S E D A P

A PROGRAM FOR RESEARCH ON

SOCIAL AND ECONOMIC DIMENSIONS OF AN AGING POPULATION

The Evolution of Elderly Poverty in Canada

Kevin Milligan

SEDAP Research Paper No. 170

For further information about SEDAP and other papers in this series, see our web site:
http://socserv.mcmaster.ca/sedap

Requests for further information may be addressed to:
Secretary, SEDAP Research Program
Kenneth Taylor Hall, Room 426
McMaster University
Hamilton, Ontario, Canada
L8S 4M4
FAX: 905 521 8232
e-mail: sedap@mcmaster.ca

The Evolution of Elderly Poverty in Canada

Kevin Milligan

SEDAP Research Paper No. 170

January 2007

The Program for Research on Social and Economic Dimensions of an Aging Population (SEDAP) is an interdisciplinary research program centred at McMaster University with co-investigators at seventeen other universities in Canada and abroad. The SEDAP Research Paper series provides a vehicle for distributing the results of studies undertaken by those associated with the program. Authors take full responsibility for all expressions of opinion. SEDAP has been supported by the Social Sciences and Humanities Research Council since 1999, under the terms of its Major Collaborative Research Initiatives Program. Additional financial or other support is provided by the Canadian Institute for Health Information, the Canadian Institute of Actuaries, Citizenship and Immigration Canada, Indian and Northern Affairs Canada, ICES: Institute for Clinical Evaluative Sciences, IZA: Forschungsinstitut zur Zukunft der Arbeit GmbH (Institute for the Study of Labour), SFI: The Danish National Institute of Social Research, Social Development Canada, Statistics Canada, and participating universities in Canada (McMaster, Calgary, Carleton, Memorial, Montréal, New Brunswick, Queen's, Regina, Toronto, UBC, Victoria, Waterloo, Western, and York) and abroad (Copenhagen, New South Wales, University College London).

The Evolution of Elderly Poverty in Canada

Kevin Milligan*
Department of Economics
University of British Columbia

December, 2006

Abstract:

The drop in income poverty among the elderly in Canada over the last generation has been well-documented. In this paper, I extend the calculation of head-count measures of poverty to all currently available microdata, spanning the years 1973 to 2003. I then generate consumption poverty measures spanning 1969 to 2004 and compare to the income poverty results. For both income and consumption, I implement a relative poverty measure that uses the wellbeing of working age families as a benchmark for the elderly. I find that income poverty among the elderly decreases sharply through the 1970s and 1980s by all measures. Since the mid-1990s, relative measures of income poverty have increased substantially, reflecting increasing income among the working age and better-off elderly more than an absolute decrease among lower-income elderly. For consumption, a similar downward trend from the 1970s to the 1990s is evident, although the level of consumption poverty among the elderly is very sensitive to the treatment of housing flows and durables. Since the 1980s, a sharp spike in income poverty has emerged between the ages of 55 and 64. Interestingly, no similar spike is found in the consumption data, which may suggest that many families successfully smooth their consumption over a spell of low-income in this age range.

* Prepared for the SEDAP conference "Private Pensions and Income Security in Old Age: An Uncertain Future," November 2006. I thank Sonia Laszlo and Krishna Pendakur for helpful conversations. Thanks to Shun Wang for research assistance. This paper builds on joint work with Michael Baker and Jonathan Gruber looking at measures of elderly wellbeing. This research is supported by a SSHRC Standard Research Grant. This paper uses data provided by Statistics Canada, but all inferences are made by the author and do not necessarily reflect the views of Statistics Canada. Email: kevin.milligan@ubc.ca. Telephone: 604-822-6747.

Résumé :

La baisse de la pauvreté selon le revenu de la dernière génération des seniors Canadiens a été bien documentée. Dans cet article, j'étends le calcul des mesures de la pauvreté à toutes les sources de microdonnées couvrant la période 1973-2003 disponibles à ce jour. Je génère ensuite des mesures de la pauvreté selon la consommation couvrant la période 1969-2004 et je les compare aux mesures de la pauvreté selon le revenu. Pour le revenu et la consommation, j'implémente une mesure de pauvreté relative qui utilise le bien-être des familles en âge d'activité comme point de référence pour les personnes âgées. Je trouve que parmi les seniors la pauvreté selon le revenu diminue brusquement durant les années 70 et 80 quelle que soit la mesure de pauvreté considérée. Depuis le milieu des années 90, la pauvreté relative selon le revenu a sensiblement augmenté reflétant davantage la hausse du revenu des actifs et des seniors les plus nantis qu'une diminution absolue du revenu des seniors les plus pauvres.
Du côté de la consommation, une tendance à la baisse similaire entre les années 70 et 90 est évidente, bien que le niveau de la pauvreté selon la consommation parmi les personnes âgées soit très sensible au traitement des flux des biens immobiliers et durables.
Depuis les années 80, une hausse brutale de la pauvreté selon le revenu a émergé chez les personnes âgées entre 55 et 64 ans. Fait intéressant, aucune hausse brutale semblable n'est observée dans les données sur la consommation, ce qui semble suggérer que beaucoup de familles dans cette tranche d'âge lissent avec succès leur profil de consommation pour faire face aux épisodes de faibles revenus.

Keywords : poverty, elderly

JEL Classification : I32, J14

1.0 Introduction

The economic environment for elderly Canadians has changed remarkably over the last 35 years. A 70 year old couple in 1971 would receive public benefits consisting of an Old Age Security pension, and possibly a small Guaranteed Income Supplement cheque. In addition, there may have been some benefits from an employer-provided pension, typically from the husband's job. In 2006, a similar 70 year old couple would draw from more sources including the Canada/Quebec Pension Plan, an expanded Guaranteed Income Supplement, Registered Retirement Savings Plans, and moreover would be more likely to have retirement benefits from the wife's employment. In short, the income received by the elderly has changed dramatically both in levels and in composition over the space of one generation.[1]

An important result of expanded retirement income for the elderly has been a sharp reduction in elderly income poverty. This reduction has been documented and discussed by previous authors including Myles (2000) and Osberg (2001), and surveyed by Baker and Gunderson (2006). In international comparisons such as Hauser (1999) and Smeeding and Sandström (2005), the Canadian experience compares well to other developed countries. Less previous research has focused on consumption-based measures of poverty, but Pendakur's (2001) study of consumption poverty does break out some numbers specifically for the elderly, and Crossley and Pendakur (2006) show cohort patterns of consumption poverty and inequality.

[1] The incomes of the elderly in Canada have been well-documented in work by Baldwin and Laliberte (1999), Myles (2000), Baker and Benjamin (2006), and for younger retired women by Marshall (2000). Milligan (2005) documents the trends in pension holdings by age group in Canada from 1977 to 1999. See Baker and Gunderson (2005) for a comprehensive survey.

In this paper, I build on previous work in several ways. First, I extend and update the previous research on income poverty among the elderly in a purely temporal sense by including the most recent years of data available, and stretching back as far as the microdata allow. Second, I supplement the normal Statistics Canada indicators of low income with a special measure of poverty that compares the wellbeing of the elderly to the working age population. Third, I calculate consumption poverty measures and contrast the time-pattern with what is observed for income. Finally, I examine the age structure of poverty among the elderly and near-elderly, and its evolution through time.

I begin by describing the methods used in the analysis, followed by a detailed account of the data sources and how I prepare them. The paper then proceeds to a graphical analysis of income poverty measures, followed by a parallel analysis of consumption poverty measures. I conclude with a summary of the results and a discussion of the limitations and possibilities for future work.

2.0 Methods

The intensity of the debate over the measurement of poverty reflects its importance.[2] At a conceptual level, there are arguments about absolute versus relative measures of poverty. Briefly, measures of absolute poverty compare outcomes to a fixed standard that might reflect basic needs, while relative standards compare outcomes to others in the society. There are also disputes over the choice of income versus consumption; whether

[2] See Ravallion (1994) for a survey of methods. Deaton (p.141 1997) has a discussion of some of the most important issues. Pendakur (2001) also provides an excellent, accessible survey of the issues in the Canadian context.

the opportunity set (income) or the actual outcome (consumption) should be measured. It is clear, however, that different aspects of poverty are revealed from different measures. For that reason, I implement multiple measures of poverty in this paper; no attempt at defining 'the' poverty measure is made. Instead, the goal is to be transparent and consistent about the construction of the measures used. While the definitions used in the paper are necessarily subjective, I refer to them throughout as 'poverty' measures.[3]

I use several different indicators of poverty, all of them focusing on 'headcounts' of families below a given line. For headcount measures, a cutoff line is calculated, followed by the proportion of families that lies below the line. I begin with measures of low income developed by Statistics Canada, which include aspects of relative and absolute measures of poverty.[4] In addition to the Statistics Canada measures, I use another measure which is developed specifically for addressing the wellbeing of the elderly.

The first measure from Statistics Canada is known as the Low Income Measure (LIM). The LIM is calculated by finding the median adjusted family income in Canada, and setting the line at 50% of this median. In this way, it is a purely relative measure. The economic unit is the economic family, so economic family income is the primary input.[5] The adjustment made to economic family income is for family size. Statistics Canada uses a particular equivalence scale, with the first adult getting a weight of 1.0, additional

[3] Fellegi (1997) lays out the position of Statistics Canada, which is to eschew the use of the word 'poverty' in the absence of legislative guidance. This restriction of terminology, while understandable for a statistical agency, does not limit researchers in their choice of how to describe the measures they use.
[4] See Giles (2004) for a description of Statistics Canada low income measurement methodology.
[5] An economic family is defined as two or more people related by blood, marriage, common-law relationship, or adoption living in the same dwelling.

adults 0.4 each, and children age 15 and under at 0.4 for the first and 0.3 for any additional. LIMs are available for different measures of income, but in this paper I use the after-tax LIM.[6]

The second Statistics Canada measure is the Low Income Cutoff (LICO), which also sets a line defined by a percentage of average family income. However, for the LICO the percentage is calculated as the average share of family income spent on food, clothing, and shelter, plus an additional 20 percent. By comparing a particular consumption basket (food, clothing and shelter) with average income, the LICO is a measure that mixes relative and absolute notions of poverty. Using the 1992 base year (after-tax), the percentage is 43% + 20% = 63%. It is calculated separately for five different community sizes and seven family sizes, on both a before- and an after-tax basis. Several different base years have been used to estimate the food shelter and clothing percentage. In this paper, I use the 1969, 1978, 1986, and 1992 base years. To move from a base year to other years of interest, the lines are calculated by adjusting for the all-items consumer price index.

A third measure from Statistics Canada is the more-recently developed Market Basket Measure (MBM).[7] The MBM sets a cutoff at the cost of a fixed basket of goods in the base year for a family of two adults and two children. This sets the MBM firmly in the realm of absolute measures of poverty. The prices are collected separately for different community sizes for each province and applied to the fixed basket of goods, resulting in

[6] Before-tax and market income LIMs are also available.
[7] See Michaud, Cotton, and Bishop (2004) for details on the construction of the MBM.

cutoffs that are geographically more precise than the LICO. The prices are then updated annually. I do not use the MBM in this paper for two reasons. First, the income concept used for the MBM is unique and difficult to apply to previous years of data, making long series hard to construct. Second, the basket of goods is not developed with an elderly family in mind, diminishing its relevance to the case of the elderly.

Finally, I add another measure of poverty not calculated by Statistics Canada, which I call the Elderly Relative Poverty Measure (ERPM).[8] For this measure, the wellbeing of the elderly population age 65 and older is compared to a benchmark generated from the working age population. To be specific, I form the line by taking 50 percent of the median among the working age population. This measure has two advantages. First, if one is concerned with the welfare of the elderly as a group, then they ought to be compared to a benchmark that does not contain them. Otherwise, changes in the distribution of wellbeing among the elderly may be confused with shifts in the overall wellbeing of the elderly. Using the current working population as this benchmark seems a natural choice. The second advantage is that this measure can be implemented for any desired indicator of wellbeing. In particular for my work in this paper, I can use this same measure for both income and consumption.

The potential downsides of this measure are the arbitrariness of using 50 percent and the strictly relative nature of its poverty comparison. To account for the arbitrariness, I show

[8] A similar measure is used in Baker, Gruber, and Milligan (2005). The idea to compare the elderly to a measure defined on the non-elderly population comes from the organizers of the NBER International Social Security project, Jonathan Gruber and David Wise. Hauser (1999) also compares elderly to non-elderly households in his cross-country analysis.

the sensitivity to other percent cutoffs. To provide perspective on the purely relative nature of the ERPM, I try throughout to identify whether it is movements in the outcomes of workers or the elderly that are driving any shifts in the ERPM.

Several more sophisticated refinements to this methodology could be contemplated. For example, measures of poverty depth or intensity can inform how far beneath the poverty line families fall. Equivalence scales could be estimated rather than imposed. Prices could be adjusted for regional differences rather than using national CPI. Breakdowns by gender, immigrant status, or region could also reveal interesting patterns. These refinements would likely prove informative in many cases, but in the interest of space and focus, I leave them to be pursued in future work.

3.0 Data

The analysis encompasses both income and consumption surveys spanning the years 1969 to 2004. The coverage of each survey is catalogued in Table 1. On the income side, I use the economic family files of the Survey of Consumer Finances (SCF) for the earlier years and combine elements of the person and the economic family files of the Survey of Labour and Income Dynamics (SLID) for the later years. There are two years of overlap, which is useful since the two surveys differ in some important ways.[9] For consumption, I combine the Survey of Family Expenditures (FAMEX) and the Survey of Household Spending (SHS). In this section I describe the important features and

[9] These differences are discussed and analyzed in Webber et al. (1999). The implications of using survey data for the measurement of inequality and poverty are examined in Frenette, Green, and Picot (2006), and Frenette, Green, and Milligan (forthcoming).

limitations of these data for the purposes of measuring poverty, and describe how I create the variables used in the analysis from the raw data.

The SCF and the SLID are based on the sampling frame of the Labour Force Survey. This excludes residents of the territories, in institutions, military bases, or Indian reserves. With the provided weights, resulting statistics should be nationally representative of that population.[10] A difference is that the SLID is designed as a longitudinal data set, with cross-sections pulled out of the longitudinal data each year. The FAMEX and SHS files are also based on the Labour Force Survey sampling frame, but further restrictions are made in some years to include only residents of certain large cities. Specifically, in 1974, 1984, and 1990 only the large urban centres are represented in the sample. The other years of the FAMEX and all of the SHS years sample the complete set of 10 provinces. I leave the restricted FAMEX years in the analysis, but inferences about trends from those years should be treated with appropriate caution.

Another difference across years of the consumption data is the unit of analysis. The unit of analysis pre-1992 in the FAMEX is the 'spending unit', whereas from 1992 on it is the household.[11] One way to ensure better comparability through time is to restrict the sample to households comprising exactly one economic family, as in Pendakur (2001). I do not take this approach in my core analysis because it is possible that poorer households are more likely to contain multiple economic families, so excluding them

[10] If poor elderly are more likely to be resident in institutions, then the Labour Force Survey sampling frame may undercount poverty relative to the full national population.

[11] The spending unit definition includes individuals living together who pool their income. There is no requirement for blood relationships among the individuals, setting the definition slightly apart from the economic family.

may undercount poverty. It is important, therefore, to note that some small differences persist before and after 1992 in the composition of the sample.[12]

For all years of each survey, I remove observations that have masked data, where province is unknown, or there is negative income. This results in relatively little shrinkage.

The key variable in the income surveys is after-tax income. Ideally, the measure should contain all income that is available for a family before consumption and savings decisions are made; represent their actual budget constraint. It could also in theory include imputed values for flows from durables such as housing. In practice, defining gross income, and what part of gross income is spent by choice can be contentious. In determining gross income, the treatment of assets and income derived from assets is a difficult issue. Should withdrawals from Registered Retirement Pension Plans be included, or are these no more than a shift of assets from one envelope to another? For determining after-tax income, do payroll taxes represent a tax or the purchase of insurance from a provider that happens to be the government? Opinions differ on these matters.

In this paper, I simply use the Statistics Canada definition of after-tax income. The important aspects of this gross definition are the exclusion of capital gains income and withdrawals from RRSPs. For the after-tax income definition, only income taxes are included as 'tax', meaning that payroll taxes are therefore included in after-tax income.

[12] This affects less than 10 percent of the sample in any year.

In the consumption surveys, the goal is to measure each family's consumption during the year of the survey. Creating an annual flow of consumption is made difficult by issues such as the purchase of consumer durables and accounting for the flows from durables purchased previously. The treatment of housing is particularly important for the elderly, since the great majority of the elderly own their own home outright, meaning that they expend very little for housing yet may receive substantial consumption flows. This stands in contrast to working age families who are much more likely to pay for housing at a rate closer to the consumption flow.[13]

For the purposes of this paper, I use three different measures of consumption. The first measure includes a narrow definition of consumption that includes only non-durables. I take the definition from Crossley and Pendakur (2006).[14] The second definition takes the non-durables and adds an imputed amount for housing consumption flows. Again, I use an imputation method similar to Crossley and Pendakur (2006).[15] Finally, I use the value for current consumption reported in the survey. This measure is calculated as total expenditure less personal taxes, personal insurance payments, and gifts and contributions. It therefore includes expenditures on capital goods, durables, and expenditure on housing (rent or mortgage payment). By moving from a narrow to a broad definition of

[13] See Chawla and Wannell (2004) for a description of housing expenditures in the elderly and non-elderly populations.

[14] There are eight categories: food purchased from stores, restaurant food, household operation, household furnishings and equipment, clothing, private transportation operation, public transportation, and personal care.

[15] They impute housing flows by finding the mean rent among renters in year/region/room size cells and imputing that rental amount to everyone within that cell. My imputation differs from theirs slightly, in that I use the median within each cell and I cap room size at 9 rather than 11. For a handful of empty cells, I borrow the rental value from a neighbouring cell.

consumption, the sensitivity of the conclusions to the definition of consumption will be clear.

Still, different definitions of consumption can be conceived. For example, consumption of public services could be included. Items such as publicly provided health insurance might increase the consumption levels of low consumption families, if it were included. Going further, one might impute values for consumption of public services such as roads, police, or environmental protection. I do not attempt to impute any of these services because of the difficulty of measuring them. It is important, therefore, to note that inclusion of these services could have a large impact on the measured level of consumption poverty.

I define elderly families as those headed by someone age 65 or older.[16] A challenge arising in categorizing the age of families relates to top-coding and age grouping. In all cases, we can observe whether the age is greater or less than age 65, so categorizing families as elderly is not problematic. The problems come when examining the poverty measures by individual age. Because top-coded age groups contain individuals of many ages, I simply remove observations with the top-coded age for the age analysis – but they are left in for the annual elderly poverty analysis. For the SHS from 2002 onward, five-year age groups are reported rather than individual ages. For these years, I create an observation for each age within the age group, effectively quintupling the size of the sample. The resulting graphs by age resemble step function for the SHS in these years, as

[16] For the SLID, the major income earner is used, since household head is not reported. For the consumption surveys, the 'reference person' is used in place of the head when head is not available. In almost all cases, the person I designate as the head or head equivalent is the oldest person.

all ages within each 5 year range are identical. This construction allows me to pool together and compare the post-2002 SHS with other years and surveys.

For constructing equivalence scales, the age of children is required in order to properly classify them as being children or adults. In practice, the reporting of children's ages varies across the surveys. For most years, it is possible to construct the number of children aged 0 to 15, which is the age cutoff for the Statistics Canada equivalence scale. For other years, I impute ages to children and select those with imputed ages 0 to 15.[17]

Another issue for the formation of equivalence scales is inconsistent reporting of community size, which is a necessary input for the LICO measurement. In the SCF, the available community size measure does not line up exactly with the categories for the LICO for some years of the survey.[18] I fix this by assigning the families to the larger community size category, which may tend to overstate the poverty measure for those years.

Given the available data, I generate three sets of poverty measures. The first set comprises the poverty indicators directly available and reported in the income surveys.

[17] This imputation is necessary only in the 1996 FAMEX and the SHS. For the 1996 FAMEX, the number of children age 0 to 16 is reported Using the SLID, I calculate the proportion of children aged 0 to 16 who are exactly age 16, and impute 16 year olds to the 1996 FAMEX using the reported number of age 0 to 16 year olds. I then can calculate a number for 0 to 15 year olds. I follow the same procedure for the SHS, where children aged 5 to 17 are grouped together.

[18] Specifically, from 1973 to 1982, the largest community size category is for 100,000 and higher, while the LICO splits this into 100,000 to 499,999 and 500,000 plus. For these years, I assign the families in the 100,000 plus category the LICO for 500,000 plus.

Table 2 displays what measures are available.[19] When both before- and after-tax measures are available, I use only the after-tax measure as it better captures the wellbeing of the family.

The second set of measures extends the after-tax LICOs and LIMs both backward and forward.[20] For the LICOs, I assign the Statistics Canada LICO to each family in the income data based on reported family size and community size. I then update the LICO from the base year for the CPI, and compare the result to reported family income. The benefit of this is that longer series can be generated than using only the measures reported directly in the surveys. The potential downside is the differences in consumption patterns over longer time periods – the base is not updated. For the LIMs, I calculate each family's adjusted family income using the Statistics Canada equivalence scales and compare to the after-tax LIM to generate an indicator.

The final measure is the ERPM. To construct the ERPM, I calculate the median among working age families (ages 25-54) and generate dummy variables for families of all ages that lie under 50 percent of this median. I check the robustness of the results using two alternative equivalence scales as well as 25 and 75 percent of the working-age median as the cutoff.

[19] Before tax measures are also available for more recent years, but I leave those out of the analysis as they are more difficult to relate to wellbeing.
[20] The sources used for the LICOs and LIMs are Statistics Canada (1998) and Statistics Canada (2006).

4.0 Results

I present the results graphically. I begin with the income measures and then proceed to the consumption measures. For both income and consumption, the analysis follows the evolution through time, then turns to some cross-sectional extracts of the patterns by age. In all graphs, I have separated the data points for the SLID/SCF and FAMEX/SHS, in order to emphasize the discontinuities in the time series. In all figures, dollar amounts have been converted to 2004 dollars using the consumer price index.

Income results

To analyze income poverty, I begin with some annual graphs of the levels of income and the cutoffs for the different measures of income poverty that are later implemented. I then graph the Statistics Canada measures (LICOs and LIMs) and compare the results to the ERPM in order to place the ERPM in the context of measures that may be more familiar. Sensitivity to different assumptions for equivalence scales and cutoffs is investigated to check the robustness of the results. Finally, I look at the evolution through time of the age patterns of income poverty.

Figure 1 displays the 10^{th}, 50^{th}, and 90^{th} percentile of after-tax income for economic families aged 65 or more. The 50^{th} percentile of the working age 25-54 population is also shown. Income at all three of these points of the elderly income distribution rises through this period, although the bulk of the growth is in the 1970s and 1980s. At the median, elderly income was $18,003 in 1973, rising to $26,334 in 1990, and then to $28,348 by

2003. For working age families, the pattern is quite different. Working family incomes peaked at $49,609 in 1977, falling to $42,293 by 1993. Since 1998, growth has resumed, bringing family incomes back up to $47,731.

In order to focus more closely on the changes through time, Figure 2 graphs the same data but with each line indexed to a 1973 level of 100. The starkest result is for the 10th percentile of elderly income, attaining a height in 2003 of 90.2 percent above its 1973 level. Median incomes increased by 57.5 percent over the same time period, but at the 90th percentile the increase was only 24.2 percent. As in the levels graph in Figure 1 above, working age families have seen very small gains over this entire period, although there has been a 10.4 percent increase since 1997.

The next graph shows the income cutoffs using the LICO, LIM, and ERPM measures for the sample of elderly families. Because the cutoffs vary by family size (as well as community size for the LICO), I simply average the cutoffs over the families in the sample in each year. Because of this, the lines embody variation both in the underlying cutoffs and in the distribution of family and community sizes in the sample. Nevertheless, the graph provides an indication of where in the income distribution the cutoffs lie. The LICO (1992 base) line is flat over the entire period at about its 1992 level of $17,018 – which should be expected since the LICO is updated only for inflation, meaning its real value should be constant through time.[21] The LIM shows some cyclical tendencies, as the median income on which the LIM is based moves with the business

[21] It is not exactly constant in this graph solely because of changes in the composition of the sample across family and community sizes.

cycle. The increases in the LIM since 1997 can be seen as it rises to $17,166 in 2003. The ERPM shows a similar time pattern as the LIM, but at a slightly higher level, reaching $18,816 in 2003. Importantly, all three lines are fairly close to each other suggesting the level of measured poverty will be similar for the three measures.

The OAS and GIS pensions alone can in some cases lift elderly families over these poverty lines. For example, in 2003 an elderly couple would be entitled to $19,562 in OAS and GIS pensions, on which no income tax would be owing if there was no other income. The LIM cutoff for 2003 for this family is $19,044, the LICO for a 2 person family in a city with 100,000 to 499,99 residents is $17,027, meaning neither would fall under the threshold. However, the ERPM cutoff for this family is $21,268, so it would count as being in poverty for the ERPM.

I next turn to the reported poverty measures provided directly in the SCF and SLID surveys. The availability of these measures is reported in Table 2. The LICOs are available for different base years, and in before and after-tax versions. The LIM is available in the SCF for the 1990s. When combined, a preliminary picture of the trends through time can be seen, as graphed in Figure 4. Using the LICO before-tax 1969 base, measured poverty among the elderly drops from 41.5 percent in 1973 to 7.7 percent in 1989. The 1978 before-tax LICO line is over 10 points higher than the 1978 base, reflecting changes in the share of income devoted to food clothing and shelter between 1969 and 1978 – the poverty bar moved higher, leaving more families under the 1978

LICO than the 1969 one. The 1978 base also shows a strong drop, from 34.8 percent in 1981 to 18.3 percent by 1991.

For the 1990s, the SCF reported before and after-tax versions of the 1986 and 1992 LICO as well as the LIM. The SLID since 1996 has reported the 1992 LICOs. In the Figure, the 1986 and 1992 after-tax LICOs are very tightly clustered and do not move much from 10 percent. The LIM rate is lower than the LICO for the years available.

In order to build a complete time series for any of these measures, it is necessary to extend from what is directly provided in the SCF and SLID. I do this by combining the published LICO and LIM cutoffs with the surveys and adjusting for CPI inflation in order to get a complete set of cutoffs for each measure for each year. I then construct poverty indicators using these cutoffs and reported after-tax income.

In Figure 5, I check the accuracy of my constructed LICOs and LIMs by graphing the constructed measures with the directly reported measures. The lines are quite close to each other, suggesting that the constructed LICOs and LIMs match well with those reported directly. The proportion of households with different classifications in the reported and constructed measures is well less than 1% for all years and measures.

With the construction of the extended LICO and LIM series, I can now graph the long time series measures for income poverty. Figure 6 shows the LICO (1992 base), the LIM, and the ERPM through time. The same pattern as hinted earlier by Figure 4

emerges. Poverty rates drop from over 40 percent in 1973 to around 10 percent in 2003. The ERPM follows similar trends to the LIM, but lies everywhere above it. This is because the LIM includes elderly families when calculating the median adjusted income to use for the cutoff, which tends to pull down the median, resulting in fewer families falling below the LIM.

Both the LIM and the ERPM show upswings since the mid 1990s. The LIM increases by 151 percent from 0.028 to 0.070 between 1996 and 2003. Looking back at Figures 1 and 2, there have been continued real increases among elderly incomes at the 10^{th} percentile, suggesting that higher incomes among the better-off are driving these relative measures higher, rather than absolute drops at the low end of the distribution. This is confirmed by looking at the LICO – there has been no increase since the mid 1990s using this more absolute measure.

Whether the LIM and ERPM poverty increase is caused by increasing incomes among well-off elderly or a shift in relative wellbeing between the working age and the elderly is not clear from the LIM, however. This creates an opportunity for the ERPM to provide clarity. The ERPM increases by 76 percent, from 0.071 to 0.124 over the same time period. This suggests that some of the increase in the LIM has been driven by increases in income among the higher-income elderly and some by increases in income among the working age population.

In the next two figures, I investigate the sensitivity of both the levels and the time trends of the ERPM to two different decisions made in the calculations. First, I look at using cutoffs different than 50 percent of the median. Figure 7 shows the ERPM rates using cutoffs of 25, 50, and 75 percent of the working family median. For the 25 percent line, measured poverty falls beneath 5 percent in 1979, and then further down beneath 1 percent by 1986. Very few elderly families have income this low, so few interesting time trends are evident. At the 75 percent level, a decline from the 1970s to the present is visible. The sharper decline in the 50 percent line than the 75 percent line suggests that changes through time have had their biggest impact around the part of the elderly income distribution picked up by the 50 percent line.

The equivalence scale choice is particularly important for the ERPM, since the elderly typically live in smaller families than those of working age. I try two alternative equivalence scales. First, the OECD equivalence scale assigns 0.7 for extra adults and 0.5 for each child.[22] Effectively, the bigger numbers in the OECD scale compared to the Statistics Canada scale decreases the adjusted income of working age households relative to elderly households. In Figure 8 it can be seen that this results in a lower poverty line as the elderly look relatively better off. However, the time trend is very similar. The other scale I try discounts the income of working families yet more, by using a per capita equivalence scale which scores extra adults or children at 1.0. This adjustment mutes the time trend still further, but poverty still declines substantially over this time period.

[22] The OECD method categorizes children as age 0 to 16, but I use a 0 to 15 age range.

The final two income graphs investigate the age structure of poverty by graphing the ERPM against age for different years. I group several years together in order to generate sufficient data in each age cell to lower sampling variability. The first graph in Figure 9 shows data from the SCF in three different year ranges. Between 1975 and 1979, poverty as measured by the SCF is quite flat for ages less than 60. Starting at just before 60, however, the poverty rate increases tremendously, reaching 20 percent at age 60, 30 percent at 65, and 45 percent by age 74. In this time period, the elderly were far and away the age group suffering the highest ERPM rates.

For the time periods 1980-1984 and 1985-1989, however, a striking new pattern emerges. The ERPM rate at lower ages continues as in 1975-1979 until hitting age 66 when it drops considerably. For 1985-1989, the drop is more than half. Figure 10 repeats the age graph for three more recent time periods. The same pattern as for 1985-1989 continues for those over age 60, with even higher pre-age 65 spikes and lower post-65 declines.

The explanation for this drop may lie in policy changes. From 1978 to 1980, the real value of the GIS pension increased by 42 percent. Then, from 1983 to 1985 the GIS increased again by 19 percent, in real terms. The GIS is an income-tested pension paid to individuals age 65, so these increases in the GIS line up well with the tremendous drop in poverty among the elderly households.

To summarize the income poverty results, the incomes of the elderly have grown faster than the working age population since 1973. Overall, the gains have been highest for the

lowest-income elderly, resulting in a very sharp drop in income poverty by almost any measure between 1973 and 1990. Since 1990, poverty rates have been fairly constant, with some increase post-1997 in relative measures, reflecting the gains in income of those of working age and among better-off elderly families since the mid 1990s.

Consumption results

In order to gain a different view of the poverty of the elderly, I turn to some measures of consumption poverty. I use the same ERPM procedure as I used for income poverty, with the Statistics Canada equivalence scales used to adjust consumption and the line set at 50 percent of the working family median value. For consumption, I make use of the three measures described earlier – non-durables with imputed housing, non-durables without imputed housing, and current expenditure.

The first graph shows the levels of consumption, using percentiles of the non-durables plus housing measure among the elderly. From 1969 to 2004, the lines in Figure 11 are remarkably flat. The level of consumption at the 90th percentile for the elderly is comparable to the median among working age families. For income in Figure 1, the elderly 90th percentile is well ahead of the working-age median. Taken together with the consumption measure this suggests that the 90th percentile elderly consume less of their income (and so save more) than do working age median families.

As with income, I next graph an index of the consumption for each chosen percentile with the first year set to 100. In Figure 12 there is a sharp increase from the 1969 to the

1974 FAMEX, with larger increases for the less well off elderly. However, unlike income in Figure 2, there is no growth after 1974 – and the working age families at the median drop after 1974. This graph indicates that the income gains observed in Figure 2 post-1974 had no measurable impact on the non-durable consumption of the families in the surveys.

In Figure 13, the ERPM cutoffs for the three consumption measures are plotted. The three lines from top to bottom show 50 percent of the working-age family consumption using progressively more restrictive measures of consumption. The top line shows the cutoffs for current expenditure, which reached $13,160 by 2004. For non-durables plus imputed housing, the line is lower, with a 2004 value of $10,513. Finally, looking at non-durables without the housing imputation leads to a consumption cutoff substantially lower at $6,235 in 2004. Consistent with the working age median in Figure 11, these lines are relatively flat through time.

With adjusted consumption for each family and the ERPM cutoff lines, I can now construct ERPM rates. In Figure 14 the ERPM rates are graphed for each of the three consumption measures. Each of the three lines falls from the 1970s to the 1990s. The decrease in the ERPM rate from 1978 to 1997 is 74 percent for the non-durables with housing, 50 percent for the non-durables without housing, and 59 percent for current expenditure. This downward trend mirrors the income graph in Figure 6, although the percentage drop is less for consumption than for income.

The data points for non-durables with housing are much lower than the other two consumption measures. This results from the importance of the housing imputation. For the elderly, housing outlays are low since many have paid off their mortgages (Chawla and Wannell 2004). On the other hand, working-age families still have substantial mortgage payments. This results in a very large sensitivity in the level of consumption poverty among the elderly, depending on how one treats housing.

In the final set of graphs I turn to the analysis of poverty rates by age. Because the FAMEX surveys are not annual, the smaller sample sizes at each age result in greater variability. However, the patterns come through quite clearly. In Figure 15, the poverty rates in all three year ranges graphed are very similar and roughly constant through time. Importantly, there is no spike at ages 55 to 65 as was the case for income poverty in Figures 9 and 10. In Figure 16 the greater sample sizes available for the SHS mute the sampling variability, but lead to similar patterns. There is no spike before age 65. Figures 17 and 18 show the sensitivity of these inferences to the other measures of consumption. As those over 60 are increasingly likely to have low or no mortgage payments, consumption without a housing imputation increases after about age 60. However, there is no spike before age 65 similar to what appears in the income poverty graphs.

The consumption poverty analysis produces three major findings. First, the time-trend in consumption poverty measures is sharply down over the last 35 years, similar to income. Second, the level of consumption poverty among the elderly is very sensitive to the treatment of housing flows – when these flows are imputed poverty rates are quite low,

but they are high when no imputation is made. Finally, there is no spike in consumption poverty that resonates with the pattern observed immediately before and after age 65 for income poverty measures.

5.0 Discussion

In this paper, I have assembled data on head-count poverty rates for income and consumption among the elderly using all currently available microdata; a period stretching from 1969 to 2004. Over this long time period several important trends become evident. Income poverty rates dropped tremendously through the 1970s and 1980s, but were fairly constant through the 1990s. A recent upswing in income poverty is observed in relative measures, reflecting both an increase in working family incomes and better-off elderly incomes since the late 1990s; an increase not shared by lower income elderly families. For consumption, all measures of poverty show a decrease through time, but not as sharp as for income. There are substantial differences for the level of consumption poverty depending on which measure of consumption is used – with housing consumption imputations being pivotal.

The most striking finding may be the sharp spike in income poverty at ages leading up to 65. This pattern is not evident in any way in the consumption poverty data. This presents somewhat of a mystery I hope to resolve in future work. Some possible explanations include differences in survey methodology across the income and consumption surveys, consumption maintenance through transfers from family or charity, or consumption maintenance through drawing down assets.

There are several limitations to the analysis. First, I use only headcount measures of poverty; more subtle measures may uncover further important trends. Second, I cut the data only by age and year, leaving out separate analysis of gender, region, immigrant status and other dimensions across which poverty may differ. Finally, the poverty cutoffs chosen in the paper are arbitrary and the levels – although not the trends – show sensitivity to the chosen cutoff.

References

Baker, Michael and Dwayne Benjamin (2006), "The Evolving Retirement Income System and Economic Security." Manuscript, University of Toronto.

Baker, Michael, Jonathan Gruber and Kevin Milligan (2005), "Retirement Income Security and Well-being in Canada." Manuscript, University of British Columbia.

Baker, Michael and Morley Gunderson (2005), "Seniors' Income Adequacy." Manuscript, University of Toronto.

Baldwin, Bob and Pierre Laliberte (1999), "Incomes of Older Canadians: Amounts and Sources, 1973-1996. Canadian Labour Congress Research Paper #15.

Chawla, Raj K. and Ted Wannell (2004), "Housing Costs of Elderly Families," *Perspectives on Labour and Income*, Vol. 5, No. 7, pp. 13-19.

Crossley, Thomas F. and Krishna Pendakur (2006), "Consumption Inequality in Canada," in David A. Green and Jonathan Kesselman (eds.) *Dimensions of Inequality in Canada*. Vancouver: UBC Press.

Deaton, Angus (1997), *The Analysis of Household Surveys*. Baltimore: Johns Hopkins University Press.

Fellegi, Ivan P. (1997), "On Poverty and Low Income," Statistics Canada Catalogue No. 13F0027XIE, Ottawa.

Frenette, Marc, David Green, and Kevin Milligan (forthcoming), "The Tale of the Tails: Canadian Income Inequality in the 1980s and 1990s," *Canadian Journal of Economics*, forthcoming.

Frenette, Marc, David Green, and Garnett Picot (2006), "Rising Income Inequality in the 1990s: An Exploration of Three Data Sources," in David A. Green and Jonathan Kesselman (eds.) *Dimensions of Inequality in Canada*. Vancouver: UBC Press.

Giles, Philip (2004), "Low Income Measurement in Canada," Statistics Canada Catalogue No. 75F0002MIE, Ottawa.

Hauser, Richard (1999), "Adequacy and Poverty Among Retired People," *International Social Security Review*, Vol. 52, No. 3, pp. 107-124.

Marshall, Katherine (2000), "Incomes of Younger Retired Women: The Past 30 Years," *Perspectives on Labour and Income*, Vol. 1, No. 3, pp. 5-13.

Michaud, Sylvie, Cathy Cotton, and Kevin Bishop (2004), "Exploration of Methodological Issues in the Development of the Market Basket Measure of Low Income for Human Resources Development Canada," Income Research Paper Series 2004-01, Catalogue No. 75F0002MIE, Ottawa.

Milligan, Kevin (2005), "Lifecycle Asset Accumulation and Allocation in Canada, *Canadian Journal of Economics*, Vol. 38, No. 3, pp. 1057-1106.

Myles, John (2000), "The Maturation of Canada's Retirement Income System: Income Levels, Income Inequality, and Low Income Among Older Persons," *Canadian Journal on Aging*, Vol. 19, No. 3, pp. 287-316.

Osberg, Lars (2001), "Poverty Among Senior Citizens: A Canadian Success Story," in Patrick Grady and Andrew Sharpe (eds.) *The State of Economics in Canada: Festschrift in Honour of David Slater*, pp. 151-182. Centre for the Study of Living Standards and John Deutsch Institute.

Pendakur, Krishna (2001), "Consumption Poverty in Canada 1969-1998," *Canadian Public Policy*, Vol. 27, No. 2, pp. 125-149.

Ravallion, Martin (1994), *Poverty Comparisons*. Chur, Switzerland: Harwood Academic Publishers.

Smeeding, T. M. and S. Sandström (2005), "Poverty and Income Maintenance in Old Age: A Cross-national View of Low Income Older Women," *Feminist Economics*, Vol. 11, No. 2, pp. 163-197.

Statistics Canada (1998), "Low Income Measures, Low Income After Tax Cut-offs, and Low Income After Tax Measure," Statistics Canada Catalogue No. 13F0019XIB, Ottawa.

Statistics Canada (2006), "Low Income Cut-offs for 2005 and Low Income Measures for 2004," Income Research Paper Series 2006-04, Statistics Canada Catalogue No. 75F0002MIE, Ottawa.

Webber, Maryanne, Cathy Cotton, Mauri Meere, Kevin Bishop, and Peter Hewer (1999), "A Comparison of the Results of the Survey of Labour and Income Dynamics (SLID) and the Survey of Consumer Finances (SCF) 1993-1996," Statistics Canada Catalogue No. 75F0002MIE, Ottawa.

Table 1: Data Availability

	SCF	SLID	FAMEX	SHS
1969			xx	
1970				
1971				
1972				
1973	xx			
1974			xx (big city)	
1975	xx			
1976	xx			
1977	xx			
1978			xx	
1979	xx			
1980				
1981	xx			
1982	xx		xx	
1983	xx			
1984	xx		xx (big city)	
1985	xx			
1986	xx		xx	
1987	xx			
1988	xx			
1989	xx			
1990	xx		xx (big city)	
1991	xx			
1992	xx		xx	
1993	xx			
1994	xx			
1995	xx			
1996	xx	xx	xx	
1997	xx	xx		xx
1998		xx		xx
1999		xx		xx
2000		xx		xx
2001		xx		xx
2002		xx		xx
2003		xx		xx
2004				xx

Each 'xx' indicates that the dataset is available for that year. For the FAMEX, 'big city' indicates that the sampling frame included only residents of large cities.

Table 2: Low income measures in data

	LICO 1969BT Before tax	LICO 1978 Before tax	LICO 1986 Before tax	LICO 1992 Before tax	LICO 1986 After tax	LICO 1992 After tax	LIM After tax
1973	XX						
1975	XX						
1976	XX						
1977	XX						
1979	XX						
1981	XX	XX					
1982	XX	XX					
1983	XX	XX					
1984	XX	XX					
1985	XX	XX					
1986	XX	XX					
1987	XX	XX	XX				
1988	XX	XX	XX				
1989	XX	XX	XX				
1990		XX	XX		XX		XX
1991		XX	XX		XX		XX
1992			XX	XX	XX	XX	XX
1993			XX	XX	XX	XX	XX
1994			XX	XX	XX	XX	XX
1995			XX	XX	XX	XX	XX
1996			XX	XXYY	XX	XXYY	XX
1997			XX	XXYY	XX	XXYY	XX
1998				YY		YY	
1999				YY		YY	
2000				YY		YY	
2001				YY		YY	
2002				YY		YY	
2003				YY		YY	

Each 'XX' indicates that the measure is available for that year in the SCF. Each 'YY' indcates that the measure is available in the SLID.

Figure 1: After-tax Income Percentiles

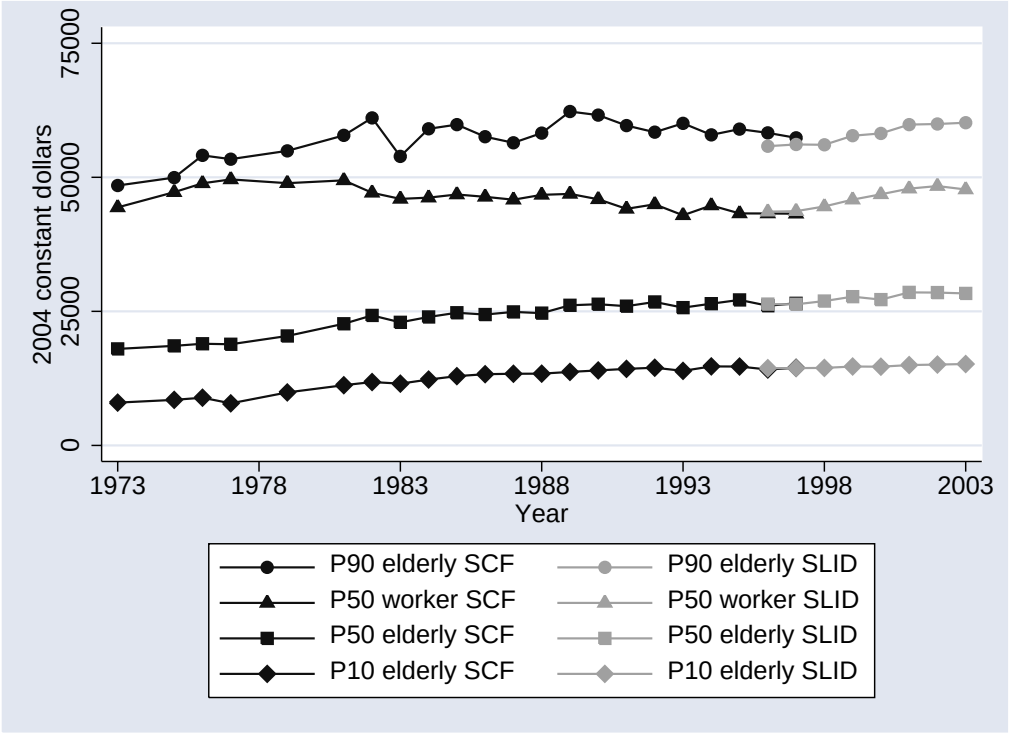


Figure 2: After-tax Income Percentiles, Relative to 1973

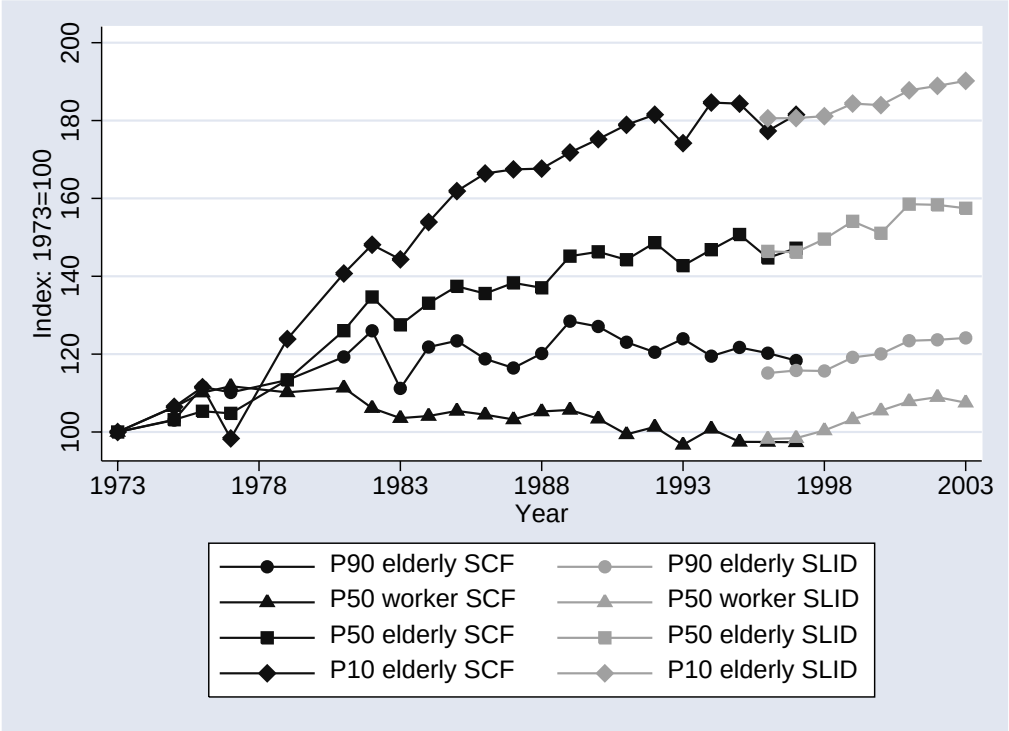


Figure 3: Income Cutoffs

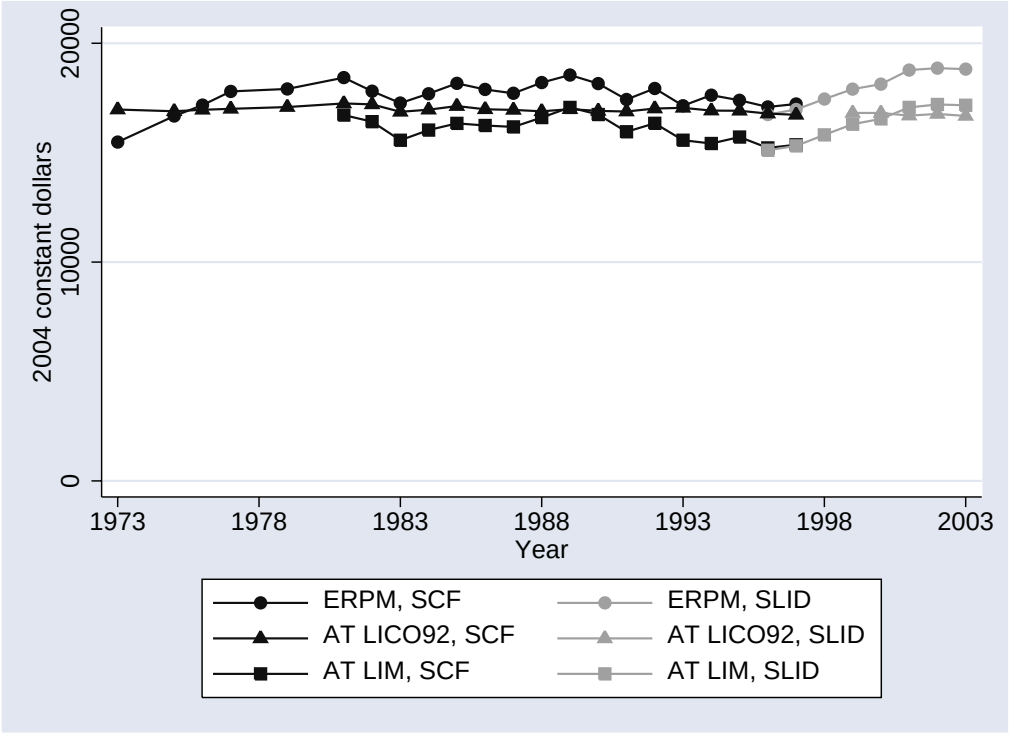


Figure 4: Survey-reported Low Income Rates

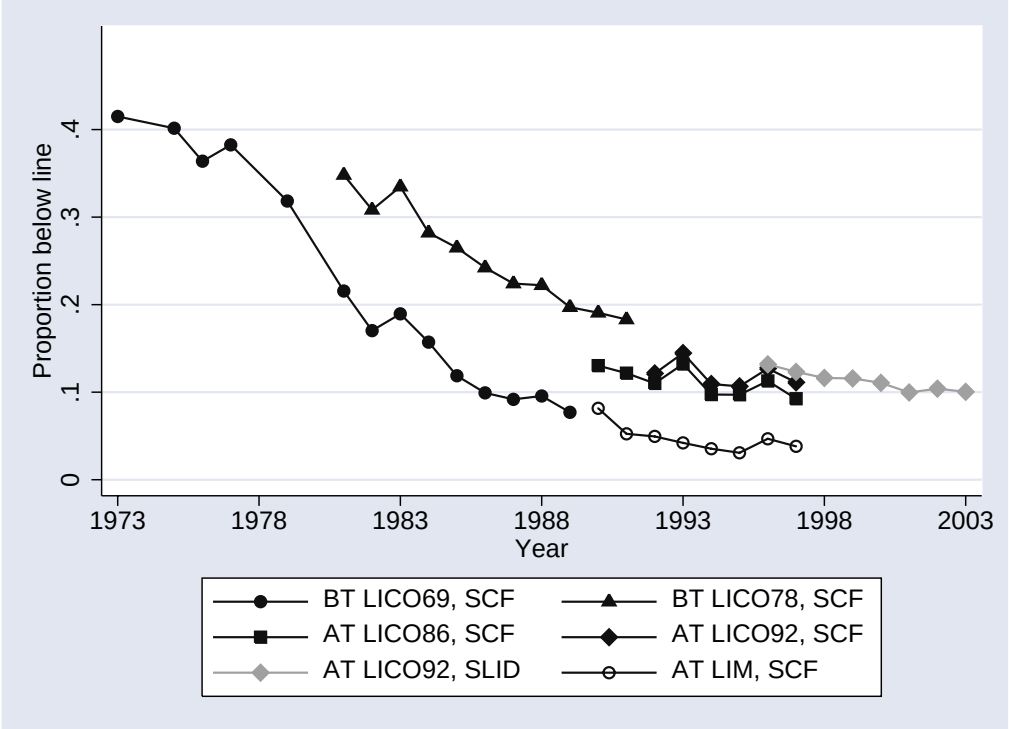


Figure 5: Constructed vs Reported LICOs and LIMs

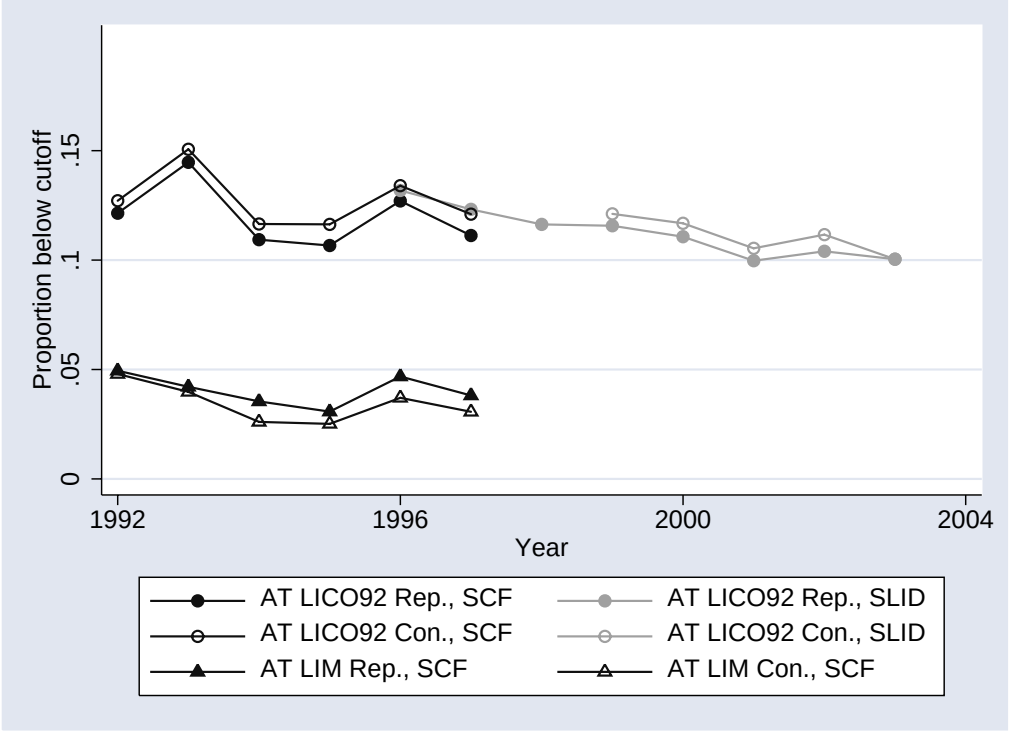


Figure 6: Comparing LICO, LIM, and ERPM through time

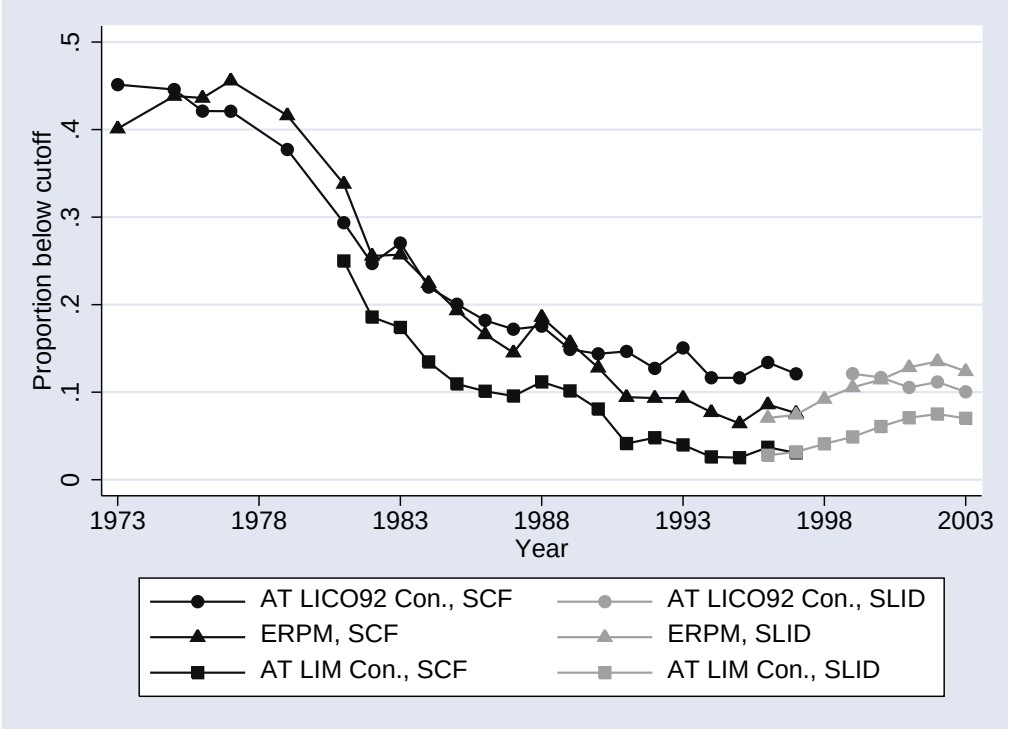


Figure 7: ERPM Rates Using Different Cutoffs

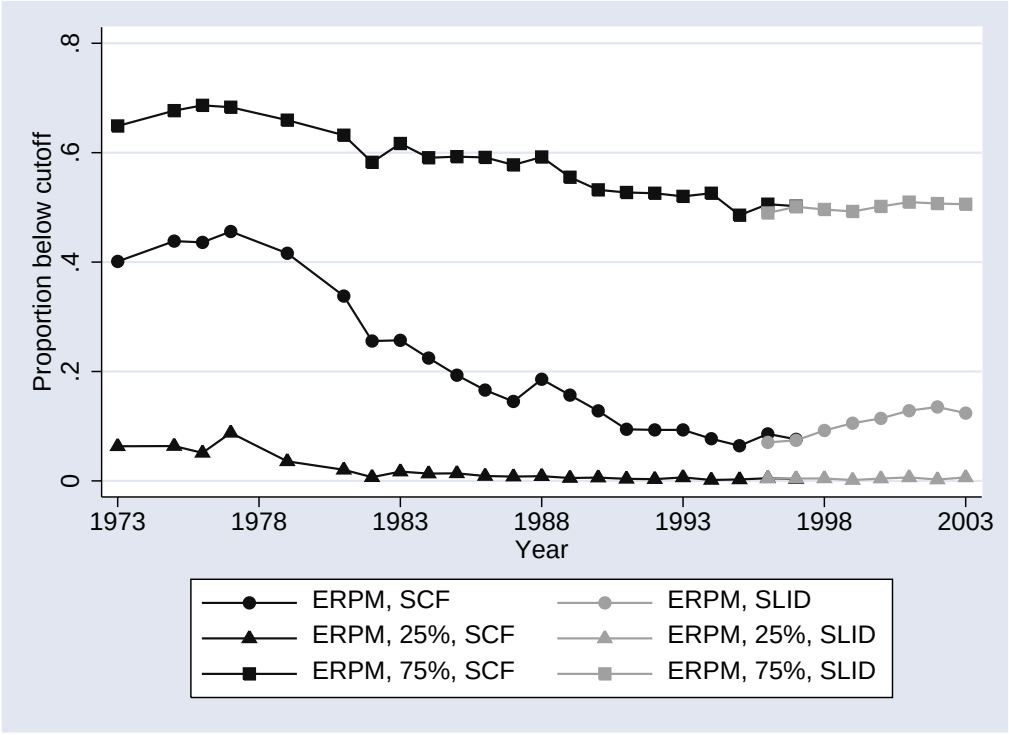


Figure 8: ERPM Rates Using Different Equivalence Scales

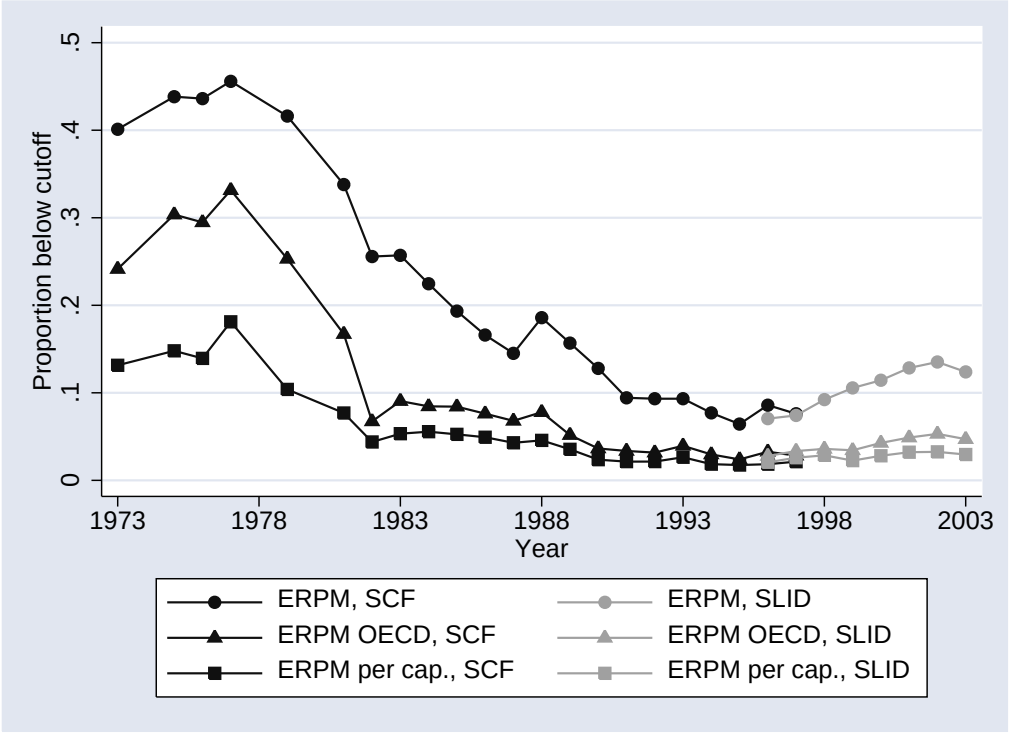


Figure 9: ERPM Rates Across Ages for 1975-1979, 1980-1984, 1985-1989

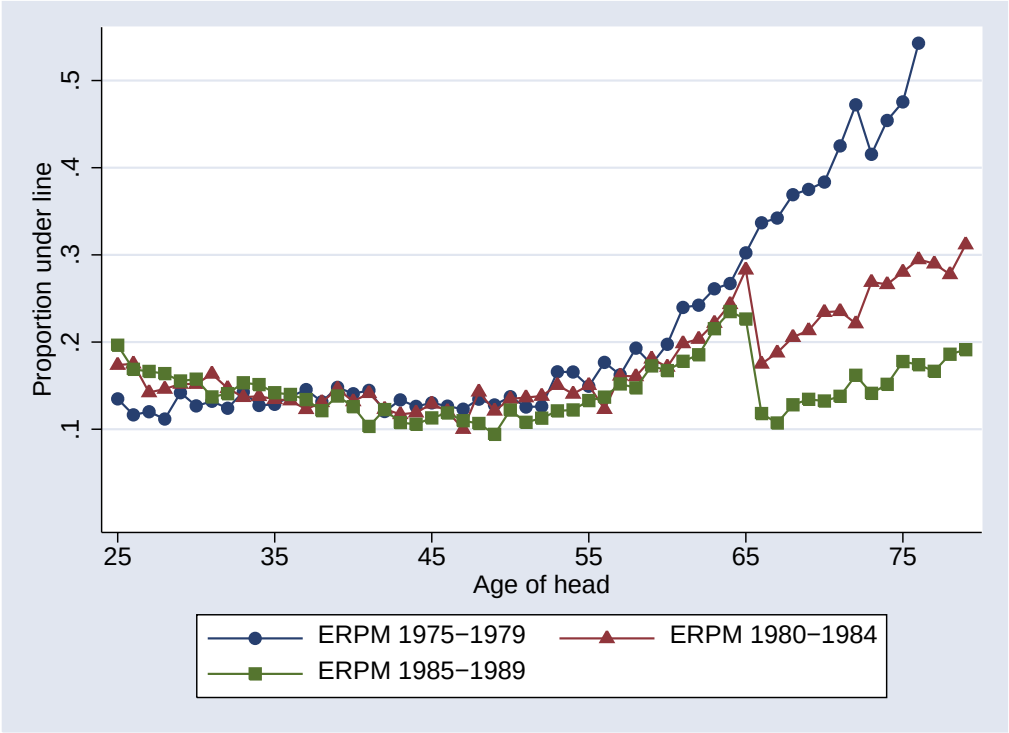


Figure 10: ERPM Rates Across Ages for 1990-1994, 1995-1999, 2000-2003

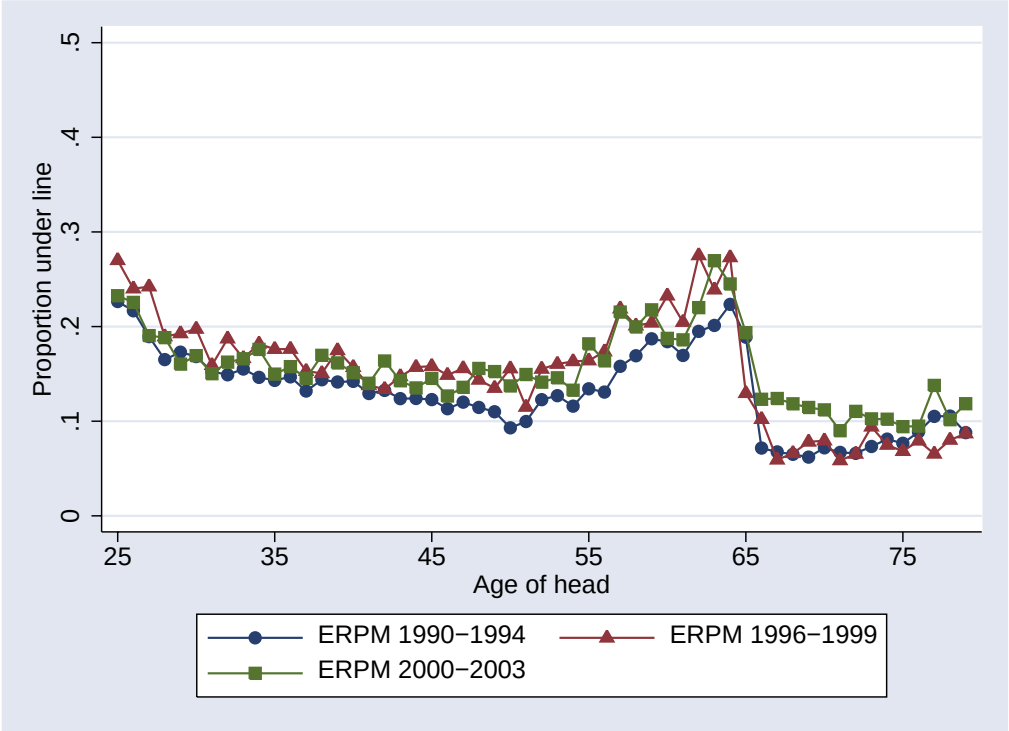


Figure 11: Consumption Percentiles, Non-durables Plus Housing

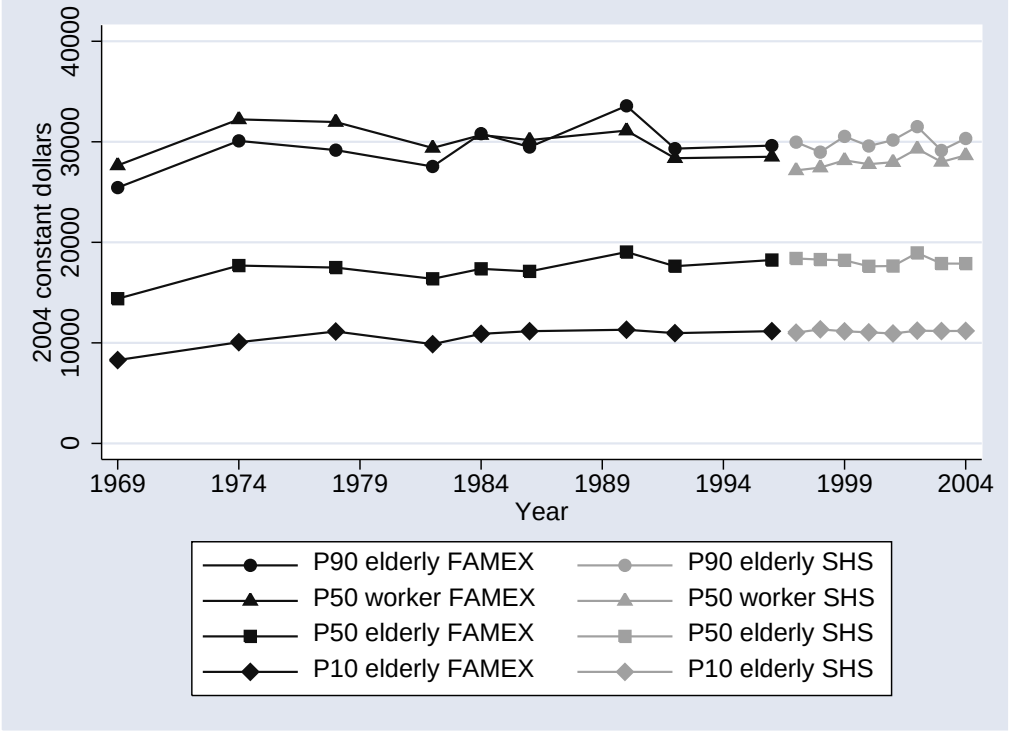


Figure 12: Consumption Percentiles, Relative to 1969

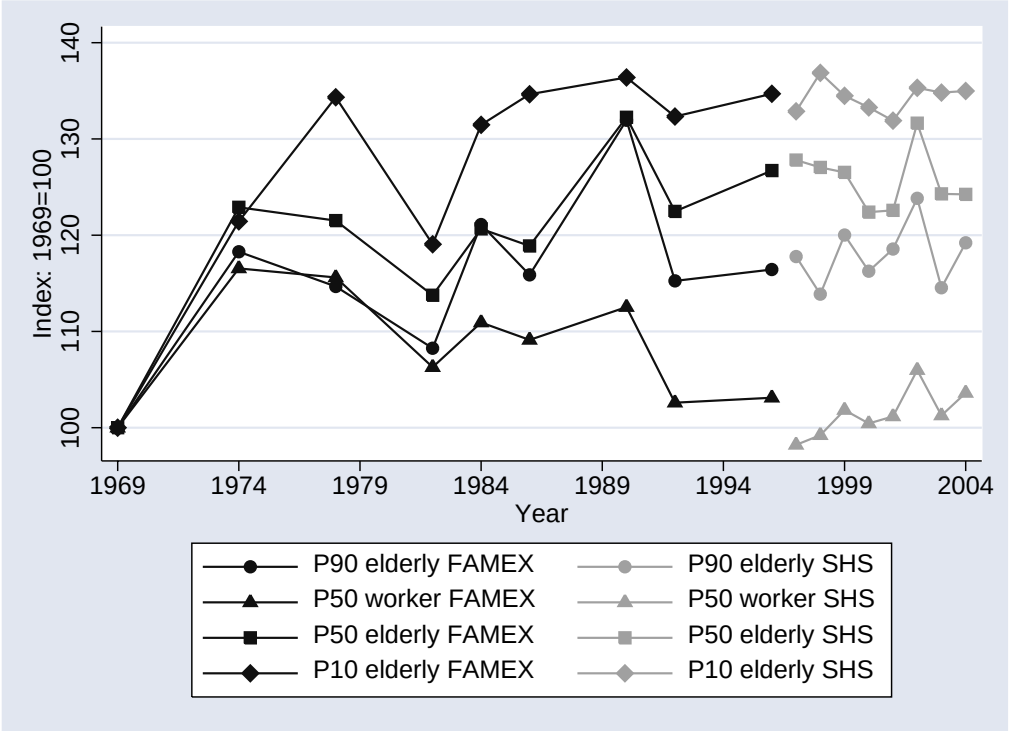


Figure 13: Consumption Cutoffs

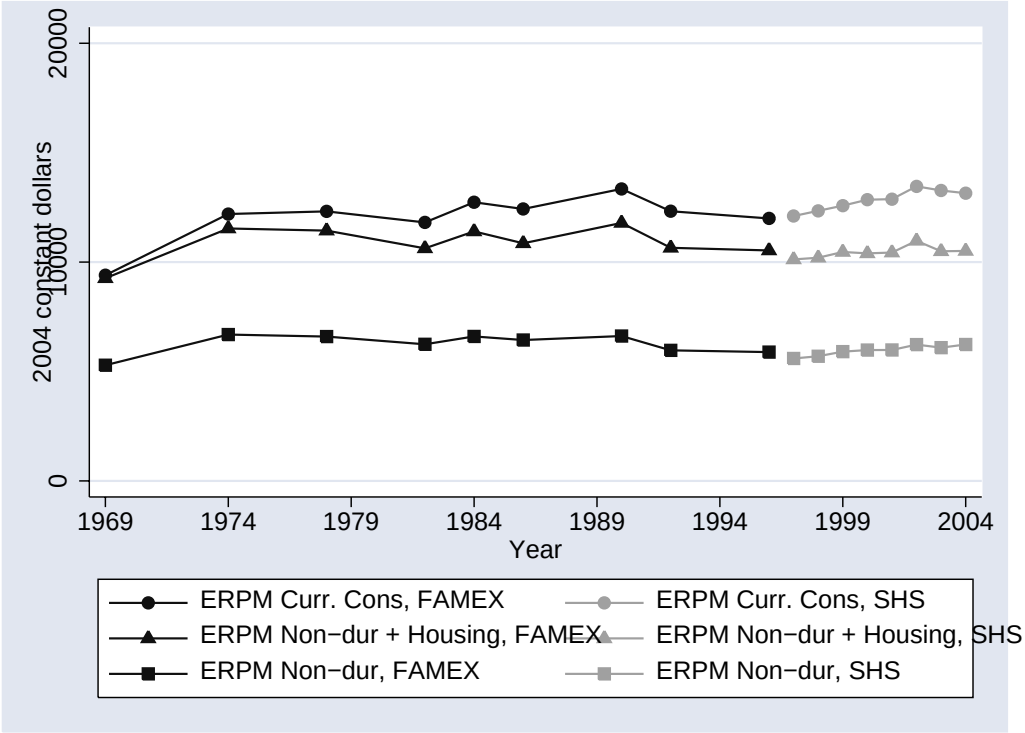


Figure 14: ERPM for different consumption measures

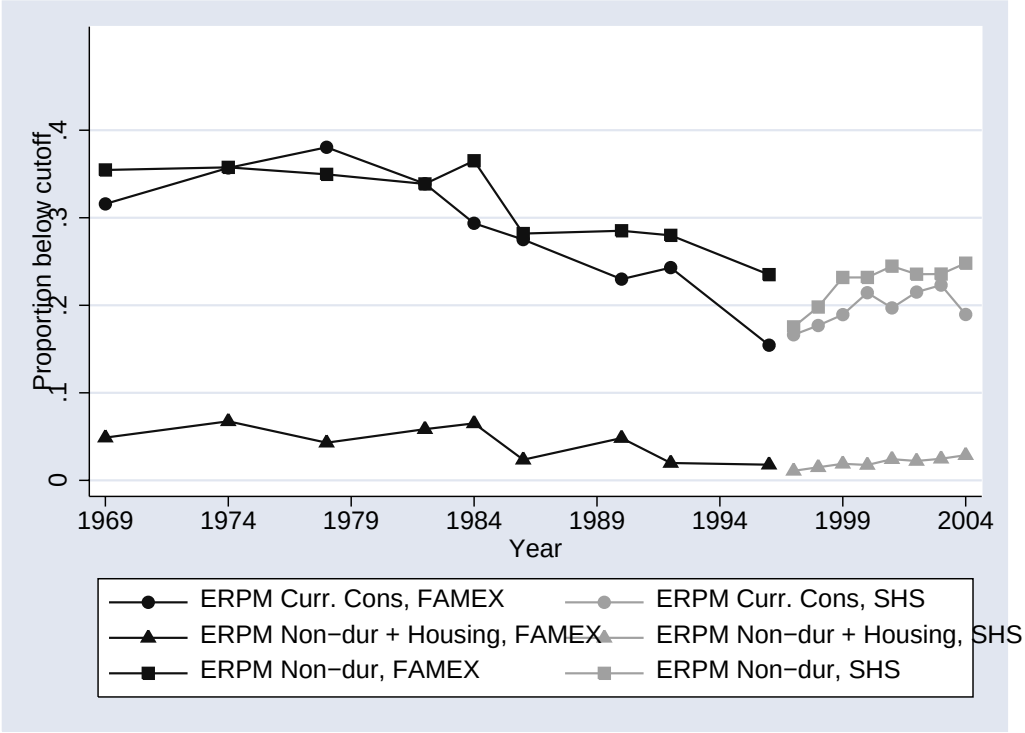


Figure 15: ERPM for Consumption Across ages, 1974-1990 (Non-durable plus Housing)

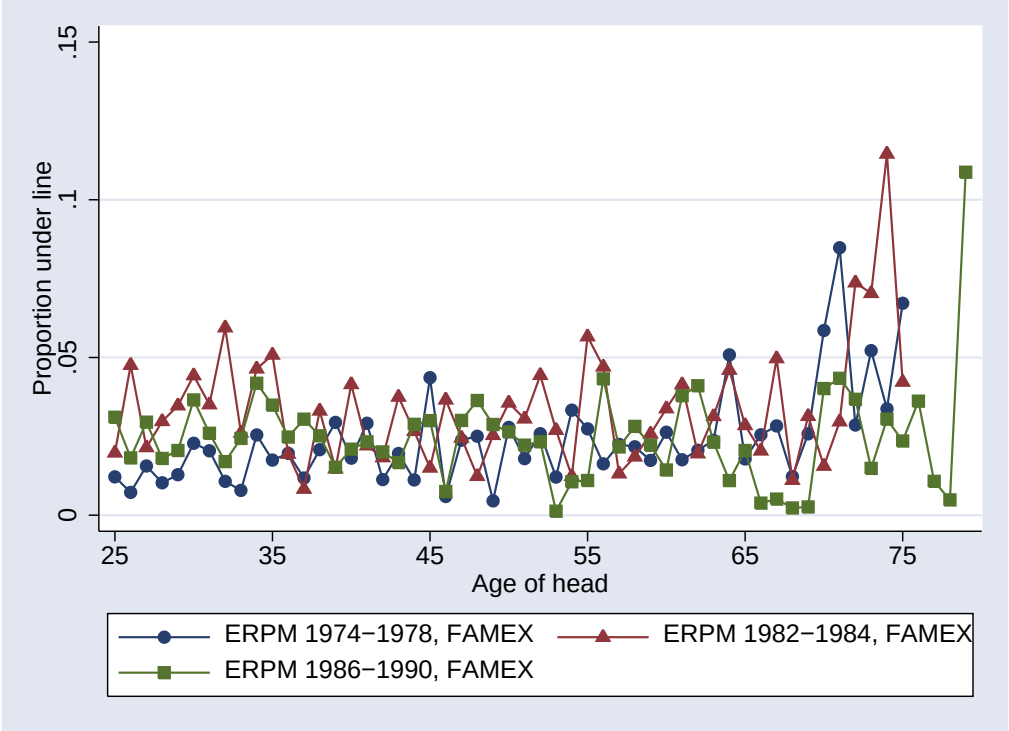


Figure 16: ERPM for Consumption Across ages, 1992-2004 (Non-durable plus Housing)

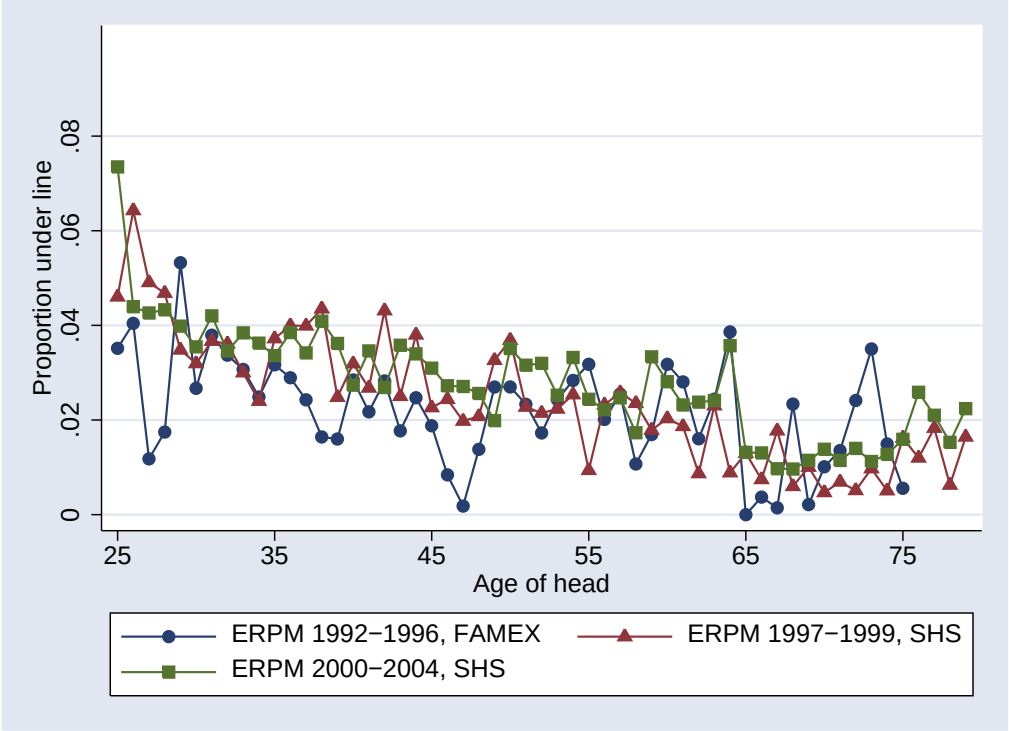


Figure 17: ERPM for Consumption Across ages, 1992-2004, No housing imputation

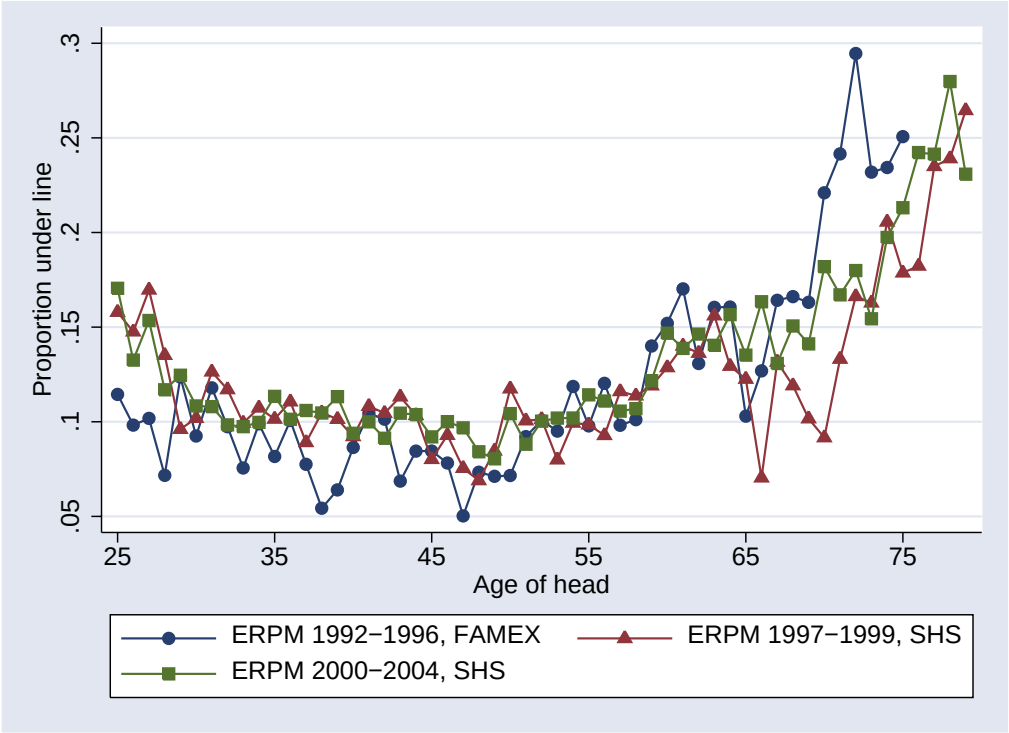
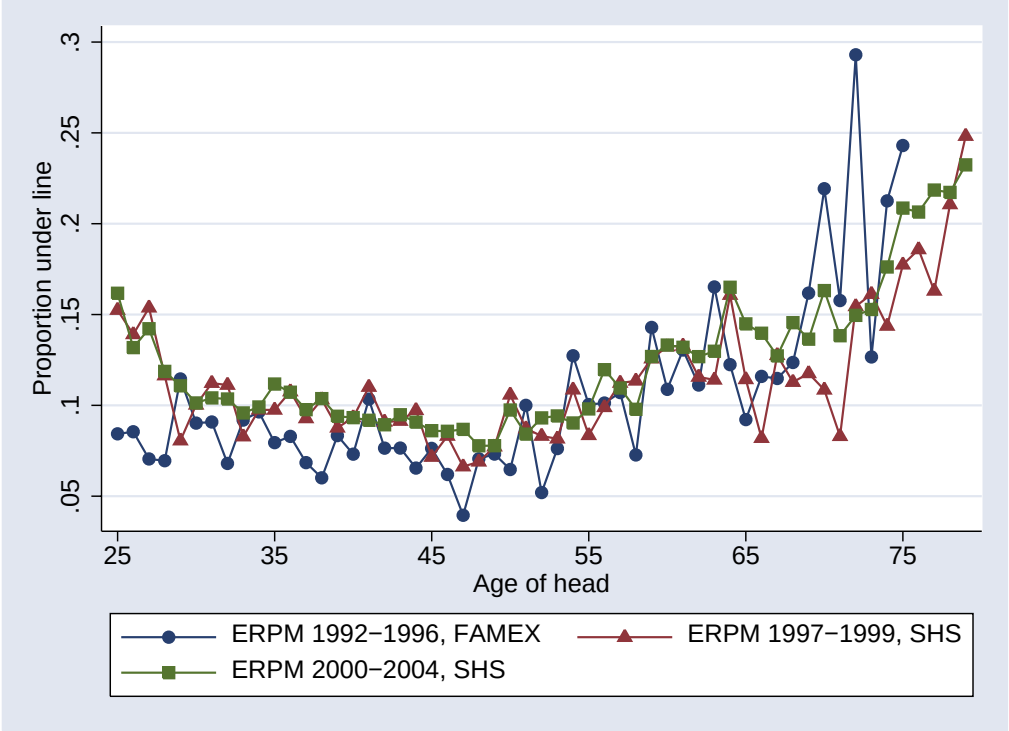


Figure 18: ERPM for Consumption Across ages, 1992-2004, Current Expenditure



SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
(2004)		
No. 114:	The Politics of Protest Avoidance: Policy Windows, Labor Mobilization, and Pension Reform in France	D. Béland P. Marnier
No. 115:	The Impact of Differential Cost Sharing of Non-Steroidal Anti-Inflammatory Agents on the Use and Costs of Analgesic Drugs	P.V. Grootendorst J.K. Marshall A.M. Holbrook L.R. Dolovich B.J. O'Brien A.R. Levy
No. 116:	The Wealth of Mexican Americans	D.A. Cobb-Clark V. Hildebrand
No. 117:	Precautionary Wealth and Portfolio Allocation: Evidence from Canadian Microdata	S. Alan
No. 118:	Financial Planning for Later Life: Subjective Understandings of Catalysts and Constraints	C.L. Kemp C.J. Rosenthal M. Denton
No. 119:	The Effect of Health Changes and Long-term Health on the Work Activity of Older Canadians	D. Wing Han Au T.F. Crossley M. Schellhorn
No. 120:	Pension Reform and Financial Investment in the United States and Canada	D. Béland
No. 121:	Exploring the Returns to Scale in Food Preparation (Baking Penny Buns at Home)	T.F. Crossley Y. Lu
No. 122:	Life-cycle Asset Accumulation and Allocation in Canada	K. Milligan
No. 123:	Healthy Aging at Older Ages: Are Income and Education Important?	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
(2005)		
No. 124:	Exploring the Use of a Nonparametrically Generated Instrumental Variable in the Estimation of a Linear Parametric Equation	F.T. Denton
No. 125:	Borrowing Constraints, The Cost of Precautionary Saving, and Unemployment Insurance	T.F. Crossley H.W. Low

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 126:	Entry Costs and Stock Market Participation Over the Life Cycle	S. Alan
No. 127:	Income Inequality and Self-Rated Health Status: Evidence from the European Community Household Panel	V. Hildebrand P. Van Kerm
No. 128:	Where Have All The Home Care Workers Gone?	M. Denton I.U. Zeytinoglu S. Davies D. Hunter
No. 129:	Survey Results of the New Health Care Worker Study: Implications of Changing Employment Patterns	I.U. Zeytinoglu M. Denton S. Davies A. Baumann J. Blythe A. Higgins
No. 130:	Does One Size Fit All? The CPI and Canadian Seniors	M. Brzozowski
No. 131:	Unexploited Connections Between Intra- and Inter-temporal Allocation	T.F. Crossley H.W. Low
No. 132:	Grandparents Raising Grandchildren in Canada: A Profile of Skipped Generation Families	E. Fuller-Thomson
No. 133:	Measurement Errors in Recall Food Expenditure Data	N. Ahmed M. Brzozowski T.F. Crossley
No. 134:	The Effect of Health Changes and Long-term Health on the Work Activity of Older Canadians	D.W.H. Au T. F. Crossley M.. Schellhorn
No. 135:	Population Aging and the Macroeconomy: Explorations in the Use of Immigration as an Instrument of Control	F. T. Denton B. G. Spencer
No. 136:	Users and Suppliers of Physician Services: A Tale of Two Populations	F.T. Denton A. Gafni B.G. Spencer
No. 137:	MEDS-D USERS' MANUAL	F.T. Denton C.H. Feaver B.G.. Spencer

Number	Title	Author(s)
No. 138:	MEDS-E USERS' MANUAL	F.T. Denton C.H. Feaver B.G. Spencer
No. 139:	Socioeconomic Influences on the Health of Older Canadians: Estimates Based on Two Longitudinal Surveys (Revised Version of No. 112)	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
No. 140:	Developing New Strategies to Support Future Caregivers of the Aged in Canada: Projections of Need and their Policy Implications	J. Keefe J. Légaré Y. Carrière
No. 141:	Les Premiers Baby-Boomers Québécois font-ils une Meilleure Préparation Financière à la Retraite que leurs Parents? Revenu, Patrimoine, Protection en Matière de Pensions et Facteurs Démographiques	L. Mo J. Légaré
No. 142:	Welfare Restructuring without Partisan Cooperation: The Role of Party Collusion in Blame Avoidance	M. Hering
No. 143:	Ethnicity and Health: An Analysis of Physical Health Differences across Twenty-one Ethnocultural Groups in Canada	S. Prus Z. Lin
No. 144:	The Health Behaviours of Immigrants and Native-Born People in Canada	J.T. McDonald
No. 145:	Ethnicity, Immigration and Cancer Screening: Evidence for Canadian Women	J.T. McDonald S. Kennedy
No. 146:	Population Aging in Canada: Software for Exploring the Implications for the Labour Force and the Productive Capacity of the Economy	F.T. Denton C.H. Feaver B.G. Spencer
(2006)		
No. 147:	The Portfolio Choices of Hispanic Couples	D.A. Cobb-Clark V.A. Hildebrand
No. 148:	Inter-provincial Migration of Income among Canada's Older Population:1996-2001	K.B. Newbold
No. 149:	Joint Taxation and the Labour Supply of Married Women: Evidence from the Canadian Tax Reform of 1988	T.F. Crossley S.H. Jeon
No. 150:	What Ownership Society? Debating Housing and Social Security Reform in the United States	D. Béland

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 151:	Home Cooking, Food Consumption and Food Production among the Unemployed and Retired Households	M. Brzozowski Y. Lu
No. 152:	The Long-Run Cost of Job Loss as Measured by Consumption Changes	M. Browning T.F. Crossley
No. 153:	Do the Rich Save More in Canada?	S. Alan K. Atalay T.F. Crossley
No. 154:	Income Inequality over the Later-life Course: A Comparative Analysis of Seven OECD Countries	R.L. Brown S.G. Prus
No. 155:	The Social Cost-of-Living: Welfare Foundations and Estimation	T.F. Crossley K. Pendakur
No. 156:	The Top Shares of Older Earners in Canada	M.R. Veall
No. 157:	Le soutien aux personnes âgées en perte d'autonomie: jusqu'où les baby-boomers pourront-ils compter sur leur famille pour répondre à leurs besoins ?	J. Légaré C. Alix Y. Carrière J. Keefe
No. 158:	Les générations X et Y du Québec, vraiment différentes des précédentes ?	J. Légaré P.O. Ménard
No. 159: French	La diversification et la privatisation des sources de revenu de retraite au Canada	L. Mo J. Légaré L. Stone
No. 159: English	The Diversification and the Privatization of the Sources of Retirement Income in Canada	L. Mo J. Légaré L. Stone
No. 160:	Evaluating Pension Portability Reforms: The Tax Reform Act of 1986 as a Natural Experiment	V. Andrietti V.A. Hildebrand
No. 161:	Estimating a Collective Household Model with Survey Data on Financial Satisfaction	R. Alessie T.F. Crossley V.A. Hildebrand
No. 162:	Physician Labour Supply in Canada: A Cohort Analysis	T.F. Crossley J. Hurley S.H. Jeon
No. 163:	Tax Incentives and Household Portfolios: A Panel Data Analysis	S. Alan S. Leth-Petersen

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 164:	The Healthy Immigrant Effect and Immigrant Selection: Evidence from Four Countries	S. Kennedy J.T. McDonald N. Biddle
No. 165:	Well-Being Throughout the Senior Years: An Issues Paper on Key Events and Transitions in Later Life	M. Denton K. Kusch
No. 166:	Satisfied Workers, Retained Workers: Effects of Work and Work Environment on Homecare Workers' Job Satisfaction, Stress, Physical Health, and Retention	I.U. Zeytinoglu M. Denton
No. 167:	Contrasting Inequalities: Comparing Correlates of Health in Canada and the United States	H. Armstrong W. Clement Z. Lin S. Prus
(2007)		
No. 168:	Health human resources planning and the production of health: Development of an extended analytical framework for needs-based health human resources planning	S. Birch G. Kephart G. Tomblin-Murphy L. O'Brien-Pallas R. Alder A. MacKenzie
No. 169:	Gender Inequality in the Wealth of Older Canadians	M. Denton L. Boos
No. 170:	The Evolution of Elderly Poverty in Canada	K. Milligan