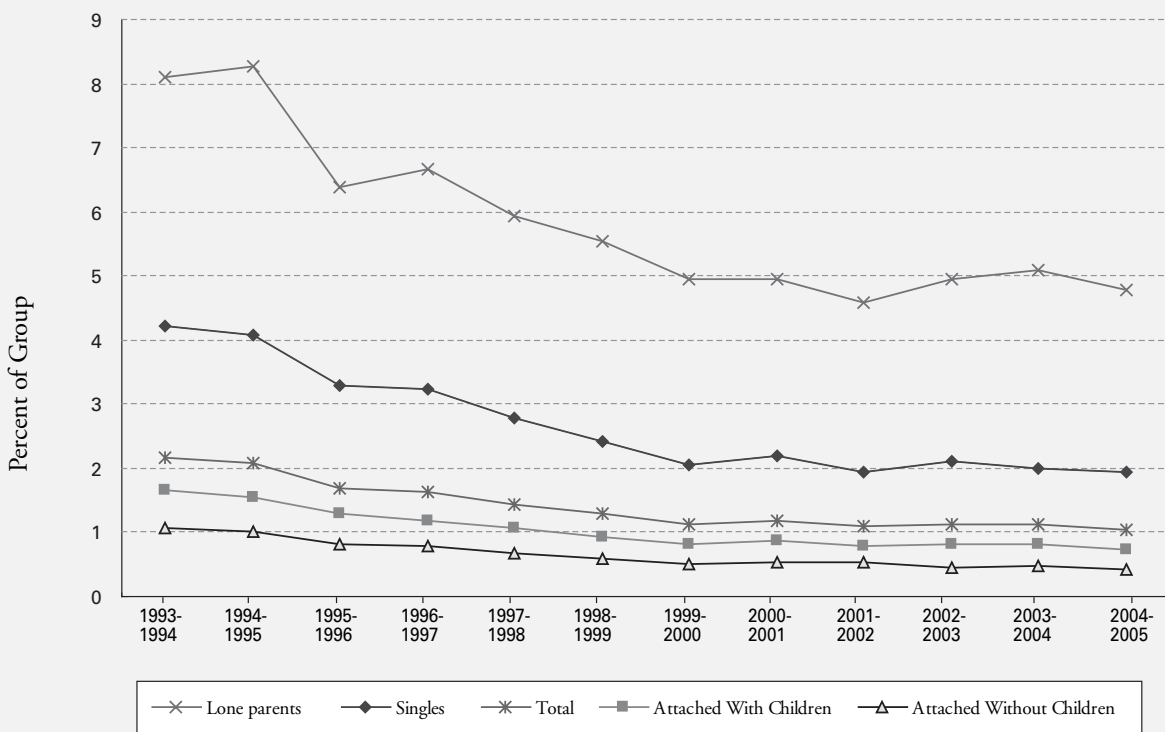
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 2b: Entry rates 1993/94 – 2004/05 By Province and Region
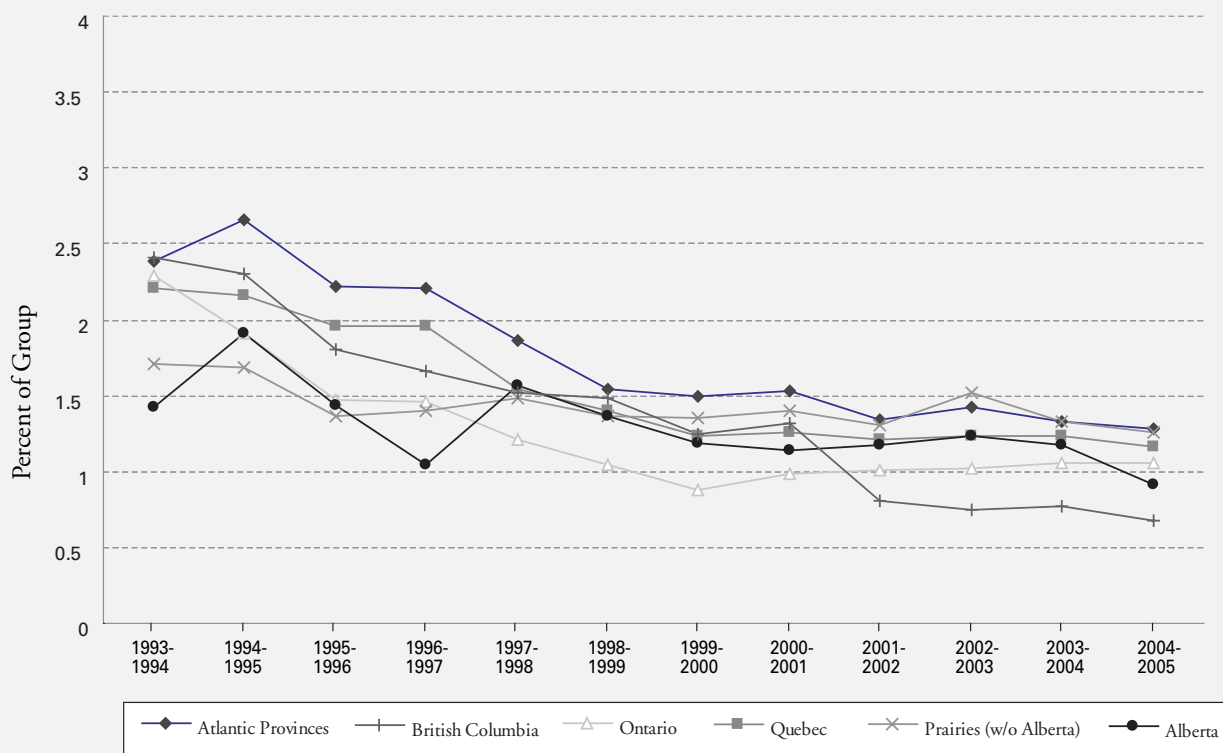
The percentage of groups for all family types in the Atlantic Provinces and Prairies is a weighted average using the population of the component provinces.
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 3a: Exit rates 1993/94 – 2004/05 By Family Type
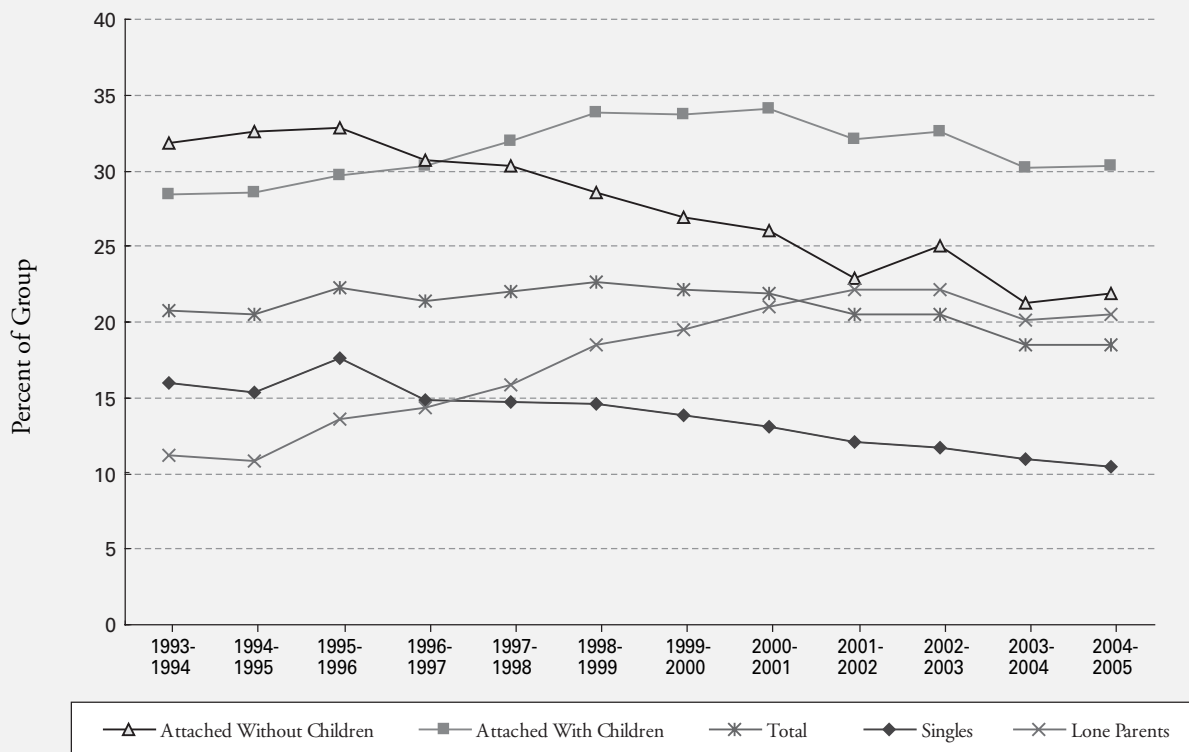
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Entry

The entry rates shown in Figure 2a provide a departure point for understanding the dynamics underlying these annual participation rates. In 1994 the entry rate was just over 2 percent; it fell to 1.5 percent by 1997/98 and bottomed out at just above 1 percent in 2000, where it has remained (see line denoted "Total"). Figure 2a also shows the patterns by household type, and in all cases there were substantial declines. Lone parents are again especially notable: while they have the highest entry rate in every year, they also exhibit the largest absolute decline through time.[17]

As with the incidence rates, couples had lower entry rates in every year than lone parents and singles, and more moderate declines over time. The declines are, however, still very large in relative terms. Singles again lie between the single parents and two-adult households.

For completeness, the entry rates by province are presented in Figure 2b.

Overall, these patterns suggest that declining entry rates played a substantial role in explaining the fall in SA use.

Exits

Exit trends, in contrast to the entry rates, have been less uniform. Exit rates would normally be expected to rise as the economy improves, but with rapidly declining entry rates, the stock of SA participants is likely to change in character. In particular, a substantial decline in entry rates may lead to a more dependent pool of SA participants that finds exit more difficult, pushing exit rates downward, and there may have been other composition effects that worked in either direction. Figure 3a shows the national trend (see line denoted "Total").

Interestingly, there is little discernable movement in this series – a mild inverted U over the period.

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17 Entry rates are defined by family type in the first of each pair of years. Individuals who become dependent upon SA when they divorce, become single parents, or otherwise change their family type are counted according to their status before entry. A similar treatment is adopted for exit rates.

However, this aggregate conceals divergent patterns by household type.

Figure 3a also indicates that the exit rate for lone mothers doubled from 10 percent to 20 percent during the period, and went from being the lowest at the start of the period to the middle of the range by the end of the period. Singles, in contrast, after an initial increase, experienced a steady decline in exit rates and had the lowest rates at the end of the period. Couples with children had the highest exit rates in almost all years, these increasing over time. Couples without children started with the highest exit rates, but by the end of the period had the same level as lone mothers – substantially lower than couples with children.

Exit rates by province are available in an online Supplementary Data Appendix at www.cdhowe.org

Overall, then, exit rates by household type have displayed considerable differences in behaviour over time, especially when compared to entry rates. The large falls in annual SA participation rates seen above thus appear to be explicable in terms of (i) dramatically declining entry rates for all family types, and (ii) reinforcing (i.e., higher) trends in exit rates for lone parents and couples with children, but counteracting decreases in exit rates for singles and couples without children.

Behind the Trends: Which Factors Matter Most?

The Analytical Framework

In this section we attempt to identify the relative importance of a number of policy-relevant factors in the downward trend in SA participation rates, as well as entry and exit rates, over the 1993–2005 period. The factors that are considered are (i) the decline in the unemployment rate, (ii) changes (generally decreases) in the generosity of the EI system, (iii) changes (almost uniformly declines) in

the real benefit levels available to those receiving SA, and (iv) a set of residual calendar year effects which capture various influences not otherwise represented in the models, including policy measures such as the tightening of eligibility rules, changes in procedures that might deter participation, and so on.

DEPENDENT VARIABLES: We estimate a set of econometric models where the dependent variables are (i) the probability that a person is in receipt of SA benefits in a given year, (ii) the probability that a person who is not on SA in a given year enters SA from that year to the next, and (iii) the probability that a person who is already receiving SA leaves SA in a given year – i.e., the outcomes whose trends have been tracked above.[18] The modelling approach allows us to estimate the impact of each explanatory variable on the probability that a person is on, enters, or exits SA in a given year, while simultaneously controlling for the other factors included in the models.

CONTROL VARIABLES: These models include, first of all, a set of demographic variables such as the individual's sex, age, number of children (where relevant), province of residence, language (French or English), and the population size of the area lived in (ranging from large urban to rural). These variables are, however, included principally as controls and do not enter the focus of our analysis because (a) they are generally not as directly policy relevant as the other variables considered, and (b) they turn out to have little role in explaining the observed trends (largely because the underlying demographic characteristics of the population do not change a great deal over the relevant period).

ECONOMIC AND POLICY VARIABLES: Of greater importance is the inclusion of the three economic and policy variables. The first of these is the unemployment rate of the economic region in which the person resides.[19] The unemployment rate

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18 See Finnie, Irvine and Sceviour (2004) for a description of the models (estimated over a somewhat shorter period) which have been used to generate the results presented here.

19 Canada has about 65 economic regions (they vary over time). Very large cities have their own regions, while the smaller provinces have just one or two regions each. Using the unemployment rate at the level of the economic region allows for a more localized measure of economic conditions as compared to, say, the provincial level rate, and has proved to be a superior performer than the provincial rate in the models we estimate. It is also important to include this measure as a control in the presence of the EI generosity variable, as explained below.

is expected to be positively related to the probability of being on SA in a given year, to have a similarly positive effect on entry from one year to the next, and to have a negative effect on exits.

The second policy variable included in the models is a measure of the generosity of Canada's Employment Insurance system (EI – or UI in earlier years). This measure was developed and subsequently refined by Arneau, Crémieux and Fortin (1998) and Sargent (1995). The index basically incorporates the key parameters of the EI program such as the number of weeks (or hours) of work required to qualify for benefits, the number of weeks for which benefits can be received, and benefit (income replacement) levels.

The expected effect of a change in EI benefits on SA is uncertain. On the one hand, if unemployment represents a "gateway" to SA (i.e., individuals first go on EI then cycle through SA), then a less generous EI system could reduce dependency on SA, as individuals are more likely to stay in their jobs or to search harder for alternative employment instead of seeking EI and then moving onto SA. Alternatively, individuals might cycle onto SA from EI more quickly (thus pushing up SA entry and participation rates) if they lose EI benefits sooner in a less generous EI system. On the other hand, if SA is a substitute for EI (i.e., individuals in some sense choose to go onto either SA *or* EI), a less generous EI system could increase SA participation, as individuals choose the latter over the former.

The EI generosity (or "disincentives") index varies over time and across unemployment regions, as officially defined, which are closely related to, but distinct from, the economic regions for which our unemployment rate is measured. There is also variation in the index related to the changes to the EI system made in the 1990s, with these independent changes helping to identify the parameter.[20]

The third variable upon which we focus is a measure of the SA benefit levels available to the individual's family should they qualify for the program. The particular measure used here is a series published by the National Welfare Council that gives the maximum amounts normally available to certain specific family types in each province, those family types being a couple with two children, a single parent with one child, and an unattached individual.[21] Benefit levels vary by province and over time for a given family type, these variations identifying the effects in question. Families of slightly different types (e.g., different numbers of children) are covered by the same index, since benefit rates within these types have moved closely together over time, thus rendering the "index" meaningful for our purposes for the different family types we study.

Finally, each of the models includes a series of calendar year dummy variables. These will capture any year-specific effects that remain once the other measured factors are accounted for, including the influences of other policy changes not otherwise specified, such as changes in SA eligibility rules, the enforcement of these rules, and so on, as discussed above.

The Model Results

In the following section, we show the effects of the different sets of variables included in the models on the trends in SA participation, entry, and exit rates over time using simulations based on the model estimates. First, however, we discuss the estimates upon which those simulations are based.

THE (ANNUAL) INCIDENCE/PARTICIPATION MODELS
We start with the "participation" or "incidence" models, where the dependent variable is the probability of being on SA in a given year. The full description of the model and the results are in the Appendix of this paper.[22]

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20 Note the importance of including the unemployment rate measured at the local level (economic region) in order to control for economic conditions when estimating the effects of the EI system, since its generosity (and thus the index we include in our models) varies with the unemployment rate and would pick up those effects were no such control included. Less complete (less sophisticated) measures of the generosity of the EI system were experimented with (e.g., certain specific parameters of the system, such as work requirements and replacement ratios) and generated similar but not quite as good results (higher standard errors, etc.) as those of the index we employ, which is consistent with the chosen index in fact being a true, and better, measure of the generosity of the EI system.

21 For couples with no children, we use 1.5 times the individuals' rate.

22 Also, see Finnie, Irvine and Sceviour (2004) for the full set of results based on a shorter period of time.

The baseline probabilities provide the point of departure for calculating the effects of each of the variables included in the models. The probability that a person is on SA is related to a higher or lower value of the variable being changed. The unemployment rate has a strong effect on SA participation: a one-point decrease is associated with a decline in the probability of being on SA of between .37 and 1.62 percentage points (for couples without children and single parents, respectively). These results thus suggest that the significant declines in unemployment rates that occurred through the latter part of the 1990s were responsible for a substantial share of the decline in SA rates from their peak levels in the early and mid-1990s – as will be seen when the simulation results are presented below.

The EI generosity index, whose effects were not predictable *a priori,* shows mixed influences. The results suggest that the reduced generosity of EI programs in the later part of the 1990's reduced SA participation rates for singles and couples with and without children. This is consistent with the "gateway" hypothesis, whereby individuals might be less likely to enter an EI-SA cycle when EI generosity is diminished. For single parents, however, EI and SA tend to be substitutes for these groups, and when the one program (i.e., EI) is made less generous, individuals tend to increase their participation in the other – i.e., SA.

SA benefit levels also appear to be strongly related to SA participation rates, especially for single parents. Our results indicate that a change in benefit levels of $1,000 affects SA participation rates about as much as a one percent change in the unemployment rate for singles, couples with children, and couples without children, but even more strongly for single parents – benefit levels matter (relatively) more than economic conditions and job availability for this latter group. The significant general declines in benefit rates over this period (e.g., by around $5,000 for single mothers in Ontario) thus appear to have been another important determinant of the changes in SA participation rates seen through the latter part of the 1990s.

A calendar year variable reflects the differences in the probability of an individual being on SA across years *after* controlling for the economic/policy

variables included in the models. The year variables indicate that – after controlling for these factors as well as individuals' personal and family attributes – SA rates for at least the first three groups remained high through the 1990s and only turned down (relative to those levels) after 2000 or 2001, and even then the declines were relatively moderate.

The model results thus suggest that this decline was largely due to the declining unemployment rate, the declining SA benefit levels, and the reduced EI generosity that occurred over this period, while the underlying "structure" of SA remained fairly constant through the end of the decade after rising in the first year or two of the data period. The exception is single parents, whose rates turned down slightly sooner (starting in 1999) and then fell sharply. We thus suspect that other year-specific effects apart from those captured by our unemployment rate, EI generosity, and SA benefit measures had a greater impact on the time trends observed for this group, including the sorts of particular SA-related policy measures discussed earlier (e.g., eligibility rules).

THE ENTRY MODELS: WHO IS MOST LIKELY TO GO ON SOCIAL ASSISTANCE? The entry model weighs the variables that influence the probability of entering SA from one year to the next for those not currently on SA. These models may be viewed as the "cleanest" in behavioural terms (Grogger, Haider and Klerman 2003, Klerman and Haider 2001) because, in contrast to the participation and exit models, the entry process is not driven by complex lag processes (i.e., who goes on to SA and how they work through the system). The detailed tables are available in the Appendix.

Lone parents currently not on SA (remember that their rates are always high – meaning that this is in some sense a more select group than for the other family types) have the highest probability of entering SA in any given year, with rates of about 10 percent at the baseline. Singles come next, at 3.0 percent, followed by couples with and without children (1.45 and a little over .76 percent, respectively).

A higher unemployment rate greatly increases the probability of entering SA. The same is true for the

SA benefit level coefficients. Thus, at least part of the manner in which these economic-policy variables appear to affect SA participation rates at any point in time – and to have contributed to the observed declines in the numbers receiving SA in the late 1990s and into the new millennium – is through their effects on entry rates. Except for single parents, the EI generosity index effects points to the "gateway" hypothesis: reduced EI generosity leads to reduced (not increased – as many provinces alleged over this time) SA entry rates.

The year effects show that some of the other policy measures discussed above may indeed have had the desired effect of reducing entry onto SA – especially in the case of singles and single parents.

THE EXIT MODELS: WHO IS LEAST LIKELY TO LEAVE SOCIAL ASSISTANCE? The exit models are estimated for those observed to enter a spell of SA over the period in question, and include the same explanatory variables as the other models plus a series of dummy variables indicating the elapsed spell length to capture duration effects, although those results are not discussed here. The detailed tables for the exit model are available in an online appendix at www.cdhowe.org.[23]

The baseline exit rates, which correspond to the probability of exiting SA after being on SA just one year (as well as the other baseline values described above), vary a great deal by family type. Single parents have by far the lowest rate, at just 20.2 percent. Singles come next, at 34.3 percent. Couples have the highest rates of exiting SA, on the order of 45-56 percent – that is almost half (or more) appear to collect SA for just a single year.

Lower unemployment significantly speeds exits out of SA, presumably as individuals are able to find better employment opportunities. These effects are generally weaker relative to the entry model. The effects of the EI and SA variables are,

conversely, quite mixed and in many cases statistically insignificant, so we cannot draw many general conclusions from them.

The year effects indicate that (holding other factors constant) individuals exited SA at higher rates in later years.[24] Interestingly, there is a strong increase in exit rates for single parents over time which complement their reduced entry rates seen above, meaning that their lower annual participation rates were driven by both lower entry and higher exit rates.

The other group with children (couples) also had decidedly higher exit rates *(ceteris paribus)* in later years, so policies targeted on families with children might have had an effect – the changes in welfare-income support policy as related to the introduction of the CTB/NCB perhaps being the best candidate in this respect. The other two groups showed less in the way of time trends as captured by the year effects.

The Simulations: What Drove the Trends?

The study now explores the contribution of each of the major factors by graphing their influences on a year-by-year basis. We do this by taking the models that have been estimated and first calculating the probability of each of the outcomes – participation, entry, exit – with all the values of the explanatory variables set at their actual mean values in the first year of data, 1993. We plot this line across the time period out to the final year, 2005. This is our starting point. Because the model estimating the impact of these variables on exit rates is not as clear as participation and entry, the simulation figures and tables from exit models are presented separately online.

We take each of the variables (or sets of variables) in question and – one at a time – change its values to those which actually held in each calendar year and plot the new expected probabilities over time.

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23 This approach is similar to that employed by Gunderson and Melino (1990) to model strike durations, by Ham and Rae (1987) to analyse durations of joblessness, by Finnie and Sweetman (2003) to model poverty dynamics, and by Finnie and Gray (2002) to model income dynamics. Keifer (1990) shows how this approach corresponds to a well-defined discrete hazard model, corresponding to the annual data employed and imposing no structure on the form of the duration effects.

24 The year effects begin with 1994 because a first year is needed to identify those who move onto SA (1993-94 being the earliest entries) – whose exits are then tracked from that point.

The graphs thus show the predicted time trends in the probabilities (i) had their been no change in the system (i.e., the straight line to start), (ii) allowing only the unemployment rate to take its true annual (mean) values over time, (iii) also allowing the EI generosity index to take its actual annual values, (iv) also allowing SA benefit levels to take their actual values, and (v) rounding out the graphs by also including the estimated calendar year effects.

Comparing the graphed lines thus allows us to see the effects of each variable (or set of variables in the case of the year effects) one at a time. This exercise is carried out for each of the outcomes for each of the family types. It is important to emphasize that the effects are presented in the graphs cumulatively, and that the differences between each graphed line represents the additional effect of the factor in question (unemployment rate, EI, SA, etc.). While most of the factors had the effect of lowering SA rates over time, some did not, at least for certain specific outcomes for certain specific groups.

TRENDS IN PARTICIPATION RATES: Figures 4a-d show the relevant graphs for the (annual) SA participation rates for each of the family types. "Baseline" shows the flat line where all the variables included in the models are set at their 1993 (mean) values, and thus generate probabilities that are close to the actual rates shown in Figure 1a, as should be the case in a well-specified model.

The second series then allows individuals' demographic characteristics (sex, age, province, language, area size of residence) to change over time, and shows the predicted probabilities generated by the model in each year. The effects are generally small, although they do contribute to the downward trends in SA rates to some degree for the attached with children and lone-parent groups. (We do not explore the particular characteristics which are changing – preferring again to focus on the more policy relevant variables.)

The third series then shows the fitted probabilities when the unemployment rate is allowed to take on its actual values over time, and the graphs clearly show the strong influence of this variable, as indicated by the significant downward shift in the

fitted values once the actual unemployment rates are factored in, the strength of the effects varying somewhat from group to group. This strong influence on the time trends is the result of (i) the sizeable effects of the unemployment rate on SA rates found in the regression models in combination with (ii) the substantial declines in unemployment rates over time.

Next comes the EI generosity index, which has a generally smaller, but still significant effect. SA benefit levels follow, and the effects are again stronger, although not as great as those found for the unemployment rate. Finally, the year effects are added, and actually indicate positive shifts for most groups in most years (the graph lines including the year effects are in many cases above those of the preceding ones), the important exception being single parents, who exhibit a strong negative trend due to the estimated calendar year effects – that is, the shifts that occurred after all the other variables included in the models have been factored in.

While these graphs are informative and contain considerable detail, we now turn to the final set of information presented in Tables 2 and 3 for SA participation and entry. The first row for each family group details the percentage share of each of the factors on the overall change over the complete period, 1994 to 2005. The second row for each family group shows the percentage point impact of each variable (or set of variables) in each year on the predicted probabilities.

So, for example, among singles (first row of Table 2), the predicted probability of being on SA declined by 6.13 percentage points from 1994 to 2005, as indicated in the last column. Of this change, the decline in unemployment rates contributed 3.95 percentage points, or 64.5 percent of the total decline. The next most important factor was the change in SA benefit levels, which contributed to a 2.06 percentage point decline, or 33.7 percent of the total. The EI index was responsible for a decline of .88 percentage points, or 14.3 percent of the total; the change in demographic characteristics would actually have led to an increase in rates; and the residual year effects were relatively small. The other rows in the table show the same thing for the other family groups.

Figure 4a: Factors Contributing to the Decline in SA Rates – Single
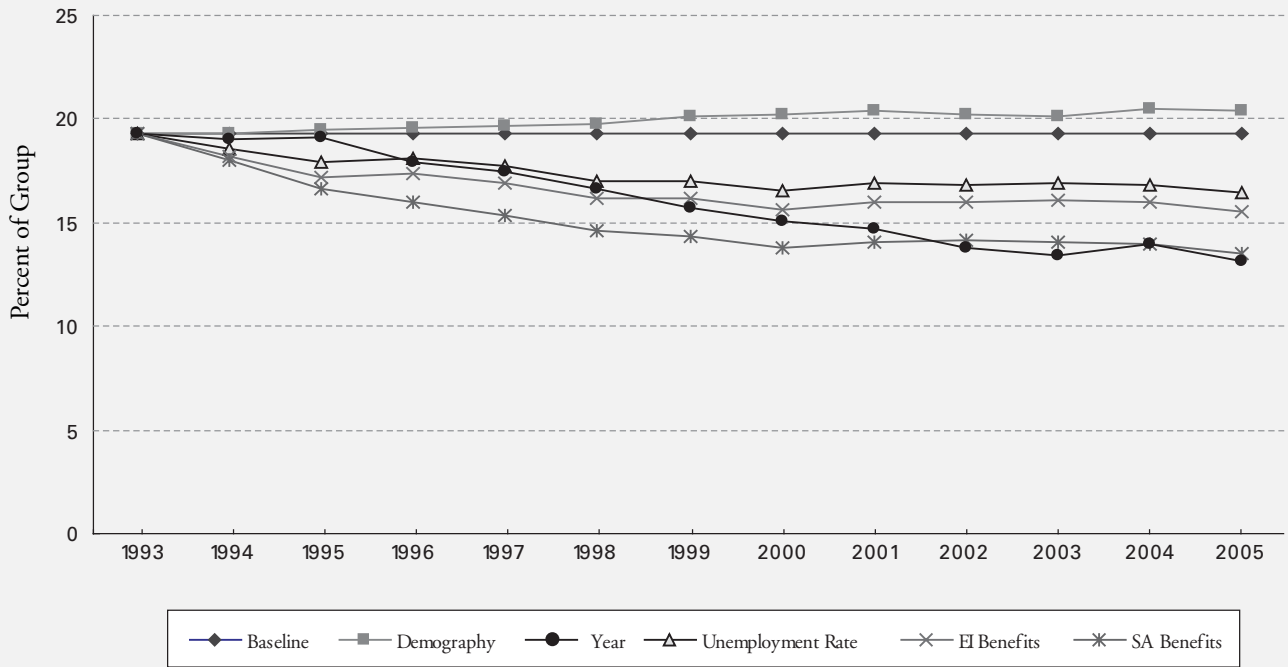
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 4b: Factors Contributing to the Decline in SA Rates – Attached with Child
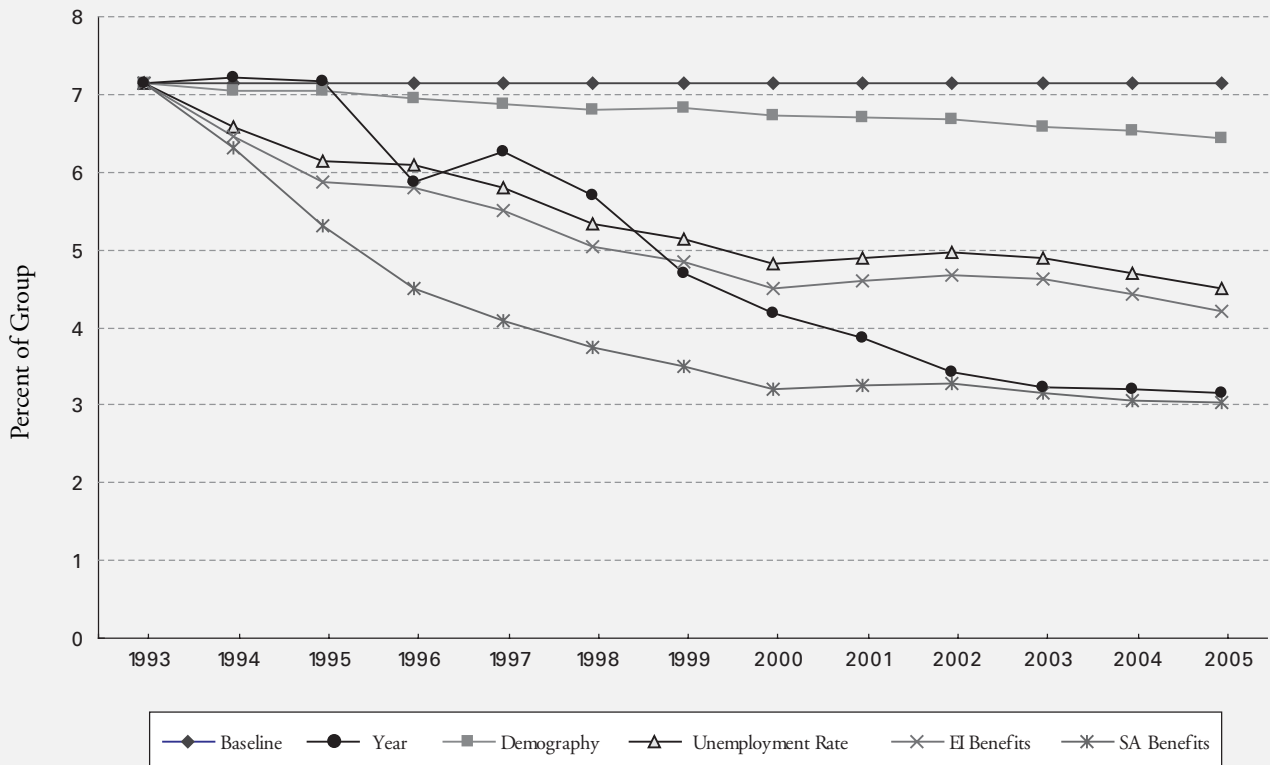
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 4c: Factors Contributing to the Decline in SA Rates – Attached no Child
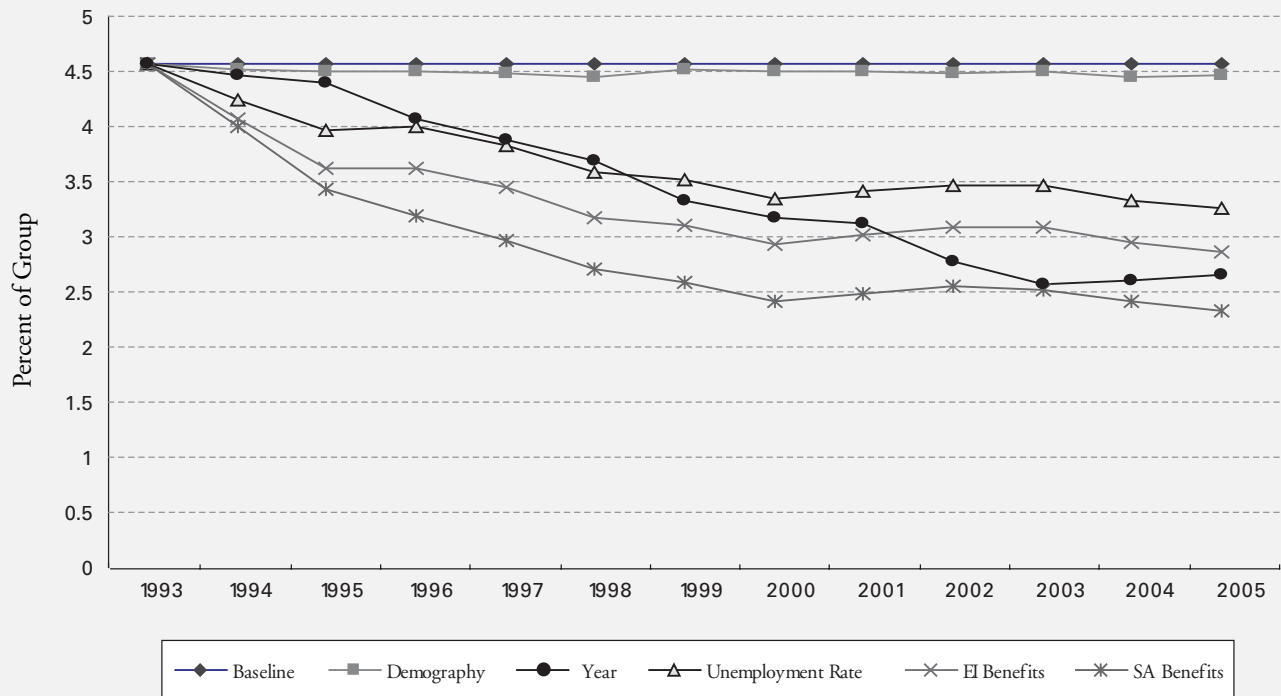
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 4d: Factors Contributing to the Decline in SA Rates – Lone Parent
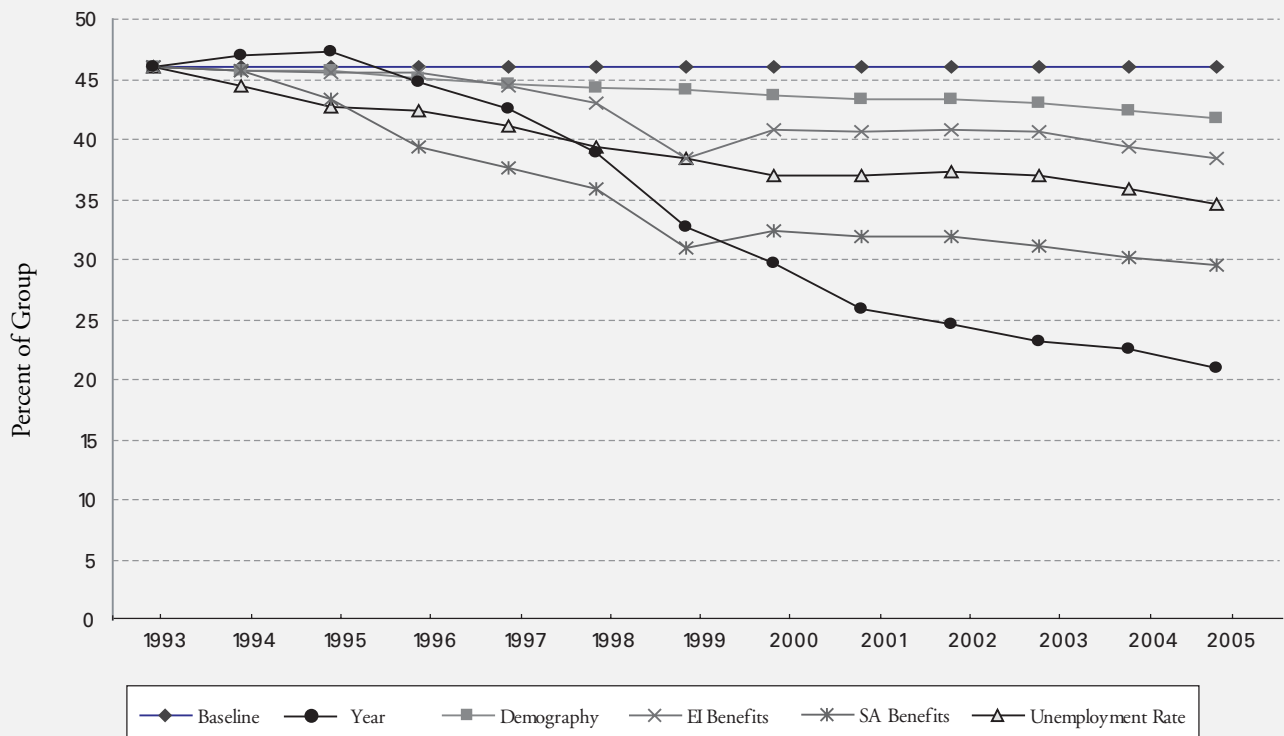
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Table 2. Factors Contributing to the Decline in SA Rates		Demography	Unemployment Rate	EI Benefits	SA Benefits	Year Effect	Total
Group							
Singles	Percentage Share of Impact on SA Rate	-18.1	64.5	14.3	33.7	5.6	100
	Percentage Point Change in SA Rate 1994-2005	1.11	-3.95	-0.88	-2.06	-0.34	-6.13
Attached no Child	Percentage Share of Impact on SA Rate	18.1	48.6	7.0	29.7	-3.3	100
	Percentage Point Change in SA Rate 1994-2005	-0.72	-1.93	-0.28	-1.19	0.13	-3.98
Attached with Child	Percentage Share of Impact on SA Rate	5.2	63.3	20.5	28.7	-17.6	100
	Percentage Point Change in SA Rate 1994-2005	-0.10	-1.21	-0.39	-0.55	0.34	-1.91
Lone Parent	Percentage Share of Impact on SA Rate	16.9	28.5	-15.0	35.2	34.4	100
	Percentage Point Change in SA Rate 1994-2005	-4.22	-7.14	3.75	-8.83	-8.62	-25.06

Source: Authors' calculations, Longitudinal Administrative Database (LAD).

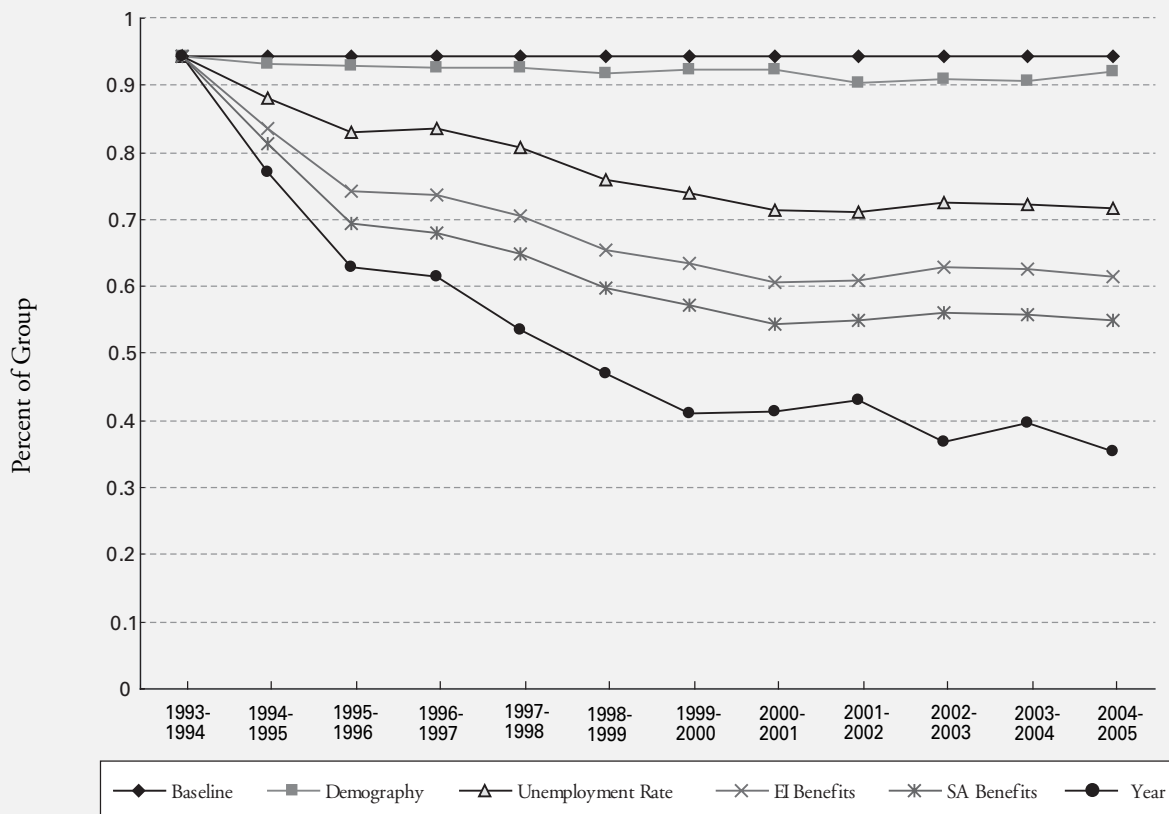| Table 3. Factors Contributing to the Decline in SA Entry Rates		Demography	Unemployment Rate	EI Benefits	SA Benefits	Year Effect	Total
Group							
Singles	Percentage Share of Impact on SA Rate	0.4	28.3	16.6	17.7	37.0	100
	Percentage Point Change in SA Rate 1994/95-2004/05	-0.01	-0.75	-0.44	-0.47	-0.99	-2.66
Attached no Child	Percentage Share of Impact on SA Rate	3.6	34.9	17.0	11.2	33.3	100
	Percentage Point Change in SA Rate 1994/95-2004/05	-0.02	-0.21	-0.10	-0.07	-0.20	-0.59
Attached with Child	Percentage Share of Impact on SA Rate	8.5	28.7	24.5	19.2	19.2	100
	Percentage Point Change in SA Rate 1994/95-2004/05	-0.09	-0.29	-0.25	-0.20	-0.20	-1.03
Lone Parent	Percentage Share of Impact on SA Rate	3.4	27.0	1.3	24.4	43.9	100
	Percentage Point Change in SA Rate 1994/95-2004/55	-0.16	-1.29	-0.06	-1.16	-2.09	-4.77

Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Given that the effects of virtually all of the important variables are statistically significant, these results indicate that both economic conditions and incentives were important in reducing SA dependency in this period. That is, changes in the unemployment rate, SA benefit levels, and the generosity of the EI system explain most of the observed declines in SA participation rates, with their magnitudes of importance coming generally in that order – albeit it with some variation from group to group.

An important exception is worth emphasizing: the pattern for lone parents. For this group, the year effects are in fact almost as important as benefit levels, which may mean that the unmodelled policy measures discussed earlier had their intended effects, or that some other influence, such as the CTB/NCB was a determining factor. Also interesting, is that the general decreases in SA benefit levels available to lone parents played the most important role, while the effects of the decline in the unemployment rate came third, and the changes in the EI system actually worked against the declines for this group (and this group only). Demographic changes had a mixed set of effects.

ENTRY RATES: The same graphical results for entry rates are shown in Figures 5a-d and Table 3. Here the calendar year effects are important, as are the declines in the unemployment rate. The latter explains about 30 percent of the overall declines. The decreased generosity of the EI system generally comes next in importance, except for single parents, for whom the effects are negligible. The decline in SA benefit rates contributes in the range of 11 to 24 percent of the total decreases, the effects being greatest for single parents.

EXIT RATES: The exit models are not as powerful as the entry and participation models in explaining observed patterns. This is not surprising on account of the complex lags, duration effects and composition effects that are associated with the exit process. For example, as entry rates declined over time, it is likely that only a harder core of welfare recipients were left in the samples of SA participants for whom exit rates are estimated. This would tend to drive exit rates down, rather than up, and otherwise confound the estimation with unobserved heterogeneity. This pattern has been found in the work of several US studies (for example, Grogger 2002 and Klerman and Haider 2001) that accordingly emphasize the importance of the entry processes. Furthermore, from a policy perspective, preventing entry is a more attractive approach than getting individuals off welfare, once there. Finally – and related – the time trends are not so strong, or consistent across groups and over different periods. Again, exit models are presented in the online Supplementary Data Appendix.

Conclusion

The reduction in SA use in Canada from the early 1990s through to the present day has been of historic proportions. We have described the general economic and policy setting that underlay this decline; shown the general trends in participation, entry, and exit rates; and provided an empirical analysis of the principal factors that have driven this change. These factors include economic conditions (as captured by the unemployment rate), the levels of benefits available to SA recipients, the generosity

of the EI system (on the assumption that SA and EI may be functionally related for potential SA recipients), and a set of calendar year variables to capture other policy-related developments.

All these factors matter. First, macroeconomic conditions have an extremely strong impact on SA rates. The decline in the unemployment rate from a high of 12 percent in 1993 to between 6 and 7 percent at the end of the period of analysis was the single most important factor in reducing the incidence of SA benefits, as well as the underlying annual entry rates that play such an important role in driving those annual levels.

Second, incentives related to income support programs also matter greatly. SA participation rates appear to be significantly affected by the dollar value of the benefits available from the program, and the fall in the real dollar value of SA benefits after the mid-1990s played an important role in reducing SA rates over our period of analysis. Furthermore, a less generous EI system appears to *decrease* (not increase) SA rates, suggesting the programs are complements rather than substitutes, and changes in the EI program also contributed to the decline in SA rates.

Third, other policy changes appear to have had additional effects. Welfare reforms that limited eligibility or otherwise made it more difficult to collect SA, as well as changes in other income support programs such as the CTB/NCB appear to have further driven SA rates downward. On this count, however, the evidence is not as direct, since it is based on the calendar year effects in the models, which also capture other influences not explicitly specified. Conversely, to the degree some of the SA program changes, in particular, have been correlated with the changes in SA benefit levels (e.g., rule changes instituted at the same time rates were cut), some of the effects of the former may be captured in the latter.

These results are consistent with Richards (2007). He proposes that the improving macroeconomy, combined with greater incentives to join the labour market as a result of changes to SA and EI, and an expanded NCB program, together dramatically reduced the rate of poverty (the focus of his analysis) nationally during the period 1995–2005. Our study also emphasizes the flow nature of SA. The number

Figure 5a: Factors Contributing to the Decline in SA Entry Rates – Single
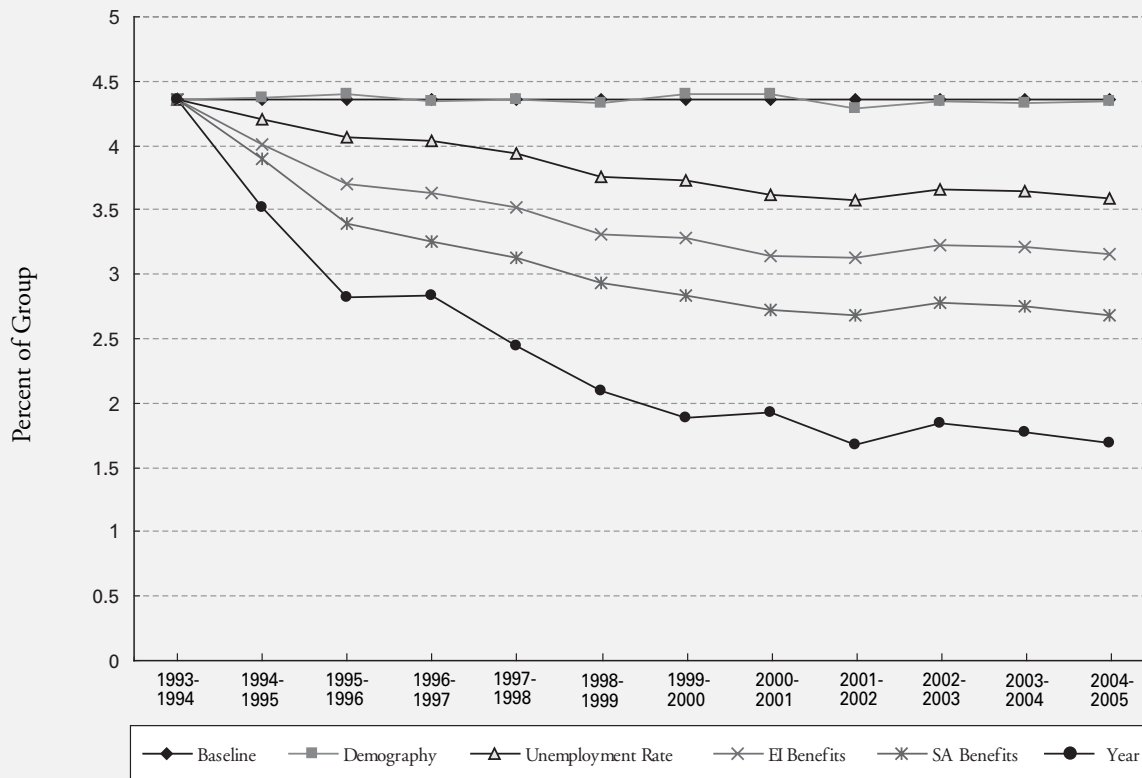
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 5b: Factors Contributing to the Decline in SA Entry Rates – Attached with Child
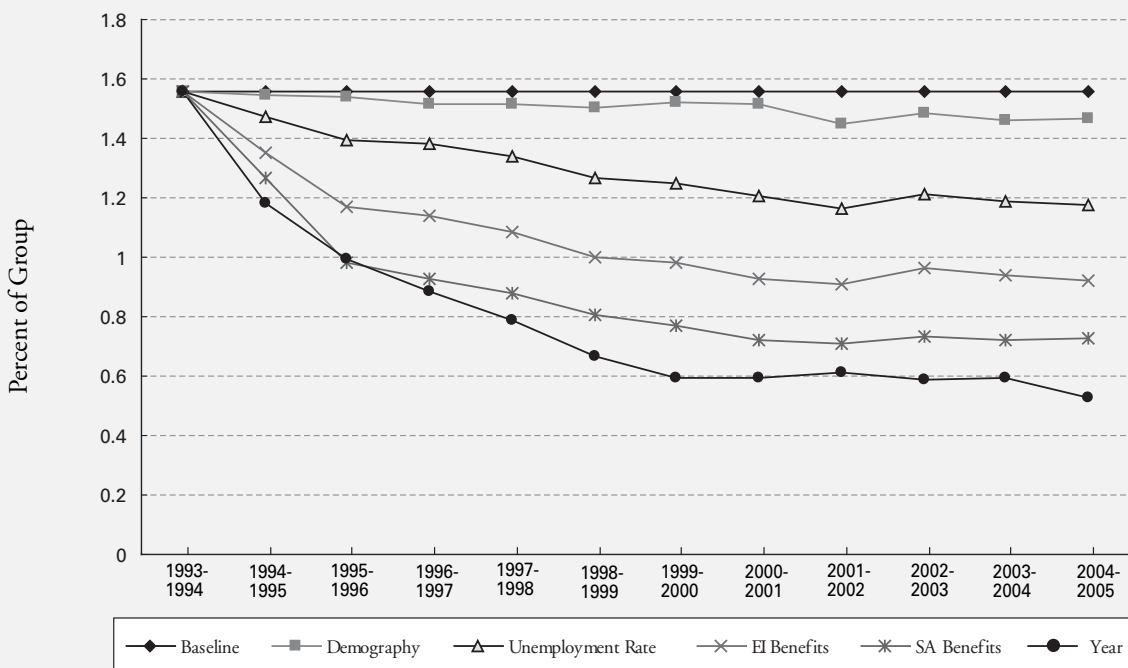
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 5c: Factors Contributing to the Decline in SA Entry Rates – Attached no Child

Source: Authors' calculations, Longitudinal Administrative Database (LAD).

Figure 5d: Factors Contributing to the Decline in SA Entry Rates – Lone Parent
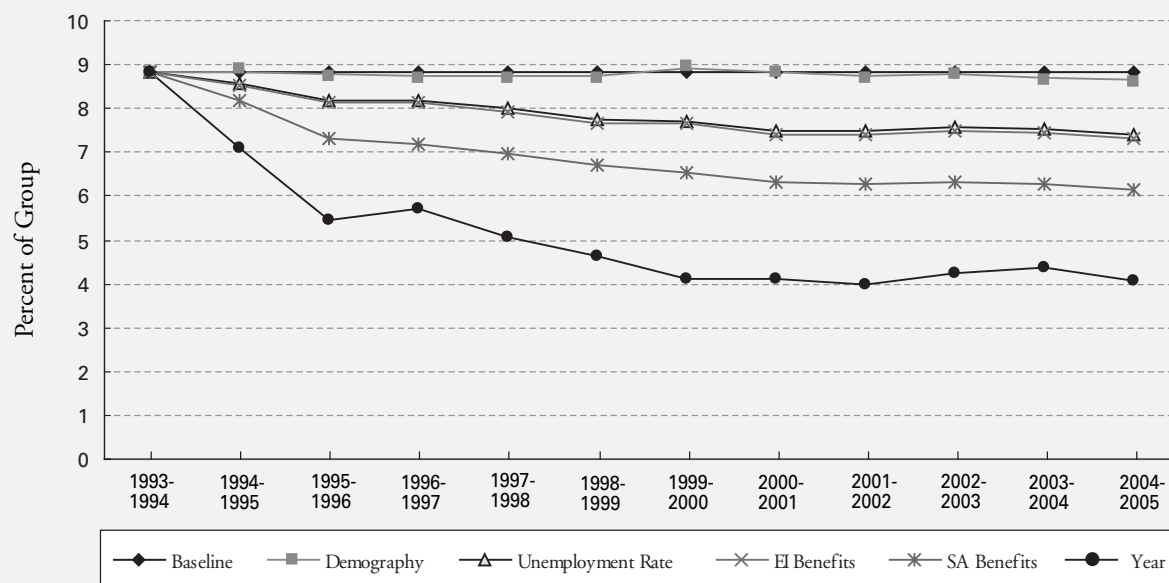
Source: Authors' calculations, Longitudinal Administrative Database (LAD).

of individuals receiving SA in any time period is augmented by new entries and depleted by new exits, but the entry dynamic seems to have been the principal driver in the change in the number of SA caseloads.

This analysis has also found that individuals in households of different structures respond differently to macroeconomic conditions, to changed incentives in program benefits (SA and EI), and to other program changes. Of particular note is that single-parent households experienced dramatic declines in entry rates and increases in exit rates, and the relative importance of the different factors underlying these trends was substantially different than for other groups, with the improved economy playing a relatively smaller role as compared to other groups. One factor in driving these single-parent trends, and behaviour, may have been a change in the composition of the single-parent population, which has been becoming older and more educated over time.

Finally, it is important to point out some of the limitations of this study. No attempt was made to model the SA behaviour of individuals living on First Nations reserves or the disabled. And of course our analysis is only as strong as the models we estimate, and as in any such analysis, some of the variables included in the specification may capture other influences not represented with which they are correlated. Still, the study is quite original in how it attempts to model SA behaviour – including participation, entry, and exit rates at the national level over a critical period of policy developments and changes in SA behaviour; and the LAD data used in the analysis is well suited to the task.

What then can we say in broader policy terms? First, the notion that individuals on SA simply do not want to – and will not – work is demonstrably untrue. The most significant influence on SA rates appears to be the availability of jobs, and it was the substantial strengthening of the economy after 1996 that had the greatest effect in driving SA rates downwards over the period of our study.

Second, the perspective that SA benefit rates – and the benefits of other related income support programs – have no effect on SA participation rates, and that cutting benefits will only punish those who have no choice but to be on SA also appears incorrect. More generous SA benefit rates appear to attract more individuals onto SA, as do more generous EI benefits.

This said, our study does not say what SA benefit levels *should be*, or whether the cuts that came after the mid-1990s caused more harm than good – harm in the form of leaving vulnerable individuals less well off; good in the form of improving governments' fiscal positions and, more directly, keeping employable individuals off the SA rolls and perhaps otherwise more actively engaged in the economic and social mainstream. We say only that benefit levels matter to participation rates and this is a factor that needs to be taken into account in the relevant policy discussions.

Similarly, we cannot say if the other kinds of SA reforms adopted over this period, such as those which limited eligibility or otherwise made SA more difficult to obtain, were a good thing or a bad thing in these same terms. But we can say that such reforms do indeed appear to have affected SA participation rates.

We believe that the major contribution of this analysis is that future discussions regarding SA – and SA policy reform – can be based on a stronger empirical basis than before.

Appendix

A baseline probability represents the predicted probability of being on SA for an "average individual" – thus representing a person aged 25-39 living in a large urban area in Ontario in 1993 – and the continuous (economic-policy) variables (unemployment rate, EI generosity, and SA benefit levels) set to their sample means. The baseline probabilities provide the point of departure for calculating the effects of each of the variables included in the models, and a point of comparison for the magnitudes of the effects found. The lowest rates are for couples, especially those without children (5-7 percent), singles come next (14.5 percent), while lone parents have the highest rates (43.6 percent).

The effects of the variables of interest are presented in terms of the associated changes in the probability that a person is on SA – Marginal Effect column – associated with a specified unit change in each of the variables. The unemployment rate effects shown are calculated for a one-point increase, the SA benefit effects are those associated with a $1,000 increase in the amounts available to recipients, the EI index effects are those associated with an increase of one standard deviation in that measure, and the year variables capture the difference between the year in question and the baseline year (1993) with regard to, for example, rule changes that make eligibility for welfare more difficult.

A	Table 1a. Regression Results: Marginal Probability Effects – Receiving SA							
	Singles		Couples with Children		Couples without Children		Single Parents	
	Probability	Marginal Effect	Probability	Marginal Effect	Probability	Marginal Effect	Probability	Marginal Effect
Baseline (1993)	14.53		7.40		5.16		43.64	
Economic Vars.								
Unemployment Rate	15.26	0.73	7.96	0.56	5.53	0.37	45.26	1.62
EI Index(100)	14.83	0.30	7.57	0.18	5.41	0.25	42.17	-1.47
S.A. Ben. Lev. (1,000$)	15.43	0.90	8.01	0.62	5.46	0.30	46.47	2.83
Year								
1994	15.40	0.86	8.44	1.04	5.75	0.59	45.03	1.39
1995	16.72	2.19	9.92	2.52	6.59	1.43	47.63	3.99
1996	16.26	1.73	10.93	3.54	6.55	1.39	49.15	5.51
1997	16.56	2.03	11.10	3.70	6.74	1.58	48.80	5.16
1998	16.57	2.03	11.03	3.63	6.95	1.79	46.80	3.16
1999	15.97	1.44	9.81	2.41	6.60	1.44	41.90	-1.74
2000	15.92	1.39	9.56	2.16	6.70	1.55	40.43	-3.21
2001	15.21	0.68	8.74	1.35	6.44	1.28	36.59	-7.05
2002	14.25	-0.29	7.75	0.35	5.62	0.46	35.13	-8.51
2003	13.87	-0.66	7.52*	0.12	5.24*	0.08	34.02	-9.61
2004	14.55*	0.02	7.73	0.33	5.57	0.41	34.27	-9.36
2005	14.17	-0.37	7.71	0.31	5.88	0.72	32.82	-10.81

* Indicates not significant at 95% confidence level

Source: Authors' calculations, Longitudinal Administrative Database (LAD).

A	Table 1b. Regression Results: Marginal Probability Effects – Entering SA							
	Singles		Couples with Children		Couples without Children		Single Parents	
	Probability	Marginal Effect	Probability	Marginal Effect	Probability	Marginal Effect	Probability	Marginal Effect
Baseline *(1993 – 1994)*	3.00		1.45		0.76		9.70	
Economic Vars.								
Unemployment Rate	3.14	0.14	1.53	0.08	0.81	0.05	10.06	0.36
EI Index (100)	3.15	0.15	1.60	0.15	0.81	0.05	9.73*	0.03
S.A. Ben. Lev. (1,000$)	3.20	0.21	1.54	0.09	0.78	0.02	10.20	0.49
Year								
1994-1995	2.71	-0.29	1.35	-0.10	0.72	-0.04	8.41	-1.30
1995-1996	2.49	-0.51	1.47*	0.02	0.69	-0.07	7.31	-2.40
1996-1997	2.62	-0.38	1.38	-0.07	0.69	-0.07	7.79	-1.92
1997-1998	2.34	-0.66	1.30	-0.15	0.63	-0.13	7.12	-2.59
1998-1999	2.14	-0.86	1.20	-0.25	0.60	-0.16	6.79	-2.91
1999-2000	2.00	-1.00	1.12	-0.33	0.55	-0.21	6.20	-3.50
2000-2001	2.13	-0.87	1.19	-0.25	0.58	-0.18	6.39	-3.31
2001-2002	1.87	-1.13	1.26	-0.19	0.60	-0.16	6.25	-3.45
2002-2003	1.99	-1.01	1.17	-0.28	0.50	-0.26	6.61	-3.09
2003-2004	1.94	-1.06	1.19	-0.25	0.54	-0.22	6.84	-2.86
2004-2005	1.90	-1.10	1.06	-0.39	0.49	-0.27	6.49	-3.22

* Indicates not significant at 95% confidence level

Source: Authors' calculations, Longitudinal Administrative Database (LAD).

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