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CHILD POVERTY IN CANADA

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The evolution of measured poverty may reflect socio-economic developments, particular measurement choices or the effect (or lack of effect) of policy initiatives. We report a "case study" of child poverty in Canada between 1986 and 2000, a period when the elimination of child poverty was a stated policy goal, but reported child poverty rates did not change significantly. We find that the apparent persistence of child poverty in Canada is remarkably robust to measurement choices, and cannot easily be explained by socioeconomic developments.

1. INTRODUCTION

Poverty among children is often singled out as a social ill of particular and broad concern. There are numerous reasons for this. Low income or poverty are associated with a plethora of adverse childhood outcomes (for example, see Mayer, 1997; Dooley *et al*., 1998; Phipps, 1999; Curtis *et al*., 2001; Dooley and Stewart, 2004). Further poverty among children may be seen as inconsistent with "equality of opportunity"; Osberg (2000) notes that poor children may be perceived as the group most clearly "not responsible" for their condition.

The well being of children was highlighted as a national priority in Canada in 1989 when an all-party motion of parliament called for the elimination of child poverty in Canada by the year 2000. And indeed, the subsequent decade saw a

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number of changes to tax and benefit policies that affect families with children.[1] Despite these initiatives, aggregate trends suggest that the goal of improving the well being of less fortunate children has remained elusive (Phipps, 1999; Myles and Picot, 2000). Phipps (1999) reports that poverty intensity among children aged 0 to 18 was actually higher in 1996 than in 1989; children from 0 to 6 were worse off than they had been in 1976. Finnie and Sweetman (2003) examine the dynamics of poverty in Canada between 1992 and 1996 and find that almost half of the households that were poor for the entire period contained children. Osberg (2000) reports that between 1994 and 1997 poverty fell in the U.S. but rose in Canada. Moreover, studies in the U.S. have found decreases in child poverty, particularly in lone-parent families (Blank and Schoeni, 2003; Dickens and Ellwood, 2003). The failure to meet this national priority in Canada poses something of a puzzle, particularly in light of the success of other targeted anti-poverty agendas, such as the drastic reduction in poverty among the Canadian senior population that had previously been achieved.

There are several potential explanations for the persistence of child poverty in Canada. First, it may simply reflect something about the way child poverty is measured (see, for example, Carlson and Danziger, 1999; Idson and Miller, 1999; Myles and Picot, 2000). Measurement issues have loomed large in debates of the success of the U.S. "war on poverty" (see the exchange between Jorgensen (1998) and Triest (1998), for example). Second, it might be that socioeconomic developments, such as rising numbers of lone-parent families or increases in wage dispersion are responsible. Finally, it may be a problem of policy design or implementation. Canadian child policy initiatives over the decade may have been poorly targeted, of inadequate scale, or offset by other, coincident, policy developments.

The purpose of this paper is to assess the first two explanations by taking a very detailed look at changes in the resources available to children, particularly less fortunate children, over the period 1986–2000. This assessment is obviously important to the Canadian policy discussion but also provides a useful case-study for researchers and analysis facing similar issues in other jurisdictions.

Using a number of Canadian micro data sets, we first examine how the measurement of child poverty in Canada depends on the resource measure used. We compare income, which is the most common measure in poverty studies, with consumption. Recently, a number of authors (see, for example, Cutler and Katz, 1991; Slesnick, 1993; Chen and Ravallion, 2001; Lanjouw and Lanjouw, 2001; Pendakur, 2001; Deaton, 2003; Meyer and Sullivan, 2004) have employed consumption data rather than income data. The central motivation for this switch is the idea that, if households can inter-temporally allocate by saving or borrowing, then current income may be a poor measure of currently available resources. We

[1]In 1990 parental benefits were added to unemployment insurance (UI) benefits. The child tax benefit and the earned income supplement (EIS) were introduced in 1993, and 1997 saw taxation changes in child support payments, and the EIS was increased. The National Child Benefit was established in 1998, increased in 1999 and again in 2000 (Kamerman and Khan, 1997; Stroick and Jenson, 1998). Some documentation refers to the Earned Income Supplement (EIS) as the Working Income Supplement (WIS).

also pay attention to the sensitivity of our estimates to the treatment of housing, as well as other measurement choices. We complete the first stage of our analysis by following Mayer and Jencks (1989) and Mayer (1993) and examining measures of material deprivation which are based on (housing and durable) stocks rather than resource flows.

The second stage of our analysis focuses on the role of socioeconomic developments in the apparent persistence of child poverty. We focus on consumption (expenditure) poverty and investigate poverty subgroups of the population of children. Our analysis relates changes in aggregate child poverty to socioeconomic and labor market developments by decomposing aggregate changes into changes in population shares, changes in within group poverty and a residual.

Two recent papers touch on these issues. Myles and Picot (2000) note that policy initiatives that are targeted at the most disadvantaged may have little impact on the poverty *rate* (or headcount). Using an income-based resource measure and the Sen-Shorrocks-Thon index of poverty intensity, they find that child poverty declined in Canada between 1981 and 1989 but rose between 1990 and 1996.

Pendakur (2001) present estimates of consumption poverty in Canada. He uses an absolute poverty line and equivalence scales and price indices derived from estimation of a demand system. While most of his analysis concerns the entire population he does present some estimates of child poverty. Those numbers suggest that child poverty fell between 1986 and 1992 but rose again so that by 1998 the rate was somewhat higher than in 1986 (4.2 versus 3.3 percent).

Our analysis differs from these is several important respects. Namely, our paper focuses on children,[2] we compare several measures of resources available to children, we provide analyses of the sensitivity of our results to various alternate measurement strategies employed in the literature and we update results to 2000, the year that child poverty was to be eliminated. As far as we are aware, this is also the first paper to examine poverty in Canada with data on durable stocks.

The principal results of the current paper are as follows. Unsurprisingly, poverty is lower when measured with consumption than when measured with income. Income poverty among children rose slightly between 1986 and 1998 and then settled back to the 1986 level in 2000. Consumption poverty among children appears to have declined slightly between 1986 and 1998 but then climbed to the 1986 level in 2000, so that both income and consumption poverty are almost unchanged between the start and end years of our study period. The level, but not time path, of consumption poverty is quite sensitive to the treatment of housing services. Measures of material deprivation (based on housing and durables stocks) tell a mixed story, with some suggesting improvement and others indicating the reverse. But by no measure—income, consumption or material deprivation—do we see substantial improvements in child poverty.

[2]Currie (2004) suggests "if we are interested in the effects of policies on children, we need to look directly at the effects of policies on children, rather than looking at them only as members of families" (p. 510). Phipps (1999) makes this point.

Our dis-aggregate analyses shed some light on this stability. In some cases it was simply that a group was too small for substantial improvements in within-group poverty to have much impact on aggregate child poverty. Socioeconomic developments may also have played a role: improvements among high risk groups were, in some cases, offset by increases in the size of those groups. For example, poverty fell among children living with lone parents, but at the same time, the share of children in this high poverty group rose. However, there were also cases where socioeconomic developments served to reduced child poverty. For example, there was an increase in the share of children living in households where both parents worked. Thus we conclude on balance that socioeconomic shifts, like measurement choices, are largely unable to explain the persistence of child poverty in Canada. This points future research towards possible failures of policy design and/or implementation.

The outline of the paper is as follows. In the next section we discuss the data and methods used in this study. Section 3 presents an analysis of child poverty in Canada using alternative measures of resources: income flows, consumption (expenditure) flows, and durables stocks. Section 4 presents our decompositional analysis of the role of socioeconomic developments in determining child poverty over time in Canada. Finally, Section 5 offers some conclusions and directions for further work.

2. Data and Methods

2.1. *The Surveys*

The data employed in this study come from public use versions of Statistics Canada's *Survey of Household Spending* (SHS), *Family Expenditure Survey* (FAMEX) and *Household Facilities and Equipment Survey* (HFE). All three are based on the Labor Force Survey sampling frame which is a nationally representative cross section of households. Statistics Canada's *Survey of Consumer Finances* (SCF)[3] has been used extensively to study poverty and low income in Canada (see, for example, Myles and Picot, 2000).[4] The FAMEX and HFE were conducted less frequently than the SCF and contain less detailed income information. The principal advantage of the FAMEX is that it contains expenditure information, which is believed to be of good quality.[5] Expenditure data allow us to deal with issues of intertemporal allocation, and (to a much lesser extent) intrahousehold allocation. We return to these points below. The HFE contains information on stocks of durable goods and housing amenities, which allows us to examine alternative measures of material deprivation, based on stocks rather than resource flows. Beginning in 1997 the FAMEX and HFE were

[3]The Canadian *Survey of Consumer Finances* is not like the U.S. survey of the same name. Rather, it is very similar to the U.S. *March Current Population Survey*.

[4]While the use of household surveys to study poverty is common, one possible concern is that such data do not provide an accurate picture of the tails of the (income or expenditure) distribution.

[5]For example, national expenditures calculated from these surveys match the National Accounts quite well. See Davies and Burbidge (1994).

replaced by the SHS, which collects information on both expenditures and durable stocks.

2.2. *Sample Definition and Weighting*

Our analysis employs the 1986, 1992 and 1996 editions of the FAMEX, 1985, 1993 and 1996 editions of the HFE, and the 1997, 1998, 1999 and 2000 editions of the SHS. The 1986 FAMEX treats the "spending unit" as the unit of analysis, while the later FAMEX and SHS surveys focus on the "household." To ensure comparability across time and surveys we limit the sample in all years and surveys to spending units or households that consist of a single "economic family."[6]

Throughout the analysis we restrict the sample to households with children. Further, we weight the data in all calculations by the product of the population weight provided by Statistics Canada and the number of children in the household. The combination of restricting the sample to households with children and then re-weighting each household by the number of children present results in a data set which is representative of the population of children. This is appropriate given that children themselves (and not their parents or the households they live in) are the focus of our analysis. Weighted and unweighted sample sizes are presented in Appendix 2, which is available on the second author's website.[7]

Unfortunately, the information on the age of household members is not entirely compatible across the different surveys. The best we can do is define a child as 17 and under in all years and surveys except for the 1996 FAMEX, in which we define a child as 15 years of age or under. Thus differences we find between 1996 and other years should be treated with caution as they may reflect in part the fact that the child population is defined differently in 1996. This is particularly unfortunate because 1996 and 1986 are very similar business cycle years and would make a very natural comparison. Instead, we emphasize comparisons between 1986 and 1998 or 2000.[8]

2.3. *Measures of the Resources Available to Children*

The approach followed in this paper is to focus on measures of the resources available to children. This choice is in part driven by data availability but also reflects a notion that this is the sensible place to begin any analysis of child poverty. We begin by looking at the net income, after taxes and transfers, of children's

[6]A group of individuals sharing a common dwelling unit and related by blood marriage or adoption. This criterion does not have a major impact on our analysis. The majority of multiple economic families have no children present, thus we only lose 785 families with children. Sensitivity analysis was performed on the inclusion/exclusion of these households. Results are similar; including these families lowers the rate very slightly in some years. This is perhaps an indication that living in multiple economic families is a method of improving circumstances.

[7]Appendices 2, 3 and 4 are available at www.economics.uwaterloo.ca/fac-Curtis.html.

[8]The national unemployment rate was 9.2 percent in 1986, 9.3 percent in 1996, 8.3 percent in 1998 and 6.8 percent in 2000. Of the years we study, 1992 is strikingly different; the national unemployment rate peaked at 11.4 percent before recovering through the middle of the decade.

households. Throughout, we deflate resources to account for differences in prices and needs, as will be discussed below. After a preliminary investigation of income we turn to expenditure as a measure of resources. Consumption (expenditure) may be a better indication of household, or individual, well-being. Individuals, or households, may be able to smooth the transitory fluctuations in income over time, thus maintaining household welfare, by saving or borrowing. If we area interested in household, or individual welfare then it is more appropriate to examine the distribution of consumption (expenditure) and thus we examine total household expenditure.[9]

In constructing total consumption an important question is what to do about housing. Housing expenditures may not be closely related to consumption of housing services. Rental payments are observed for households that rent, but regulation and imperfections in rental markets mean that these payments are not necessarily closely tied to the amounts of services consumed. For owners, the situation is even worse. The data contain information on mortgage payments and property taxes, as well as repair costs. Property taxes may be only loosely related to the consumption of housing services. Differences in mortgage payments may reflect differences in interest rates or loan parameters which are unrelated to the quantity of services consumed. Moreover, it is certainly not the case that mortgage free owner-occupiers are forgoing housing services.

A user cost approach is an alternative way to calculate housing expenditures of owners. However, when house prices are rising quickly and real interest rates are low, the user cost of housing—and hence the implied housing expenditures—can be negative. This is not an uncommon occurrence (see, for example, Crawford, 1994). It is certainly not the case that owners cease to benefit from housing services in these situations. Instead, we follow Pendakur (1998) and use simple regressions to impute the rent for all households (owners and renters). Imputed rents are based on a very small number of characteristics. As we shall see, a consequence of this may be to hide a considerable amount of inequality.

After examining total consumption, we examine food expenditures as well as housing conditions, and the ownership of selected durables by the households in which children live. There are several reasons to look at children's access to specific goods. First, it may be (as Mayer and Jencks, 1989, suggest), that some portion of society cares more about the access of children to "necessities" such as adequate food, clothing, and housing, than to resources in general. Second, the social inclusion (see, for example, Lock and Frank, 2004) and the health and inequality (see for example, Lynch *et al*., 2000) literatures argue that low income may lead to negative exposures and consumption decisions that deter the development of an individual's human capital and future capabilities. This seems particularly

[9]We define this to include expenditure on all food (at home and in restaurants), shelter (rented, owned, other accommodation, including water charges, heat, and hydro), household operations (communication, child care, laundry, cleaning, pet care, and household supplies), household furnishings and equipment (including services related to furnishings and equipment), transportation (operating expenses, rental vehicles, local commuter expenses, intercity transportation services), clothing, health care expenses, personal care supplies, equipment and services, recreational expenses (less recreational vehicles and outboard motors), home entertainment equipment and services, reading materials and other printed matter, and education (tuition, textbooks, supplies and services).

pertinent for children. If family resources are available only for necessities (food, clothing, etc) and not the "extras" important for successful child development (computer equipment, social and recreational activities (educational television, music, sports)), then children at the bottom of the distribution may not develop to their full capacity. Third, Eaton *et al*. (1999) discuss the possibility that consumption decisions affect the ability to socialize (either currently or in the future) and this affects our overall well-being. Children may be particularly vulnerable to this given the seriousness of peer pressure; those children without the goods and services considered "in" by their peers may experience social exclusion or bullying. Finally, results in the previous subsection necessarily assume that equivalent resources are equally distributed within the household;[10] by focusing on goods and services that may be of particular relevance to children (for example, food and computer equipment) we may get some idea of whether this assumption may be hiding important developments. In this sense, examining specific goods provides a very crude way to check on intra-household allocation.[11]

2.4. *Adjusting for Differences in Prices and Needs*

Children live in households which face different prices (across time and region). They also live in households that have different demographic composition, and thus can be reasonably assumed to have different needs. The traditional way to adjust for these differences is with price indices and equivalence scales.

Our base price index is a regional Stone Price index. That is, we take a mean-budget share weighted geometric average of all the price indexes for goods in our total expenditure bundle. The good specific price indices are also region specific, with Ontario 1992 as the base. Relative to the CPI, which is the most commonly used deflator and is an arithmetic mean, our geometric mean price index allows for greater substitution. It also takes account of regional differences in base period prices and in inflation, which the national CPI does not. Relative to price indices estimated via a demand system (such as Pendakur, 2001), our price index imposes homotheticity—since mean budget shares are used as the weights, inflation has the same effect on rich and poor. Our price deflators are presented in Appendix 3, available on the web (see note 7).

Our benchmark adjustment for differences in needs is to divide by the square root of household size, a standard, midrange, equivalence scale commonly used in the literature. An alternative approach to adjusting expenditures for prices and needs is to estimate a demand system and back out price and demographic

[10]The polar opposite assumption, that each member of the household has access to the resources (income) that she brings into the household is even less sensible; clearly some sharing of resources occurs. This is particularly the case when we are concerned with children, many of whom bring no resources into the household.

[11]There are also measures of expenditures on children's clothing and toys. Toys include any toys, games or hobby equipment purchased by the family, not just those purchased for children. An earlier version of the paper included analysis of children's clothing; however the data on clothing are weak and results inconsistent. As well, clothing has a wide unobserved price heterogeneity and expenditures on children's clothing may include or be dominated by parents' consumption decisions (e.g. purchasing designer over generic brand outfits).

deflators from the estimates. This is the procedure followed by Slesnick (1993) and Pendakur (2001). This integration of consumer theory and welfare economics with poverty analysis is theoretically very attractive, but the implementation can be controversial, and we do not pursue it here.[12]

2.5. *Measures of Poverty and Distribution*

Although there are a plethora of poverty measures available to researchers, for tractability, we have reported only a select few. Two poverty measures of the Foster *et al.* (1984) class are presented. These are FGT(0), the headcount ratio or *poverty rate* and FGT(1), the average normalised poverty gap, which we use as an indication of *poverty acuity* (Jha and Sharma, 2003). The FGT(1) encompasses both the poverty rate and the poverty gap among the poor, or *poverty depth*, so we report the latter as well. The FGT(a) measures are decomposable (across groups), which is the basis of our dis-aggregate analysis in Section 4.

Implementing poverty measures, including the FGT poverty measures that we employ, requires the definition of poverty line. Several "poverty lines" have been used in the literature; 0.5*equivalent median income, a relative measure, is a common choice and we have adopted it as well for our analysis. The merits of relative and absolute poverty lines have been discussed at length elsewhere, and we do not repeat them here. However, sensitivity analysis suggests that our results are quite robust to the choice of poverty line (Appendix 1). Note that our poverty line is half the median of the *entire population* (including adults); this reflects our belief that the appropriate question is how children are doing relative to all members of society.[13]

[12]While demand analysis is sufficient to identify theoretically coherent price indices, this is not the case for equivalence scales. As first emphasized by Pollak and Wales (1979) equivalence scales are not identified by information on demands alone; further assumptions are required. Researchers have made different assumptions to identify equivalence scales. Some identification schemes have been heavily criticized (again see Triest's (1998) discussion of the work of Jorgensen and Slesnick). Pendakur (2001) uses the apparently innocuous assumption that equivalence scales are "base independent" meaning that they are the same for rich and poor. As has been pointed out by Browning (1992) and Donaldson and Pendakur (2004), base independence seems unlikely on a priori grounds. For example, if any goods that are consumed only by households with children are either luxuries or necessities (which seems likely), then adding a child to a childless household must have different costs for rich and poor. Indeed it turns out that while equivalence scales cannot be identified by demand data alone, base independence can be tested on demand data. Most tests of base independence reject. Pendakur (1999) presents semi-parametric test of base independence. He does not reject base independence of equivalence scales between households with different (positive) numbers of children or among childless households of different size. However, crucially, he does reject base independence of equivalence scales between household that do and do not have children. This is crucial for us because we wish to define child poverty with respect to the consumption or income levels of the entire population (including adults living in households without children).

[13]We construct our poverty line using the entire population as we are interested in how children are doing compared to all other groups in the population. If we constructed the poverty line using only families with children we would be able to reduce child poverty by transferring income from families with children to families without children, thus lowering the median income (and poverty line) for families with children and increasing it for those without. With such a poverty line we could (hypothetically) eliminate child poverty by transferring all income from families with children such that the median income was zero and no families with children would lie below the poverty line.

TABLE 1

INCOME AND EXPENDITURE[1]

Year	Median[2]	Poverty Rate[3] FGT(0) [Standard error][4]	Poverty Depth[5] [Standard error]	Poverty Acuity[6] FGT(1) [Standard error]
Net income[7]				
1986	1,700	0.1254 [0.0084]	219.13 [8.86]	0.0296 [0.0026]
1992	1,711	0.1260 [0.0071]	188.80 [6.93]	0.0254 [0.0018]
1996	1,820	0.1376 [0.0075]	243.70 [8.64]	0.0342 [0.0022]
1997	1,676	0.1508 [0.0071]	207.15 [7.63]	0.0343 [0.0021]
1998	1,691	0.1438 [0.0073]	214.00 [7.77]	0.0332 [0.0021]
1999	1,704	0.1368 [0.0074]	211.13 [7.92]	0.0312 [0.0020]
2000	1,759	0.1234 [0.0079]	226.57 [10.26]	0.0298 [0.0025]
1998–1986	–9	0.0184 [0.0111]	–5.13 [11.78]	0.0036 [0.0033]
2000–1986	59	–0.0020 [0.0115]	7.44 [13.56]	0.0002 [0.0036]
Total expenditure[8]				
1986	1,230	0.0443 [0.0060]	89.90 [11.66]	0.0060 [0.0012]
1992	1,209	0.0244 [0.0032]	62.86 [6.49]	0.0024 [0.0004]
1996	1,289	0.0493 [0.0047]	72.08 [6.19]	0.0052 [0.0007]
1997	1,168	0.0425 [0.0040]	79.44 [6.60]	0.0053 [0.0007]
1998	1,182	0.0405 [0.0041]	76.58 [7.14]	0.0049 [0.0007]
1999	1,181	0.0441 [0.0046]	88.09 [8.74]	0.0060 [0.0009]
2000	1,192	0.0444 [0.0055]	71.05 [6.18]	0.0049 [0.0007]
1998–1986	–48	–0.0038 [0.0073]	–13.32 [13.67]	–0.0011 [0.0014]
2000–1986	–38	0.0001 [0.0081]	–18.85 [13.20]	–0.0011 [0.0014]

Notes:

[1]1986–1996 Family Expenditure Survey (FAMEX), 1997–2000 Survey of Household Spending (SHS), Monthly 1992 Ontario dollars/(square root of household size). Reweighted by (households weights × no. of children in household).

[2]Median income or expenditures for families with children.

[3]Proportion at or below the poverty line Poverty line is half the median of the *complete* population, weighted by *household weights*.

[4]Standard errors are heteroscedasticity robust, take into account the survey weights, but do not fully account for the clustered nature of the sampling (Statistics Canada does not supply clustering information in the public use files).

[5]The amount of expenditure it would take to raise the average family in poverty out of poverty (to the poverty line).

[6]Average normalized poverty gap (difference between poverty line and given measure as a proportion of the poverty line).

[7]Equivalent income after taxes and transfers.

[8]Equivalent total household expenditure.

3. THE ECONOMIC RESOURCES AVAILABLE TO CHILDREN

3.1. *Flows of Income and Consumption*

We begin, in Table 1, by looking at estimates of child poverty in Canada in 1986, 1992, and 1996 through to 2000 and comparing net income and total expenditure. For each of these resources we present the median income or expenditure, the poverty rate (FGT(0)), the depth of poverty and poverty acuity (FGT(1)) in columns 2 through 5 respectively. All dollar amounts are for the base year and region in our price index (Ontario, 1992). Robust standard errors are recorded in square brackets.

The first panel presents the net income analysis. The median net income (column 2) rises from 1700 in 1986 to 1820 in 1996, falls to 1676 in 1997 and then

climbs slowly for the next three years to 1759 in 2000. The corresponding poverty rate increases from 1986 to peak at just over 15 percent in 1997 and then falls back to 1986 levels by 2000. Poverty depth peaked at $243.70 in 1996 and is slightly higher in 2000 than it was in 1986; acuity decreases from 0.030 in 1986 to 0.025 in 1992, increases almost a full percentage point, to 0.034, by 1997 and then settles back to 1986 levels by 2000. The penultimate row in the panel reports changes from 1986 to 1998 and the last row changes from 1986 to 2000. When measured using net income, the poverty rate increased between 1986 and 1998 (although the increases are not statistically significant) and then declined to 1986 levels in 2000. The depth of poverty decreased slightly between 1986 and 1998 and then increased again to 2000, the changes were not significant. Finally, poverty acuity increased over the first period and then declined somewhat over the next but, again, changes were insignificant in magnitude and statistically.

When we turn to changes in total expenditure (second panel) over the study period we see a substantial decline in poverty rates between 1986 and 1992, increasing into 1996 with some volatility between 1996 and 2000 but again, levels are essentially identical to 1986 levels by 2000. Patterns are similar for the FGT(1) and poverty depth with 1998 and 2000 levels statistically identical to 1986 levels. Our findings seem in contrast to Pendakur (2001) who finds child consumption poverty levels to have increased substantially from 1986 to 1998. However, the 1998 rates are substantially the same in the two studies, the difference in trends reflects differences in the 1986 consumption poverty rates.[14] Thus although the incidence of consumption poverty among children is much less than the incidence of income poverty, both exhibit considerable stability between 1986 and 2000.

A reasonable question is whether the small changes from 1986 to 1998 reflect only a business cycle effect, as the aggregate unemployment rate was somewhat lower in 1998 than in 1986, and it arguably was closer to the peak of the business cycle (see note 6). However, both Pendakur (2001) and ourselves find that consumption poverty among children was at it its lowest in 1992—the trough of the business cycle and we find that poverty rates increased slightly (but insignificantly) in 2000 even as the unemployment rate decreased.

3.2. *Flows of Consumption Using Alternative Measures of Housing Expenditure*

Table 2 reports our investigation of the sensitivity of consumption poverty (among children) to the treatment of housing. Recall that our base case (Table 1) uses imputed rents. The first panel of Table 2 uses instead the reported shelter expenditures in the FAMEX and SHS. This includes rental payments for renters, and mortgage payments, taxes and repair expenses for owners. The shortcomings of this measure were discussed previously, but it is reported here for illustrative purposes. The second panel of Table 2 repeats the analysis with housing simply excluded from the consumption measure. We label this "total non-housing

[14]Pendakur finds that the rate of consumption poverty among children rose from 3.3 percent in 1986 to 4.2 percent in 1998, while we find that it fell from 4.4 percent to 4.1 percent between 1986 and 1998 and then rose back to 4.4 percent in 2000.

TABLE 2

TOTAL EXPENDITURE[1] USING DIFFERENT HOUSING MEASURES

Year	Median[2]	Poverty Rate[3] FGT(0) [Standard error][4]	Poverty Depth[5] [Standard error]	Poverty Acuity[6] FGT(1) [Standard error]
Total expenditure, includes shelter expenditure[7]				
1986	1,308	0.0548 [0.0065]	119.41 [12.32]	0.0095 [0.0016]
1992	1,332	0.0412 [0.0042]	77.70 [6.54]	0.0046 [0.0006]
1996	1,336	0.0546 [0.0050]	80.08 [6.00]	0.0063 [0.0007]
1997	1,310	0.0672 [0.0051]	113.89 [8.03]	0.0113 [0.0013]
1998	1,318	0.0574 [0.0045]	103.00 [6.56]	0.0086 [0.0009]
1999	1,334	0.0648 [0.0053]	119.99 [10.34]	0.0111 [0.0014]
2000	1,344	0.0616 [0.0064]	116.51 [7.86]	0.0102 [0.0012]
1998–1986	10	0.0026 [0.0078]	−16.41 [13.96]	−0.0009 [0.0018]
2000–1986	36	0.0068 [0.0091]	−2.90 [14.61]	0.0007 [0.0020]
Total non-housing expenditure[8]				
1986	950	0.0834 [0.0074]	100.88 [7.04]	0.0169 [0.0019]
1992	916	0.0704 [0.0052]	72.39 [4.62]	0.0106 [0.0010]
1996	917	0.0966 [0.0065]	103.76 [5.27]	0.0211 [0.0018]
1997	827	0.0937 [0.0058]	92.32 [4.58]	0.0199 [0.0016]
1998	832	0.0894 [0.0061]	88.81 [5.63]	0.0181 [0.0017]
1999	828	0.0914 [0.0061]	94.35 [5.37]	0.0196 [0.0018]
2000	846	0.0885 [0.0073]	89.21 [5.58]	0.0176 [0.0019]
1998–1986	−118	0.0060 [0.0096]	−12.066 [8.98]	0.0012 [0.0025]
2000–1986	−104	0.0051 [0.0104]	−11.67 [9.01]	0.0007 [0.0027]

Notes:

[1]1986–1996 Family Expenditure Survey (FAMEX), 1997–2000 Survey of Household Spending (SHS), Monthly 1992 Ontario dollars/(square root of household size). Reweighted by (households weights × no. of children in household).

[2]Median income or expenditures for families with children.

[3]Proportion at or below the poverty line. Poverty line is half the median of the *complete* population, weighted by *household weights*.

[4]Standard errors are heteroscedasticity robust, take into account the survey weights, but do not fully account for the clustered nature of the sampling (Statistics Canada does not supply clustering information in the public use files).

[5]The amount of expenditure it would take to raise the average family in poverty out of poverty (to the poverty line).

[6]Average normalized poverty gap (difference between poverty line and given measure as a proportion of the poverty line).

[7]Total expenditure using shelter expenditures found in the data.

[8]Total expenditure does not include a shelter expenditure.

expenditure" (effectively, this is "nondurable consumption").[15] The results indicate that consumption including imputed rents exhibits significantly less poverty and inequality than the other two measures, and particularly less than nondurable consumption. The impact on time patterns is less clear, and the basic story of similar poverty at the beginning and end of our study period is not changed (none of the measures exhibits a statistically significant change).

[15]Non-housing consumption could be a welfare measure if households had homothetic preferences over housing and non-housing consumption (although within these categories preferences could be non-homothetic). In that case, non-housing consumption is proportional to total consumption. This is a strong assumption. On the other hand, total expenditure can be justified as a welfare measure only if within period allocation is unconstrained (which in turn requires frictionless adjustment of housing consumption, for example). This is also a strong assumption.

TABLE 3

FOOD EXPENDITURES[1]

Year	Median[2]	Poverty Rate[3] FGT(0) [Standard error][4]	Poverty Depth[5] [Standard error]	Poverty Acuity[6] FGT(1) [Standard error]
1986	289	0.0519 [0.0057]	30.29 [2.63]	0.0106 [0.0014]
1992	279	0.0491 [0.0043]	29.15 [1.86]	0.0100 [0.0010]
1996	269	0.0662 [0.0054]	28.14 [1.87]	0.0134 [0.0014]
1997	261	0.0582 [0.0042]	25.23 [1.42]	0.0110 [0.0010]
1998	264	0.0531 [0.0044]	24.31 [1.63]	0.0095 [0.0010]
1999	262	0.0626 [0.0051]	27.13 [1.74]	0.0125 [0.0013]
2000	262	0.0541 [0.0052]	26.17 [2.17]	0.0105 [0.0015]
1998–1986	–25	0.0012 [0.0077]	–5.98 [3.41]	–0.0012 [0.0017]
2000–1986	–27	0.0022 [0.0072]	–4.12 [3.10]	–0.0001 [0.0021]

Notes:

[1]Food expenditures: 1986–1996 Family Expenditure Survey (FAMEX), 1997–2000 Survey of Household Spending (SHS), Monthly 1992 Ontario dollars/(square root of household size). Reweighted by (households weights × no. of children in household).

[2]Median income or expenditures for families with children.

[3]Proportion at or below the poverty line. Poverty line is half the median of the *complete* population, weighted by *household weights*.

[4]Standard errors are heteroscedasticity robust, take into account the survey weights, but do not fully account for the clustered nature of the sampling (Statistics Canada does not supply clustering information in the public use files).

[5]The amount of expenditure it would take to raise the average family in poverty out of poverty (to the poverty line).

[6]Average normalized poverty gap (difference between poverty line and given measure as a proportion of the poverty line).

We have also performed a series of other sensitivity tests, including alternative price indices, equivalence scales and poverty lines. These are summarized in Appendix 1 and full details are available in Crossley and Curtis (2003).

3.3. *Food*

Next we examine food expenditures as a measure of poverty. In the material deprivation literature, food expenditures are often compared to a minimum standard, such as the "thrifty budget" published by the U.S. Department of Agriculture. Historically, no widely accepted costing of a nutritional standard has been available for Canada.[16] In our examination of food expenditures, in the next table, we continue to define poverty relatively. Food poverty is defined as experiencing half the median equivalent expenditure on food.

The results, presented in Table 3, show that, so defined, food poverty is both slightly more prevalent and slightly more intense than total expenditure poverty. The food poverty rate peaks in 1996 at 6.6 percent, shows substantial volatility through the late 1990s and remains higher than 1986 levels in 2000; the depth of food poverty improves from 1986 to 1998 and then worsens again but levels are about 14 percent lower in 2000 (although the difference is not statistically significant). The acuity of poverty is essentially the same in 2000 as it was in 1986.

[16]Statistics Canada has recently developed a market basket poverty measure.

TABLE 4

MATERIAL HARDSHIP AMONG CHILDREN[1,2]—HOUSING CONDITIONS

	HFE			SHS			
Percent of children who:	1985	1993	1996	1997	1998	1999	2000
Live in rented accommodation	26.0	27.5	27.7	26.8	26.2	28.1	27.8
Live in multiple family dwellings[3]	25.2	24.2	25.0	25.2	25.6	26.7	27.8
Live in crowded accommodation[4]	15.4	11.9	12.1	12.0	12.2	11.9	12.0
Share bedrooms[5]	36.1	32.6	32.9	29.9	30.1	31.1	28.9
Have no private bathroom in household	0.5	0.1	0.1	–	–	–	–
Live in dwelling that needs major repairs	–	12.4	9.6	10.0	9.4	10.9	10.1
Live in dwelling that needs minor repairs[6]	–	17.7	18.1	19.7	20.3	19.3	19.6

Notes:

[1]Households with children only, weighted by (households weights × no. of children in household).

[2]1985, 1993 and 1996 data are from respective years of the Household Furnishings and Equipment Survey. 1997–2000 data are from the Survey of Household Expenditures.

[3]Single family dwellings include single and semi-detached houses, multiple dwellings include row housing, duplexes, apartments, etc.

[4]Less than or equal to one room per person.

[5]Less than one bedroom per child.

[6]Minor repairs other than regular maintenance.

It is surprising that, when compared to total consumption poverty, food poverty is slightly more prevalent and more acute; food is a necessity and, as such, we expected it to be more equally distributed than total expenditure. However, a comparison of Tables 2 and 3 reveals, that, as one would expect, food poverty is less prevalent and less acute that poverty measured by total non-housing expenditure. This suggests that rent imputation has a significant "equalizing" effect in our base measure of consumption.

To summarize: for all consumption *flow* measures there was some volatility over the period with poverty measures improving between 1986 and 1992, worsening substantially between 1992 and 1996 or 1997 and then settling back to close to 1986 levels by 2000; for no measure was there any substantial improvement when comparing 2000 to 1986.

3.4. *Material Deprivation*

We now use the HFE and SHS to examine the distribution of housing conditions and durables stocks across children. We focus, in general, on housing conditions and durable stocks available to all living in the household and particularly on items in which children would be interested and find important for their lives such as multiple family dwellings (that may not offer adequate yard space for children to play), shared rather than private bedrooms, vehicles for transportation to activities and electronic equipment such as televisions and computers. Table 4 reports the housing conditions that Canadian children experienced in 1985, 1993, and 1996 through to 2000 and Table 5 reports the durables they had access to, for the same years.

Table 4 suggests that the distribution of housing conditions was very stable over the study period. Between 1985 and 2000, the number of children living in multiple family dwellings, which may not offer yard space for safe play, increased

TABLE 5

MATERIAL HARDSHIP AMONG CHILDREN[1,2]—DURABLES STOCKS

	HFE			SHS			
Percent of children with:	1985	1993	1996	1997	1998	1999	2000
No telephone	1.5	0.8	1.2	1.3	1.1	0.8	0.8
No automatic washing machine	8.3	8.2	8.5	7.6	7.6	8.6	8.8
No automatic clothes dryer	15.1	10.6	10.4	10.0	9.5	10.2	10.5
No color television	4.2	0.9	0.9	0.8	0.6	0.5	0.9
No refrigerator	0.4	0.3	0.2	0.0	0.0	0.1	0.9
No microwave oven	56.9	9.5	8.0	6.4	5.4	5.2	3.5
No freezer	27.3	27.0	31.2	28.9	30.1	29.8	32.0
No dishwasher	48.4	42.1	39.3	39.0	37.8	39.6	35.8
No air conditioning	83.2	74.3	70.3	68.1	65.2	63.2	64.2
No cable television	34.6	27.1	26.9	25.4	26.2	25.8	27.7
No VCR	50.6	7.8	5.3	3.4	2.7	2.8	2.7
No CD player	–	50.8	28.8	19.0	18.1	14.8	12.8
No computer	–	64.6	48.2	41.0	36.1	30.4	24.6
No internet	–	–	–	63.8	55.5	53.5	40.3
No vehicle (owned or leased)	–	9.0	9.3	14.7	13.0	14.5	14.0

Notes:

[1]Households with children only, weighted by (households weights × no. of children in household).

[2]1985, 1993 and 1996 data are from respective years of the Household Furnishings and Equipment Survey. 1997–2000 data are from the Survey of Household Expenditures.

slightly from just over 25 percent to almost 28 percent. The numbers for rented accommodation are similar. The number of children who lived in "crowded" accommodation (one room or less per person in the household) or who do not have their own bedroom, perhaps indicating lack of privacy or indoor play areas, declined over the period. In 1985, 15.4 percent of children lived in crowded accommodation, that declined to 12 percent by 1996 and remained at that level for the remainder of the study period. The substantially larger fraction of children who shared a bedroom declined from 36 percent to 29 percent between 1985 and 2000; however, more than one quarter of all children shared a bedroom in 2000. Safety may be an issue in housing that requires repairs. Relative to 1993, the fraction of children in housing that required major repairs was about two percentage points lower in 2000, but the fraction of children living in housing that required minor repairs increased by almost 2 percentage points in that period. These results indicate that little has changed across the study period, with improvements in some measures and deterioration in others. Depending on the measure used, between one tenth and one quarter of all children live in housing that may not offer privacy, space or a safe environment for children to live and play.

Finally, Table 5 reports on durables stocks. Some stocks, mainly major appliances, are very stable over the period, particularly from 1993 to 2000. We do note some big changes—for example, the fraction of children living in a household with a VCR rose from 49 percent to 97 percent between 1985 and 2000, and the fraction with a microwave oven from 43 percent to 97 percent over the same period. While these changes may represent the diffusion of technology and falling prices, they may be important in the context of social inclusion. From a social inclusion and human capital point of view, it is worth noting that almost 25 percent of children

do not have access to a computer and 40 percent do not have access to the internet in 2000. Computer access is becoming a necessity in children's educational and recreational activities; children who do not have the opportunity to develop necessary computer skills will almost certainly be left behind. A family vehicle may also be important from a social inclusion point (transporting children to sporting and social events); the percentage of children without a family vehicle was 5 percent higher in 2000 than in 1993.

4. Dis-Aggregated Analysis and Socioeconomic Developments

4.1. *Background*

Although the statistics on child poverty in Canada indicate that child poverty did not diminish, over the period in question, the situation could have been worse. Poverty trends, according to some researchers, have been ameliorated by recent demographic shifts. The majority of poor children have young parents. The declining labor force participation rates of young adults, particularly males, would have resulted in considerably higher child poverty rates had families not altered fertility patterns and work habits. Families postponed childbearing, had smaller families, had more members working, and worked more hours (Dooley, 1994; Picot and Myles, 1996).

However, Zyblock (1996) alleges that family demographic shifts actually exacerbated the problem. Eighteen percent of children under the age of 18 lived in poverty in 1992,[17] virtually the same rate as 1975. The rates of poverty within lone- and two-parent families fell during the period but the number of lone-parent families increased. Given that the rate of poverty within lone-parent families was 4.9 and 5.1 times that of two-parent families in 1975 and 1992, respectively, the lower risk of living in poverty within a given family type was offset by the increase in the proportion of children living in lone-parent families (see also Dooley, 1994; Hatfield, 1996).

To investigate these issues we carried out a series of decompositional analyses. In particular, we partition the population of children into groups and then examine how changes in within-group poverty, and changes in the composition of the population (that is, the share in each group) contribute to the overall development of child poverty between 1986 and 1998; we compare 1986 to 1998 because they are at points more similar in the business cycle than 1986 and 2000, the last year of our study. The first partitions we consider are demographic: age of head of household, and family type. We then examine the labor force activity of adults in the household. This is done separately for children in lone-parent and two-parent families.

Throughout we use our base resource measure (total expenditure, including imputed rent, adjusted by the square root of household size and a regional Stone Price index) and base poverty line (half of the median of adjusted expenditures of the full population). We present FGT(1) (poverty acuity) as this measure captures both the poverty rate and the depth of poverty; complete results are presented in Appendix 4, available on the web (see note 7). Some of the issues we address here

[17]Based on Statistics Canada's Low-Income Cutoff, 1986 base.

were considered by the authors noted above, but not with a consumption (expenditure) based poverty measure or for the most recent years covered by our analysis.

4.2. *Demographics*

We begin with Table 6 which documents child poverty acuity (FGT(1)) partitioned by type of household. We consider three family types: children living with couples, children living with lone parents, and children living in families denoted "other." The other category includes situations like a lone mother with a child living with her parents or an extended family member, a grandparent for example, living with the family. The top panel reports the FGT(1) decomposition by family type, the bottom panel by age of head of household. The first column of Table 6 gives the share of the child population living in each type of household in 1986. Unsurprisingly, the vast majority of children lived in two-parent family households in 1986, about 11 percent lived in lone-parent families and only 5 percent lived in other situations.

The second column of the table gives the FGT(1) measure for each family type. The table illustrates that there were large differences in child poverty by family type in 1986. The FGT(1) in lone-parent families was 0.0185 while it was under 0.005 for the other two family types. The third and fourth columns of Table 6 report the same measures for 1998. The fifth and sixth columns report the changes in shares and poverty by family type. The share of children living in two-parent families fell from 85 percent in 1986 to 78 percent in 1998, the share of children in lone-parent families grew from 11 percent to over 14 percent and the share in other families grew by almost 50 percent from about 5 percent to 7.4 percent over the period. The growth in the share of lone-parent families was offset by a fall in the FGT(1) from 0.0185 to 0.0139.

The final four columns of Table 6 decompose the change in child poverty between 1986 and 1998 into that part which can be attributed to changes in the shares of family types, that part which can be attributed to changes in the poverty measure within the family types, and a residual. In terms of contributions to the overall change in child poverty, the decomposition indicates that the decreases in the FGT(1) among children living with couples lead to substantial decreases in overall child poverty. Although the change in the FGT(1) was larger in the "lone-parent" group, the "couple" group is much larger so that its contributions were more important to the overall change in the state of child poverty (the change in the "couple" group is also more important in the case of the poverty rate and the depth of poverty—see Appendix 4).

These improvements were offset by two factors: the rise in the share of children living with lone parents, and the increase in share and poverty among the "other" group. This finding—that poverty among children with lone parents fell but that, at the same time, a rise in the share of children in such circumstances exacerbated poverty, echoes the findings of Zyblock (1996), the move of families into "other" non-traditional living states and the 50 percent increase in poverty rates in this group is also worth noting.

The bottom panel of Table 6 summarizes a similar analysis, with the population of children partitioned by age of household head rather than family type, and

TABLE 6

POVERTY ACUITY (FGT(1)) DECOMPOSITION BY FAMILY TYPE AND AGE OF HOUSEHOLD HEAD

	1986		1998		Change, 1986–98		Decomposition: Change in Poverty Acuity Due to Change in:			
	Share	FGT(1)	Share	FGT(1)	Share	FGT(1)	Share	FGT(1)	Residual	Sum
By family type										
Couple	0.8542	0.0046	0.7834	0.0020	–0.0708	–0.0026	–0.0003	–0.0022	0.0002	–0.0024
Lone parent	0.1056	0.0185	0.1425	0.0139	0.0369	–0.0046	0.0007	–0.0005	–0.0002	0.0000
Other	0.0492	0.0033	0.0741	0.0086	0.0249	0.0053	0.0001	0.0003	0.0001	0.0005
Total		*0.0061*		*0.0042*		*–0.0019*	0.0004	–0.0024	0.0001	–0.0019
By age of household head										
<25	0.0395	0.0200	0.0314	0.0099	–0.0081	–0.0101	–0.0002	–0.0004	0.0001	–0.0005
26–35	0.3739	0.0060	0.3060	0.0052	–0.0679	–0.0009	–0.0004	–0.0003	0.0001	–0.0007
36–55	0.5513	0.0044	0.6437	0.0034	0.0925	–0.0010	0.0004	–0.0006	–0.0001	–0.0003
>55	0.0353	0.0148	0.0189	0.0040	–0.0164	–0.0107	–0.0002	–0.0004	0.0002	–0.0004
Total		*0.0060*		*0.0041*		*–0.0019*	–0.0004	–0.0017	0.0002	–0.0019

reveals that poverty is much more severe among children whose household is headed by a very young person (under 25 years of age) or an older person (over 55 years of age). Indeed in 1986 the FGT(1) among such children was approximately three times more than that among children in a household headed by a person between 25 and 55 years of age. The share of children in these high risk groups declined between 1986 and 1998, and the experience of poverty in both groups declined significantly over that period, particularly for the older group. The decomposition results indicate that, among groups defined by age of household head, both changes in the composition of the population and changes in within-group poverty contribute to the small overall decrease in poverty acuity. The experience of poverty among children with household heads between 25 and 55 was largely unchanged, rising or falling slightly depending on the poverty measure used.

4.3. *Labor Force Activity of Adult Household Members*

We next consider developments in the labor force activity of the adults that children live with. Table 7 follows the a similar layout to Table 6. The top panel of Table 7 focuses on children living with two parents. Results presented in the previous section indicate that poverty acuity fell for this group between 1986 and 1998. The mean poverty gap and the depth of poverty also fell over the same period. This group is further partitioned into six groups, defined by the labor force activity of the parents:[18] (1) both parents worked full year; (2) one parent worked full year and one part year; (3) one parent worked full year and the other did not work; (4) both parents worked part year; (5) one parent worked part year and the other did not work; and (6) neither parent worked. The largest group is children in households in which one parent worked full year and one part year; the shares of children in household in which both parents worked full year and in households in which one parent worked full year and the other did not work are the next largest groups. Only about 2 percent of two-parent children lived in a household in which neither parent worked.

Unsurprisingly, there is enormous variation across these groups in the acuity of poverty, and it is more or less decreasing in the amount of labor force activity of the parents. In 1986, the FGT(1) was 0.0002 among children living in a household in which both parents were present and worked full year. On the other hand, in 1986 the FGT(1) was 0.05 among children living in a household in which both parents were present but neither worked; this fell to 0.03 by 1998, a very large change in magnitude. However, because this group was such a small share of the population of children, these improvements had very little impact on overall child poverty.

There appears to have been a decline in the number of children living in households in which both parents were present but only one worked, and an increase, of similar magnitude, in the share of children in households where both parents were present and worked full year. This shift contributed a large part to the reduction of poverty among children living with couples, as did a decline in within-group poverty for children living in households in which both parents were present but only one worked.

[18]The FAMEX data include a measure of weeks work rather than hours worked, thus we report full-year vs. part-year work rather than full-time vs. part-time.

TABLE 7

Poverty Acuity (FGT(1)) Decomposition by Labor Force Activity and Family Type

	1986		1998		Change, 1986–98		Decomposition: Change in Poverty Acuity Due to Change in:			
	Share	FGT(1)	Share	FGT(1)	Share	FGT(1)	Share	FGT(1)	Residual	Sum
Couples with children										
Both full year	0.175	0.0002	0.248	0.0006	0.0729	0.0004	0.0000	0.0001	0.0000	0.0001
1 full year, 1 part year	0.349	0.0002	0.348	0.0024	–0.0006	0.0022	0.0000	0.0008	0.0000	0.0008
1 full year	0.211	0.0100	0.135	0.0032	–0.0761	–0.0068	–0.0008	–0.0014	0.0005	–0.0017
Both part year	0.117	0.0034	0.131	0.0038	0.0145	0.0004	0.0000	0.0000	0.0000	0.0001
1 part year	0.129	0.0186	0.116	0.0195	–0.0130	0.0009	–0.0002	0.0001	0.0000	–0.0001
Both not working	0.020	0.0488	0.022	0.0315	0.0024	–0.0173	0.0001	–0.0003	0.0000	–0.0003
Total		*0.0060*		*0.0049*		*–0.0011*	–0.0008	–0.0008	0.0005	–0.0011
Lone parents										
Full year	0.062	0.0000	0.077	0.0158	0.0150	0.0158	0.0000	0.0010	0.0002	0.0012
Part year	0.501	0.0036	0.582	0.0030	0.0807	–0.0006	0.0003	–0.0003	0.0000	–0.0001
Not working	0.437	0.0382	0.342	0.0345	–0.0951	–0.0037	–0.0036	–0.0016	0.0004	–0.0049
Total		*0.0185*		*0.0148*		*–0.0037*	–0.0033	–0.0009	0.0005	–0.0037

The bottom panel of Table 7 performs a similar analysis for children living with lone parents. Here there are only three subgroups: (1) the parent worked full year, (2) part year, or (3) not at all. The largest groups are the latter two; in both 1986 and 1998, less than 8 percent of children living with a lone parent experienced that parent working full year. As with two-parent families, there are big differences in poverty across groups defined by labor force activity. In the 1986 sample, there was no poverty among children living with a lone parent who worked full year (based on a small number of observations). However, if the parent worked part year the FGT(1) was 0.004 and if the parent did not work it was 0.04. Both the share of children living with a lone parent who did not work and the within group poverty for this group fell dramatically by 1998. These two changes essentially drove all the improvement in poverty among children living with a lone parent.

In sum, the analysis suggests that there is something to the idea that socio-demographic changes may have blunted the effect of policy on child poverty in aggregate. When the data are dis-aggregated, numerous "successes" are apparent. Poverty fell substantially among several high risk groups, such as children living with lone parents or in households headed by a person under 25 or over 55 years of age. In some cases improvements were offset by demographic changes (poverty fell among children living with lone parents, but at the same time, the share of children in this high risk group rose) or by small increases in the poverty rates of other, larger groups (poverty rates rose very slightly among children living in households headed by a person between 25 and 55 years of age, but because this group includes 90 percent of children, these increases offset improvements among other children).

In other cases, it was simply the case that the group was too small for substantial improvements in within-group poverty to make much impact on aggregate child poverty. For example, poverty among children living with two parents who did not work at all that year fell by 11 percentage points between 1986 and 1998. However, this group represented only 2 percent of children in 1986 so that, had nothing else changed, this would have led to a drop in the aggregate child poverty less than half a percentage point. In 1986, the poverty rate among children living with a lone parent was 17.3 percent compared to 2.9 percent among children living with a couple. At the same time, more than half (56.2 percent) of the poor children lived with couples. This illustrates that policies which are tightly targeted on high-risk groups may have large impacts on those groups without having much impact on aggregate outcomes. This is reported only as a matter of fact, and *not* as an argument for or against the tight targeting of poverty policies. It is not obvious that the aggregate child poverty rate should be the only object of policy interest. Indeed the dis-aggregated analysis demonstrates that in 1998 it was still the case that certain groups of children had a very high risk of poverty. This in itself may be an independent policy concern.

5. Summary and Conclusions

This paper has presented a "case study" of Canada's "war" against child poverty. Despite the stated political priority of eliminating child poverty, the

recent literature indicates child poverty in Canada has been increasing over time. The failure to meet this national priority poses something of a puzzle, particularly in light of the success of other targeted anti-poverty agenda, such as drastic reduction in poverty among the senior population that had previously been achieved in Canada.

We took a very detailed look at changes in the resources available to children, particularly less fortunate children, over the decade and a half from 1986 to 2000 using Canadian micro data. This decade and a half captures the date of the all party motion of parliament to eliminate child poverty, several changes in policy addressed at reducing child poverty and the year that child poverty was to have been eliminated. By characterizing the distribution of resources over the period, and by considering a range of resource measures we assessed the role of measurement issues in the apparent persistence of child poverty. By decomposing poverty across different population subgroups, and by examining changes in expenditure across the distribution, we evaluated the role of socioeconomic developments.

Our findings are as follows. Measured by consumption (expenditure), the distribution of resources available to children is very stable. Unsurprisingly, poverty is lower when measured with consumption (expenditure) than when measured with income. Poverty is quite stable across the period using net income or expenditures. Comparisons of food consumption poverty, nondurable consumption poverty and total consumption poverty reveal differences in levels but not in trends; the use of imputed rents to measure housing consumption may have a spurious equalizing effect). When we examine durable goods, again we find that poverty is quite stable across the period; however, depending on the measure a substantial fraction of children are "doing without" what most would consider essentials—privacy, safe environments to live and play, computers, internet, and transportation.

Our decompositional analysis indicates offsetting demographic and socioeconomic shifts. A decrease in the poverty rates of children living in lone-parent families is offset by an increase in the proportion of children in this group. Decreases in the poverty rates and shares of "younger" and "older" families is offset by an increase in the share and poverty rate of children living in "middle-aged" families. Thus socio-demographic changes may account for some of the lack of decline in poverty rates.

Importantly, by no measure do we see any improvements in child poverty. Thus we still have the "puzzle" given the stated policy priority. These results seems robust to alternative measurement approaches and while socioeconomic shifts may be part of the story our dis-aggregate analysis suggests that they cannot be the entire story. If the persistence of child poverty in Canada cannot be attributed to measurement or to socioeconomic developments, then the third class of explanations are those to do with policy. Policies may be poorly designed, poorly targeted, of inadequate scale, or have their impact mitigated by coincident offsetting changes in other policies. This is an important topic for future research.

Some general lessons can be gleaned from our analysis of Canada's inability to eliminate or even substantially reduce measured child poverty. Trends in poverty seem to be fairly robust to different measures of poverty, although levels are not. The handling of housing expenditures in expenditure/consumption mea-

sures is important, and further work on the measurement of housing consumption for the analysis of poverty and inequality might be fruitful. Socio-economic, demographic and policy changes will all affect poverty—policy makers must be aware of the interactions between them. Policies tightly targeted at high-risk groups may have large impacts on those groups without having much impact on aggregate outcomes if the group is small relative to others. This does not mean that such policies are without merit: the aggregate poverty rate may not be the only object of policy interest, and within group levels of poverty may be an independent policy concern.

Appendix 1: Sensitivity Analysis

Throughout our analyses, we considered the possibility of the sensitivity of our poverty estimates to some of our measurement choices. Some results of the sensitivity analyses have been mentioned previously (the measurement of housing expenditure for example). We summarize the main results here (for a complete exposition see Crossley and Curtis, 2003). In particular, we examined whether our choices of equivalence scale, price index and poverty line had an impact on our results. We investigated our choices one at a time, so that when we vary the price index, for example, we use the "base" equivalence scale and poverty line.

The first sensitivity test was alternative poverty lines; we considered half the median of equivalent resources in 1986 as an absolute poverty line and the absolute poverty line used by Pendakur (2001) (which in turn was derived from Sarlo, 1996). The bottom line is that neither of these alternatives makes very much difference. The levels of poverty are very similar to what we estimated with a half median (relative) poverty line.

The three alternative equivalence scales that we considered were the OECD equivalence scale ($1.0 + 0.7 \times$ [no. adults $- 1$] $+ 0.5 \times$ [no. children]), the equivalence scale estimated by Pendakur (2001) ([no. adults $+ 0.91 \times$ [no. children]]$^{0.42}$), and household size (which results in per capita expenditure). Per capita total expenditure leads to substantially higher estimates of child poverty and a slight increase in child poverty over the entire period of the study. The OECD measure makes little difference and the Pendakur equivalence scale consistently gives the lowest poverty estimates.

We also considered three alternative price indices: the first was the national CPI, which is the most commonly used deflator in poverty studies; the second was a national version of the Stone Price index (a geometric mean weighted by mean budget shares (as is our base case), but it does not take account of regional differences in price levels in the base year or in inflation; finally, we recalculated the regional Stone Price index separately for each quintile of the adjusted expenditure distribution (allowing price changes to affect rich and poor differently by exploring the consequences of the fact that rich and poor have different spending patterns). The national Stone Price index and CPI were very close, but allowing for regional differences in prices appears to lead to slightly lower estimates of child poverty. Allowing for differences in the spending patterns of rich and poor leads to estimates of child poverty that are lower still. The magnitudes of these differences

seem to vary somewhat from year to year, but the overall trend across the study period was unaffected by choice of price indices.

It is standard to deflate total consumption by an equivalence scale; this is intended to capture the idea that there are returns to scale in consumption flowing in part from the fact that some goods, such as housing and heating, have the nature of a public good within the household. With individual goods, its less clear, particularly when such goods are largely private in nature. Food seems largely private (what one child eats another cannot), and some researchers have treated it as entirely private (Deaton and Paxson, 1998, for example), though there may be some economies of scale in the production of meals. For these reasons, in our analysis of food poverty we performed sensitivity analysis on our "base" equivalence scale (the square root of household size), by using a per capita measure of food expenditures. Note that for per capita food expenditures we divide by the number of persons in the household (including adults); with respect to price indices, we deflate food expenditures by regional good-specific price indices. The rate of food poverty is sensitive to the choice of equivalence scale, with more poverty apparent when per capita expenditures are considered.

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