

## ABSTRACT

### THE CHANGING ECONOMIC CIRCUMSTANCES OF THE OLDER POPULATION: A COHORT ANALYSIS

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The paper provides an analysis of the economic circumstances of Canadian cohorts in older phases of the life cycle. It begins by discussing the definition of “old” and the case for an upward revision of the traditional age-65 definition. It then goes on to consider changes in patterns of labour force participation of older age groups, their income levels and distribution, the importance of government transfer payments, consumption levels and patterns of saving, the extent of home ownership and mortgage status, and the effects of inflation.

# THE CHANGING ECONOMIC CIRCUMSTANCES OF THE OLDER

## POPULATION: A COHORT ANALYSIS\*

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### 1. INTRODUCTION

This paper is intended as a contribution to the understanding of how economic circumstances change as people move from working age into, and through, the “old age” phase of the life cycle -- how their incomes change, their consumption levels, their patterns of saving or dissaving, and other characteristics.

The data base for a study of this kind is not as strong as one would like. There are no relevant longitudinal surveys of income and consumption in Canada. There are no recent surveys of household assets and liabilities. (The last such survey by Statistics Canada was in 1984.) Sample sizes for the older ages tend to be small in household surveys of income and expenditure, and the age information itself rather limited. Moreover, the frequency and geographic coverage of the surveys have varied over the years. A proper understanding of the economic effects and correlates of aging requires cohort analysis, in our view, and the limitations of the available data make the study of cohort patterns particularly difficult. Nevertheless, that is what we attempt in this paper.

The absence of longitudinal data makes true cohort analysis impossible. However, by interpolation to fill in the gaps between successive household surveys we have generated annual time series going back from the early 1990s to the late 1960s -- roughly a quarter of a century -- and

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have constructed from those series what may be called “pseudo-cohort” observations at five year intervals. We have done that for both the Survey of Consumer Finances (SCF) and the Family Expenditure Survey (FAMEX). A pseudo-cohort differs from a true cohort in that its membership is not constant through time. However, one can hope that its changing characteristics (average incomes, for example) will provide a satisfactory approximation to the changes that occur in the true cohort it is intended to represent.

We draw heavily on our constructed SCF and FAMEX estimates in what follows, supplemented by pseudo-cohort data derived from Revenue Canada taxation statistics and the Labour Force Survey. We consider the changing patterns of labour force participation of older age groups, their income levels and distribution, the importance of government transfer payments, consumption levels and patterns of saving, the extent of home ownership and mortgage status, and the effects of inflation. First, though, we consider the rather important question of what is an appropriate definition of “old age” in the 1990s.

## 2. HOW OLD IS OLD?

Sixty-five has long been regarded as the point of entry into “old age.” It has served as a marker for identifying the “elderly” in studies requiring statistical classification of the population and it has served as the conventional age of mandatory or normal retirement, the standard age for entitlement to private or public pensions, and the age of eligibility for seniors’ benefits of various kinds -- tax benefits, discounts on retail purchases and public transportation fares, and so on. But the average duration of life has increased over the decades, and the years of life beyond 65 have been extended. Is it therefore still reasonable to view 65 as the boundary of “old age”? The obvious answer is no -- some revision is needed -- and the issue then becomes that of choosing a new definition. In another

study (Denton and Spencer, 1996) we have carried out a comparative analysis of Canadian life tables for 1951 and 1991 in order to throw some light on that issue. Specifically, we have sought to answer the following three questions: (1) If 65 is taken as a definition of old age in Canada in 1951, according to some life table criterion, what is the corresponding age in 1991? (2) To what extent does the age in 1991 that corresponds to 65 in 1951 vary when different criteria are used? (3) If 65 was (implicitly) a male-oriented definition in 1951, as we believe it was, what would have been a more appropriate definition for women at that time, and what is an appropriate one for women in 1991, or more generally, in the 1990s?

We employed a range of alternative criteria in our earlier study, based on the two life tables, and found the results to be in general agreement. (The criteria included mean, median, and modal years of life remaining, years remaining as a percentage of total years ahead at birth, survival rates over various periods, and a number of others -- nineteen criteria, in all.) Our conclusions can be summarized as follows: (1) If 65 was accepted as a definition of old for males in 1951, the definition should be revised to about 68½ in 1991. (2) If 65 was accepted as a definition of old for females in 1951, then 71 should be the corresponding definition in 1991. (3) If 65 is viewed as a male-oriented definition of old in 1951 (because the work place was male-dominated and notions of retirement applied primarily to men), then the corresponding definitions for females should be about 67½ in 1951, rather than 65, and 73 or 73½ in 1991.

For many purposes it is inconvenient to have different definitions for men and women. If a single definition is required, and if the definition is to be restricted to five-year intervals for statistical convenience, then 70 is the obvious choice for the 1990s. If mortality rates continue to fall, as history suggests they will, the definition may need further revision in the future. Analyses

of population aging should recognize that a constant definition of “old” is unrealistic for comparisons over long periods, and at the very least should consider age groups within the older population, whatever may be the definition chosen. The data available at present place severe limits on the information about age groups within the older population but, in what follows, we attempt to make the best use we can of those data.

### 3. CHANGING PATTERNS OF LABOUR FORCE PARTICIPATION

If the male average lifespan has lengthened in the past few decades the same is not true of the working life span; indeed, just the opposite has occurred. Table 1 and Figure 1 show labour force participation rates for five-year age groups from 50-54 to 65-69, arranged by cohorts. (Rates for the first three groups had to be estimated by interpolation from data for ten-year groups but it is unlikely that they are far from the mark.) Here, as in subsequent tables and figures, each cohort is identified by the year in which it was 50-54 years of age and for convenience we shall refer to “the 1960 cohort,” “the 1965 cohort,” etc. (Note that we now use the term “cohort” rather than the somewhat awkward term “pseudo-cohort,” although what we are looking at are, in fact, pseudo-cohort data.) Cells in the table for which figures are not available because they relate to the future are indicated by a double dash (--).

The participation rate has fallen for men in every age group for every cohort. The 1960 cohort had a rate of 73.5 percent when it was 60-64, by our estimate; in contrast, the 1985 cohort had a rate of only 47.0 percent when it was of that age. One could say that the average age of retirement has fallen sharply for men. However, the concept of “retirement” itself seems somewhat blurred. At the least, the notion of a planned cessation of work at 65 or some other fixed age seems much less applicable than it did thirty or forty years ago. Unanticipated job terminations and “early

retirements” have played a role in recent years, but the participation rates of older males had started to decline much longer ago. Taken as a whole, the long-term downward trend for males would seem to be a result of both voluntary choice and diminished job security or availability.<sup>1</sup>

The participation rates of women are a different story. The long-standing trend towards greater participation has tended to raise the rates for women during the past thirty-five years for ages up to about 60 or so. The rates for women in their early-to-mid 60s have been roughly constant (in contrast to the sharply declining male rates), while those for older women have fallen somewhat.

Table 1 and Figure 1 suggest that the peak participation rates for both men and women occur in the early-50s age range, if not somewhat sooner. The notion of entering the labour force in early adulthood and working until the age of 65 or so fails badly as a general model of the actual average working life, even for men. The transition from pre-retirement to post-retirement seems to be far more gradual, in an average sense, than the traditional model for males would suggest. In fact, the traditional model probably never was a very good approximation to reality but it has now become grossly inaccurate.

#### 4. INCOME LEVELS AND DISTRIBUTION

Tables 2-5 present data, assembled in cohort form, relating to the average levels and distribution of the incomes of older age groups. Tables 2-4 are based on data from the Survey of Consumer Finances and the Family Expenditure Survey. The data on which Table 5 is based are from Revenue Canada Taxation Statistics. “Snapshots” showing the age progression of the cohorts are shown at five-year intervals, ending with the most recent survey dates. The cohort series based on SCF data are for 1993, 1988, 1983, and so on, back to 1953, where the years are those in which a cohort was aged 50-54; the series based on FAMEX data are for 1992, 1987, 1982, back to 1952; the series

based on Taxation Statistics are for 1993, 1988, 1983, back to 1948. As is typical of cohort presentations, some -- in fact many -- of the series are incomplete: the cohorts have not yet passed through all of the age groups, or the data do not go back far enough to provide information about them at earlier ages. In some cases, too, there were changes along the way in the amount of age detail available. Cells for which data are not available are indicated by a double dash (--).

Tables 2-4 show mean incomes, median incomes, income levels at the first (i.e., lowest) quartiles of the income distributions, and the interquartile ranges -- the differences between the first and third quartiles -- as percentages of the median. (The latter measure is an indicator of the degree of dispersion or inequality in the income distribution.) In the case of Table 5, the taxation statistics were available only in the form of published tables (rather than underlying micro data), and only means could be calculated.

Tables 2-4 are for husband/wife households (with no one else present) living in large metropolitan areas (areas with 100,000 or more population), and the income measures relate to household income. Table 5, on the other hand, is for individuals filing income tax returns, with no geographic restriction. The figures in Table 5 are thus not directly comparable with those in the other tables.

The decision to restrict Tables 2-4 to husband/wife households in large metropolitan areas was made for two reasons. First, geographic coverage has varied over the history of the surveys, and data were not always available for areas below the large metropolitan level. Second, restricting the calculations to two-person, husband/wife units made the observations more homogeneous by eliminating the effects of differences in household composition, both across households in a given year and through time. The disadvantages of imposing the two kinds of restriction are, of course,

reduced sample sizes and that the analysis must be silent on questions relating to the broader population. On balance, it was our view that the homogeneity advantage outweighed the disadvantage of the limited coverage.<sup>2</sup> By taking account also of income information for tax filers, though, we hoped to provide a more broadly based supplement to the somewhat restricted analysis of the household survey data.

The income figures in Tables 2-5 are expressed in 1996 dollars, using for that purpose the all-Canada Consumer Price Index. We have used 1996 as base for the calculation in order to make it easier (from the perspective of 1996) to relate the figures to current income levels. At the time of the calculations, the Consumer Price Index was available for only the first seven months of 1996, and an index value for the year as a whole had to be estimated. (The estimation assumed the same percentage increase from 1995 to 1996 as from the first seven months of 1995 to the first seven months of 1996.) It is possible that the overall CPI is not the most appropriate measure of price change for older age groups, and that is an issue that deserves future attention. However, work at Statistics Canada and some calculations of our own (Denton and Spencer, 1988) suggest that reweighting the CPI components using a “basket” of goods consumed by older households has little effect on the total index.

Tables 2 and 3 reflect the effects of sampling variability in the SCF and FAMEX data for individual age groups, and the patterns thus have to be interpreted with some caution.<sup>3</sup> One thing that does seem clear from the tables is that there has been a general increase in real after-tax income per household at every age over the range covered. The most recent estimate (for 1992) is in every case higher than the earliest one (for 1972) for every age group, based on the FAMEX data underlying Table 3; that is true for mean income, median income, and the lower end of the income



distribution, as represented by the lowest quartile. Table 2, based on SCF data, tells a generally similar story, although there are differences of detail, and in a few cases the most recent income levels are slightly lower than the earliest ones. Both tables suggest that income gains over the two decades from the early 1970s to the early 1990s occurred largely in the earlier part of the period, and that there may have been some declines since the late 1980s, or at least some levelling off. But again, the patterns are “noisy” in both tables, a consequence no doubt of the sampling variability associated with the small sample sizes for individual age groups.

The last group of columns in each of Tables 2 and 3 shows the percentage ratios of the income variables at ages 60-64 and older to the values at ages 55-59, by cohort. In most cases the means, medians, and lowest-quartile percentage ratios are less than 100, indicating declines in cohort real incomes after ages 55-59. (There is one exception in each of the tables, probably a result of sampling variability in view of the otherwise consistent patterns.) Without exception, the means, medians, and lowest-quartile measures fall in going from 60-64 to 65-69. The FAMEX-based figures in Table 3 show declines from 65-69 to 70-74 for those cohorts for which comparisons are possible, although the SCF-based Table 2 figures are less consistent in that regard. Taking the two tables together, it appears that the “pre-retirement” peaks in median and lowest-quartile incomes have shifted from 55-59 back to the 50-54 age range, a result that is consistent with the declines in labour force participation rates.<sup>4</sup>

Neither Table 2 nor Table 3 provides any convincing evidence of changes in the relative distribution of real after-tax income. There is considerable variation in the dispersion measure -- the interquartile range as a percentage of the median -- but no clear patterns stand out, either within cohorts or from one cohort to another. Similarly, there is no clear pattern of difference between

median and lowest-quartile incomes. We cannot say that the relative income distribution has not changed over time for older cohorts, or within individual age groups, but simply that the household survey evidence presented in the tables does not seem to support conclusions one way or another.

Table 4 and Figure 2 present “synthetic” profiles for real after-tax income. The household profiles are derived by combining the SCF-based data in Table 2 and the FAMEX-based data in Table 3, in the following manner. For each pair of consecutive age groups in those tables there are four matching cohort observations. Thus, for example, in Table 2 the age group 50-54 can be matched with the age group 55-59 for the 1973, 1978, 1983, and 1988 cohorts; the age group 55-59 can be matched with 60-64 for the 1968, 1973, 1978, and 1983 cohorts; and so on. The four matches from Table 2, and the corresponding four from Table 3, can be used to calculate an average (mean) percentage change from one age group to the next, in each case. What we have done to obtain the profiles in Table 4 and Figure 2 is to link the group-to-group percentage changes so calculated to form continuous series, expressed as indexes, with base 100 for the group 55-59. The indexes thus represent average cohort profiles over the period covered by the SCF and FAMEX data underlying Tables 2 and 3. They have the disadvantage of masking any trends that may have been present in the profiles over that period but the considerable advantage of being based on two different surveys and, for each age group, on much larger numbers of observations.

The synthetic profiles tell a clearer story than the individual cohort profiles in Tables 2 and 3, which are subject to greater sampling variability. The first synthetic profile shows mean income as approximately constant from 50-54 to 55-59, falling by about 12 percent by 60-64 and 23 or 24 percent by 65-69, and then remaining at about the same level, or slightly lower, in the 70-74 age range. The profile for median income declines by some 6 points from 50-54 to 55-59, drops by

about the same 12 percent as the mean from 55-59 to 60-64, and then drops by somewhat more by 65-69 and 70-74. The median real after-tax income for the 70-74 age group is almost a third less than the median for the 55-59 group, and more than a third less at age 50-54. The household survey data thus indicate that husband/wife couples -- at least those living in large urban areas -- experience quite sharp declines in their real income levels, on average, by the time they are in their late 60s and early 70s.

The profile for lowest-quartile income shown in Table 4 and Figure 2 is roughly similar to that of median income. There is a suggestion of a less pronounced drop from 65-69 to 70-74 but sampling variability in the underlying data make it unwise to read much into that. The interquartile range as a percentage of the median varies from age group to age group, and there is now some indication that overall income inequality may increase after 50-54, the age group in which median and lowest-quartile income levels are at their highest points.

The taxation statistics on which Table 5 is based do not suffer from sampling variability, as do the earlier ones based on household survey data. They do suffer, though, from the peculiarities of the tax system and from variations in regulations over the years, and for that reason the patterns of change indicated by the table should (like those in the other tables) be treated with some caution. The mean after-tax incomes in Table 5 relate to all tax filers across the country, although separate figures are shown for males and females, as well as for both sexes combined, and they are means per tax filer. That is in contrast to the figures in the tables based on SCF and FAMEX data, which are means per household for husband/wife households living in large metropolitan areas.

The preceding caveats notwithstanding, we note that the cohort patterns indicated by Table 5 for both sexes, and for males alone, are roughly consistent with the household patterns revealed by

the survey-based tables. For one thing, the income peak is seen to be shifting toward younger ages: in the earliest cohorts it occurs in the 60-64 age group; in later cohorts it moves into the 55-59 range, and then into the 50-54 range. This shift stands out in a more consistent way in Table 5, presumably because there is no sampling variability to mask it. The patterns of decline from peak levels as individual cohorts move into the older ages stand out too, although the taxation data permit only two cohort observations for the 70-74 group (and none beyond that).

The cohort patterns for female tax filers are much flatter than the male and both-sexes patterns, presumably, in large part, because of the lesser degree of labour force participation by women at older ages during the period under consideration, and hence the smaller role played by wages or salaries, and the smaller effect therefore of employment termination. To the extent that there are age differences, though, the income peak again appears to shift towards the 55-59 and 50-54 groups.

Table 6 and Figure 2 present synthetic cohort profiles for tax filers calculated in the same way as for households. The profiles are based on the four matching pairs of observations for each consecutive pair of age groups that correspond to those used in the household calculations, in order to facilitate comparisons. (The taxation data available did not permit calculations of medians or quartiles so only the means can be compared; also, only two cohort observations were available for the 70-74 age group, so that group is omitted.) As expected, the cohort income pattern for female tax filers is seen to be quite flat. The both-sexes and male patterns show general similarity to the survey-based pattern for husband/wife households -- perhaps a greater degree of similarity than one might have expected, given the differences in data sources, units of measurement (tax filers vs. households), and geographic coverage. The tax-filer patterns show somewhat higher income index levels, both before ages 55-59 and after. All in all, though, the tax-filer and household profiles tell

generally similar stories about mean incomes of Canadian cohorts over the early-50s-to-late-60s age range.

## 5. HOW IMPORTANT ARE TRANSFER PAYMENTS?

The short answer is that they are very important. Government transfer payments include family allowances, unemployment insurance, old age security, guaranteed income supplements, Canada and Quebec pension plan benefits, social assistance, child tax credits, provincial tax credits, and GST credits. Table 7 shows the transfer payments as a percentage of total income, by age group and cohort, based separately on SCF data and FAMEX data, once again for husband/wife households in large metropolitan areas. The two sets of data disagree in some details, in consequence of sampling variability, and probably minor differences in income or other definitions. But overall they are generally similar. The cohort series based on FAMEX data are plotted in Figure 3.

For all households combined, the average proportion of income coming from government transfer payments is low before 60, increases somewhat in the 60-64 age range, increases sharply as a cohort moves into the 65-69 range, and then increases again as the cohort moves beyond age 70. (Some of the apparent change from 65-69 to 70-74 may be a consequence of assigning households to age groups on the basis of husbands' ages. Wives are, on average, about two years younger than husbands, and some would not yet have turned 65 when their husbands were in the 65-69 range, and would therefore not have begun to receive OAS, and possibly other benefits.) The proportions show general upward time trends in all age groups. For the most recent cohorts for which data are available, on average about a third of all income comes from government transfer sources for the 65-69 age group, and roughly 40 to 50 percent comes from those sources for the 70-74 group.

The proportions are even more striking for the lowest-quartile income group, as shown in the lower halves of Table 7 and Figure 3. Even before age 65 transfer payments account for a large fraction of total income -- 40 or 50 percent for the 60-64 group, based on the most recent surveys. For ages older than 65, though, the proportion moves into the 70 to 90 percent range, and that is not a new development. It is true of all cohorts, going back as far as Table 7 permits. Clearly, households at the lower end of the income spectrum are dependent in the extreme on government transfer payments.

A point to note in connection with government transfer payments is that they are generally fully indexed against inflation, and hence provide some degree of income stability for those dependent on them. Employment pensions may or may not be indexed, and if they are, the indexing may provide only partial protection. Incomes from private investments may adjust to inflation, depending on the nature of the investment instrument, but they may be subject to uncertain variation as interest and dividend rates fluctuate.

## 6. CONSUMPTION IN THE LATER STAGES OF THE LIFE CYCLE

Although income is frequently used as a measure of the “welfare” or “well being” of older people (and others), consumption is likely a better measure. Estimates of consumption (consumer expenditure on goods and services) are provided by the FAMEX surveys. We have converted the FAMEX data to “real” form, using again the all-Canada CPI, and we display the results in Table 8. The table is set up in the same way as Table 3, and thus shows cohort profiles, by age, for mean consumption per household (husband/wife households in large metropolitan areas), for median consumption, and for lowest-quartile consumption, as well as the same measure of income dispersion as before. We have also derived synthetic cohort estimates in the same way as before,

and those are presented in Table 9 and plotted in Figure 4.

The cohort consumption patterns bear much similarity to the income patterns, although the levels appear to fall by a little less as households age. Consumption can be financed out of savings in old age, of course, as well as out of current income. Nevertheless, the consumption and income patterns show only relatively minor differences. The shift of peak consumption towards the younger end of the older-population age spectrum conforms, at least roughly, with the shift of the income peak. The pattern of decline in household consumption as a cohort ages is more or less the same, whether one looks at mean consumption, median consumption, or lowest-quartile consumption, based on the synthetic cohort estimates of Table 9 and Figure 4. By the time the cohort has reached 70-74 its consumption level, in real terms, is about three quarters of what it was at ages 55-59, and somewhat less than three quarters of what it was at 50-54. It should be kept in mind that these patterns relate to two-person (husband/wife) households over the whole of the age range considered; changes in household size thus play no role in determining them.

## 7. DO OLDER PEOPLE USE UP THEIR SAVINGS?

The basic economic theory of the life cycle views households as saving during their working lives, and then living off their savings in old age. The Canadian data, aggregated over all income levels, do not reflect such a pattern: instead of positive saving rates before old age, and then negative rates (dissaving) as older households run down their assets, the data indicate that older households continue to save at substantial rates. Saving and asset holdings are difficult to measure accurately, and indeed there have been no surveys of household assets in Canada for many years. But estimates of saving rates can be calculated in two different ways from FAMEX data, and the results, while different in detail, are quite consistent in overall pattern: saving rates remain positive

in old age. This phenomenon has been well documented by Burbidge and Robb (1985) and Burbidge and Davies (1994a, 1994b). Our results, as presented in Table 10 and Figure 5, are consistent with their findings.

Table 10 shows cohort mean and median saving rates derived from FAMEX data, for all husband/wife households combined, without regard to income. One set of rates is calculated directly, using net change in assets as reported in the FAMEX surveys, and expressing it as a percentage of reported after-tax income. The other set uses saving derived indirectly as the numerator in the calculation, based on the identity saving equals after-tax income, plus other money received, minus consumption, minus gifts and contributions.<sup>5</sup>

The saving rates fluctuate considerably from year to year and age group to age group, as a result in large measure, no doubt, of sampling variability in the FAMEX survey data. Nevertheless, the rates are consistently positive for every cohort, whichever method of calculation is used, and whether one looks at means or medians. Our view is that the indirect estimates are probably more accurate, and if one uses them the mean overall saving rates for the age group 70-74 average to about 16 percent, over the five cohorts for which 70-74 rates are available, and the median rates average to about 11 percent. If one uses the direct estimates, the mean rates average to about 13 percent and the median rates to 7 percent. The saving rates averaged in this way are plotted, for all age groups, in Figure 5.

One can think of various reasons why older people might not try to use up all of their assets before dying. For one thing, the date of death is uncertain: at every age there is some probability of living longer, and hence a motive for continuing to hold wealth. For another, there is a bequest motive -- a desire to leave some wealth to one's spouse, children, or others. What is perhaps



surprising, though, is that not only are assets not reduced slowly, but that in fact they continue to be augmented by positive net saving in old age, at least up to the 70-74 age range.

The foregoing relates to all husband/wife households in large urban areas, disregarding level of income. If one looks only at the lower-income households in that population the situation changes markedly. Table 11 and Figure 6 mirror Table 10 and Figure 5, except that they pertain to the lowest 25 percent of the income distribution. Unlike the aggregate saving rates, the rates for that group are typically negative or close to zero. (As the figure shows, the average rates are negative at every age, however they are calculated.) The consistently positive saving rates are thus a characteristic of middle or higher-income groups, as one might suppose would be the case. A household with relatively little income coming in may have no choice but to run down its accumulated wealth, if indeed it has any.<sup>6</sup>

## 8. HOME OWNERSHIP AMONG THE ELDERLY

The home is the biggest asset for most households that own their own homes. It is of interest, therefore, to see what proportion of elderly households do in fact own their own homes. The answer, in brief, is a very high proportion, at least if we confine our attention to the same group as before -- husband/wife households in large metropolitan areas.

Table 12 shows estimated percentages of home owners in different cohorts at different ages. The estimates are based, separately, on SCF data and FAMEX data. Overall the two sets of data yield quite similar results. The figures for the most recent cohorts for which observations are available are generally in the 70 to 80 percent range, even at the older ages shown in the table. There are a few estimates below 70 percent and a few above 80, but roughly speaking that is the range in which the figures are concentrated.

Another feature of note in Table 12 is that the ownership percentages generally rise in every age group. Thus, for example, the SCF data yield an estimate of 68.8 percent for the earliest cohort at age 60-64, and an estimate of 84.2 for the latest cohort at that age; the same data yield estimates of 66.1 percent, rising to 82.3, for the 65-69 age group, and 59.8 percent, rising to 82.0, for the 70-74 group. (Two notable exceptions are the most recent FAMEX-based estimates for the 50-54 and 55-59 groups, which show substantial decreases in the most recent year. We are inclined to discount those decreases, in light of the general patterns reflected in the table, and the fact that the corresponding SCF estimates show increases rather than decreases.) Although the pattern is somewhat less consistent, there is a general tendency evident from Table 12 for the ownership percentages to rise with age within a cohort, through into the mid-seventies age range. At the least, the table suggests that households that are home owners -- and that is the vast majority of the group we are studying -- continue to be homeowners through their sixties and seventies. That is not to say, of course, that they do not sell their homes and buy smaller ones at those ages, and some no doubt do. But the data indicate very strongly that they maintain their residential ownership in one form or another as they age.

Mortgage status is another aspect of home ownership that is of interest. Table 13 and Figure 7 show estimated percentages of homeownership households that have mortgages, again based separately on SCF and FAMEX data. (The SCF data do not provide mortgage information before the 1979 survey, and thus fewer cohorts are shown in the table, based on those data.) In general, the percentages decline with age, within cohorts. (There are some anomalies, which are likely the result of sampling variability.) From roughly 40 to 60 percent at age 50-54, the percentage declines in most cases to somewhere in the neighbourhood of 10 percent by age 70-74. Put differently, about

nine out of ten homeowners own their homes outright by the time they are in their early seventies. Even among those household that do have mortgages, it is safe to say that in most cases the mortgages are old, and that the largest shares of blended monthly payments would therefore be repayments of principal rather than interest charges, and hence would represent saving.

## 9. INFLATION AND THE EROSION OF PURCHASING POWER

People of working age whose incomes are mainly from employment have some protection against inflation: over the longer term, at least, wages and salaries tend to respond to increases in the general price level. For many older people, though, inflation protection may be limited, and loss of purchasing power a major risk. Government transfer payments are indexed to the CPI in most cases but income from employment pensions may not be, or may be indexed only to a limited extent. The effects of inflation on the incomes and consumption levels of older people stand out clearly in Table 14 and Figure 8, in which synthetic cohort age profiles for nominal, or current-dollar household income and consumption, are shown together with the corresponding constant-dollar profiles. The constant-dollar profiles, expressed in index form, are reproduced from Tables 4, 6, and 9. The current-dollar profiles are calculated in the same way as the constant-dollar ones to allow direct comparisons.

Table 14 and Figure 8 present profiles for household income based on combined SCF and FAMEX data, for tax-filer income, and for household consumption based on FAMEX data, but it matters little which profiles we look at. In every case except one, income or consumption rises substantially from one age group to the next after age 55-59, when measured in current dollars, but falls when measured in constant dollars -- in terms of actual purchasing power, that is. (The lone exception is income of female tax-filers, which is almost certainly influenced by the characteristics

of the tax system, including the joint filing option for spouses, by changing patterns of labour force participation, by the relatively high proportion of income represented by OAS benefits for women over age 65, and perhaps other factors.) Mean household income in current dollars rises by about 71 percent from age 55-59 to age 70-74, while in constant dollars it declines by 26 percent; median household income rises by about 60 percent in current dollars but falls by 32 percent in constant dollars. Except for female tax filers, the patterns exhibited by the several profiles -- consumption as well as income -- are generally similar. Clearly inflation is a concern of the first order in any assessment of the economic status of the elderly.

The future course of inflation is unknown, and indeed unknowable. Historically, the rates have fluctuated greatly, and there seems little reason to suppose that that will not be the case in the decades ahead. In earlier work (Denton and Spencer, 1988, 1991) we employed econometric methods to construct a model of the inflation process that reflects its inherently unpredictable nature, and used the model to estimate the probabilities of different sequences of inflation rates over periods up to 25 years, based on stochastic simulation techniques. We then used the inflation probabilities to calculate probabilities of loss of purchasing power of a pension over various lengths of time, assuming alternative inflation protection schemes, including no protection at all as well as a variety of schemes offering various degrees of partial protection. Our calculations indicated, for example, that a pension commencing at age 65 would almost certainly suffer a purchasing-power loss in excess of 35 percent by the age of 80, and with very high probability a loss in excess of 50 percent, if the pension had no inflation protection. Even under what might appear to be quite liberal protection schemes the probabilities of large losses remained high. A scheme offering full adjustment for inflation beyond the first 2 percent per year would almost certainly result in a loss

of purchasing power in excess of 20 percent by the age of 80. Our calculations were based on historical inflation patterns over several decades. If one thinks that the present relatively low rates will continue over the coming decades, then one should discount them. However, we are not convinced that the long-term future will be markedly different from the past, which has been characterized by sequences of high rates and low rates. Only time will tell, of course, but at present we have to believe that inflation will continue to be a factor of major importance for the elderly. Its importance will be enhanced by increased life expectancy, and hence longer periods of exposure to inflation risk.

## 10. SUMMING UP

As we said at the beginning of the paper, our goal was to make a contribution to the understanding of how economic circumstances change as people move from working age into, and through, the “old age” phase of the life cycle. To that end we have provided an analysis of Canadian cohorts from their early fifties, through their sixties, and into their seventies. We would have liked to go further -- many people now survive to be ninety, and an increasing number even to one hundred -- but existing data would not permit that. Indeed the data base is not strong for a cohort analysis of even the “younger old.” However, we have tried to do what we could with the statistical information available to us.

We began by noting that 65 is probably an out-of-date definition of “old,” given the increases in life expectancy that have occurred during the past several decades. In round numbers, 70 would be a better definition today. At the same time, instead of lengthening, with the extension of the human lifetime, the average working life of Canadian men has declined, as evidenced by falling labour force participation rates; we estimate that in 1995 fewer than half of all men 60-64 were in

the labour force. Concomitantly, the peak lifetime after-tax income level, in “real” or constant-dollar terms, has moved from the early sixties or late fifties age range, back to the early fifties, an observation supported by both household survey data and taxation statistics. Although the peak has shifted, real incomes have tended to rise at every age. Nevertheless, an examination of average cohort patterns shows that real incomes within a cohort tend to fall sharply as the cohort ages and moves into its sixties and seventies. From 55-59 to 70-74, we estimate that the decline in median income, in real terms, may be of the order of 30 percent. The same is true at the lower end of the income distribution too, as evidenced by a similar decline in lowest-quartile income. Government transfer payments account for a large fraction of household income for older people -- 40 or 50 percent, overall, for households in their seventies, and a remarkable 80 or 90 percent for households of the same age in the lowest quarter of the income distribution. It appears that there is some increase in the inequality of the household income distribution after ages 50-54, as male labour force participation rates fall and wages and salaries account for a declining share of the total.

Cohort age profiles for (real) consumption tell much the same story as the income profiles. There is only a minor tendency for consumption to decline by less than income as cohorts age. Contrary to the basic theory of the economic life cycle, it appears that, on average, older Canadian households continue to save, and thus increase rather than use up their accumulated wealth, at least into their seventies. A large proportion continue to own their own homes, too, and for the most part they do so free of mortgages. Lower-income households do not continue to save, and indeed tend to use up their accumulated wealth at older ages, if in fact they have any to use up.

Inflation is a major concern for older cohorts. While nominal (current-dollar) incomes rise, real (constant-dollar) incomes fall as cohorts age. Based on our construction of average cohort profiles,

we estimate an increase of about 60 percent in median nominal income from age 55-59 to 70-74, but a decrease of about 32 percent in real income. Based on other work that we have done, we calculate that a pension without inflation protection, commencing at age 65, would almost certainly suffer a loss of purchasing power in excess of 35 percent by the time the recipient was 80. Even under schemes that appear liberal, but offer less than full inflation protection, there may be a large loss of purchasing power. Not only are the inflation risks high, increasing life expectancy means that cohorts will be subject to longer periods of exposure to those risks.

## FOOTNOTES

1. Job termination does not itself imply withdrawal from the labour force. However, it seems likely that the “discouraged worker” effect would be greater for older workers, and that a high proportion would in fact drop out, and would be counted in the Labour Force Survey as outside the labour force rather than as unemployed. The estimated unemployment rates are very low for older workers; certainly there has not been an increase in older-worker unemployment commensurate with the decline in participation rates.
2. Considering only two-person husband/wife households in analysing the survey data runs the risk of selection bias. That would certainly be a problem in the case of younger households, in which children would frequently be present, and their absence imply rather special household characteristics. Here, though, we confine our attention to older households, for which such bias is much less of a risk.
3. The sample sizes have varied from survey to survey over the years. The numbers of observations in the 1993 SCF (husband/wife households in large metropolitan areas) ranged from 180 to 360 across the five-year age groups in Table 2. The numbers of observations in the 1992 FAMEX survey ranged from 90 to 153 across the age groups in Table 3.
4. It is perhaps worth noting at this point that the income or other experience of a cohort will reflect both basic cohort effects, related to characteristics such as level of education, and period effects, related to the state of the economy in particular periods, including longer-term economic growth and the changing phases of the business cycle. Our analysis makes no distinction; we consider simply the observed experience of each cohort, without attempting to assign elements of that experience to one type of effect or the other.
5. We have assumed this identity and the data that support it to be satisfactory for present purposes.



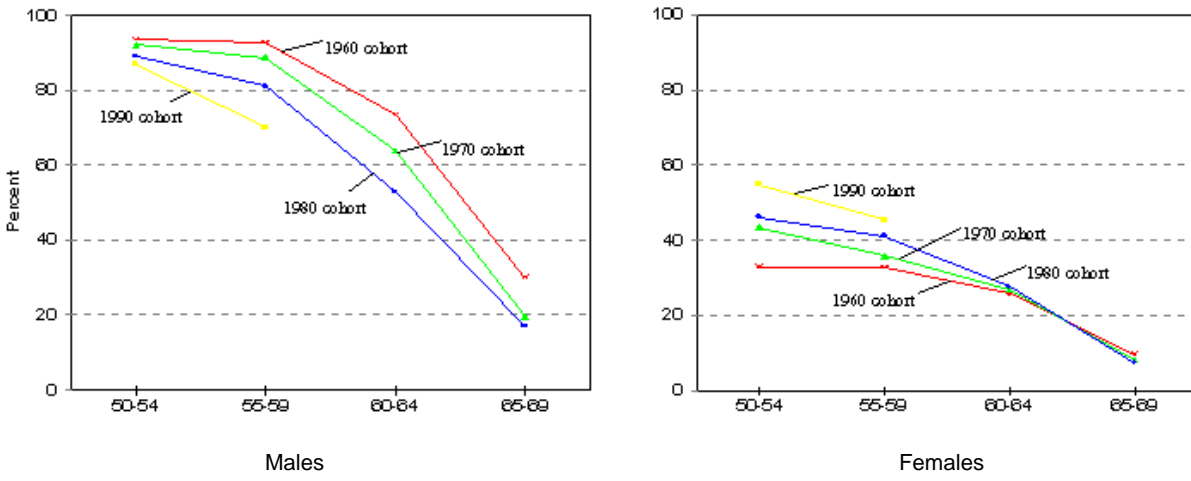
However, we note that the definition and measurement of household saving are by no means entirely straightforward. A more thorough analysis should consider the proper treatment of durable goods, whether life insurance should be regarded as (conditional) saving, how employer contributions to pension plans should be dealt with, the possible understatement of expenditure on tobacco and alcohol and of income from investments, and various other issues.

6. See Lin (in progress) for an econometric analysis of cohort, age, and other effects on the saving rates of older households.

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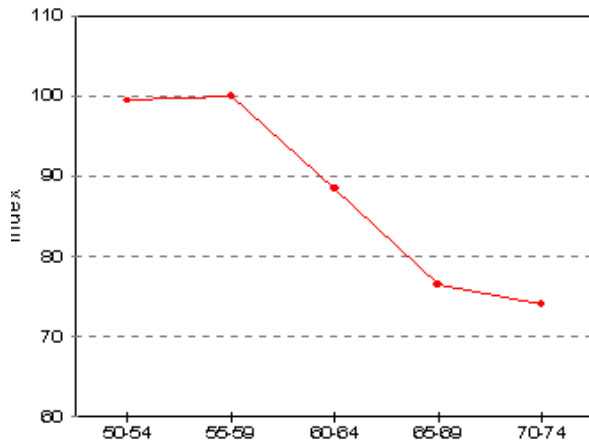
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Figure 1: Cohort Labour Force Participation Profiles

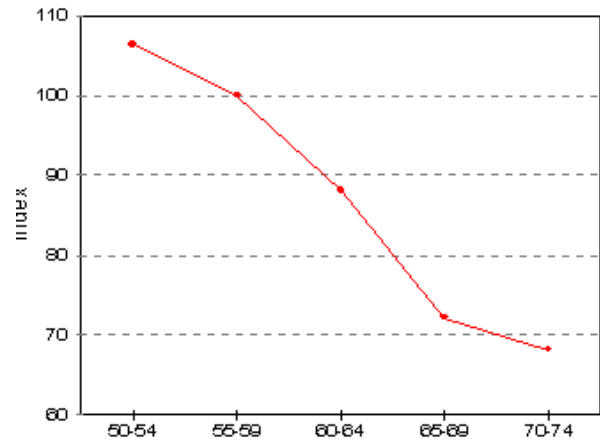


Note: See Table 1.

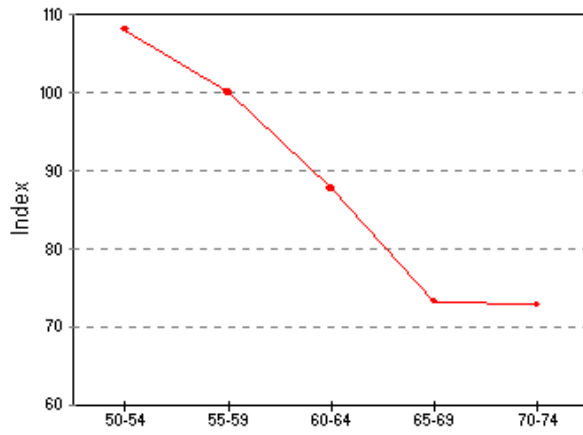
**Figure 2: Synthetic Real Income Profiles for Husband/Wife Household Cohorts and Tax Filers**



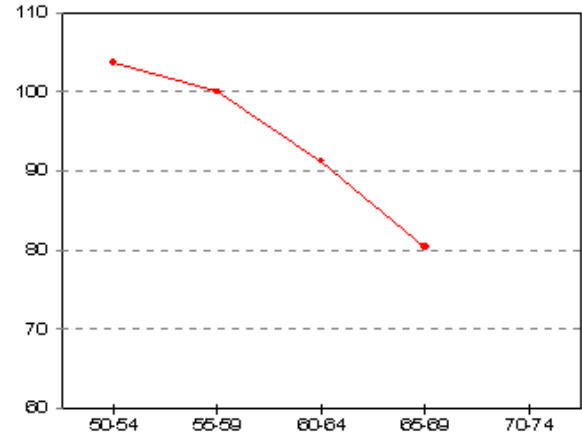
Mean Household Income, Famex Base



Median Household Income, Famex Base



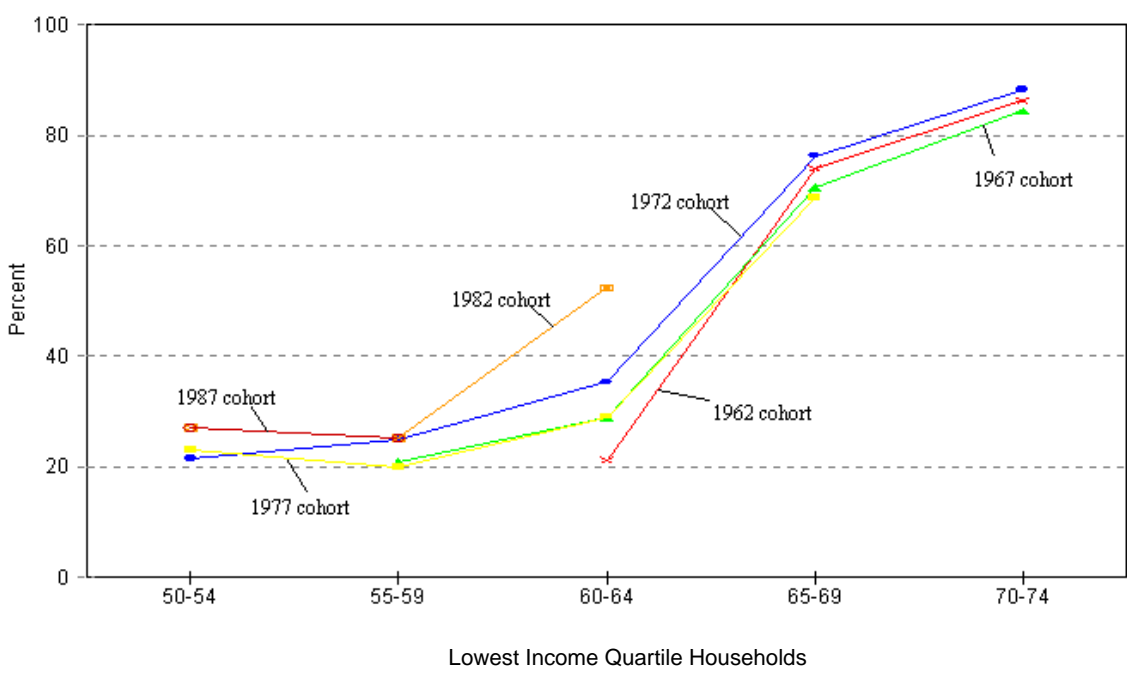
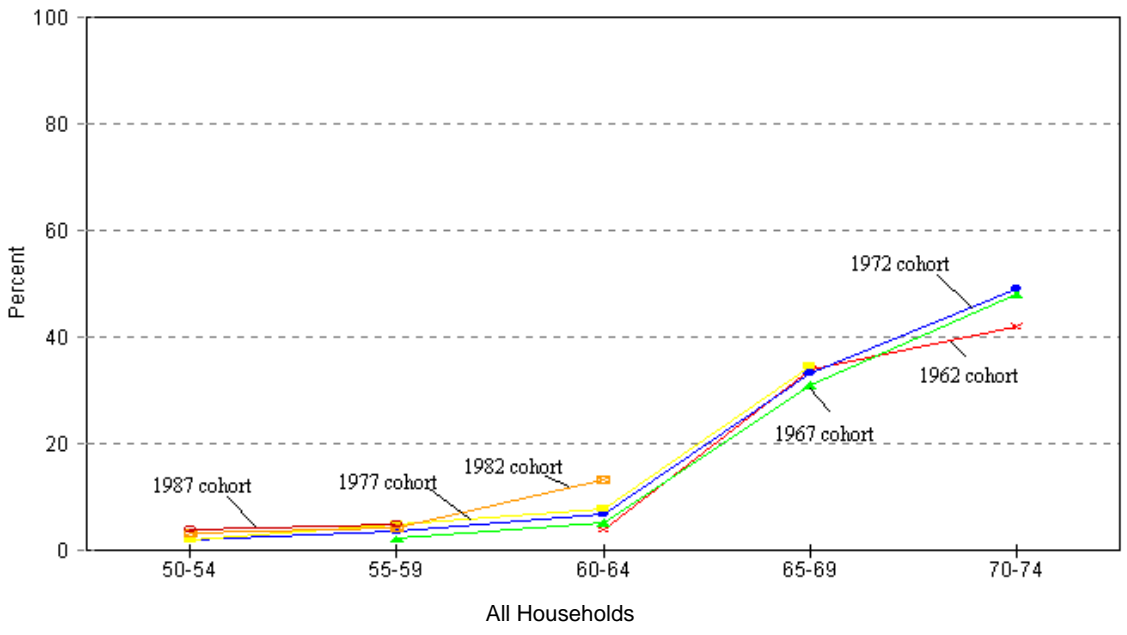
Lowest Quartile Household Income, Famex Base



Mean Income, All Tax Filers

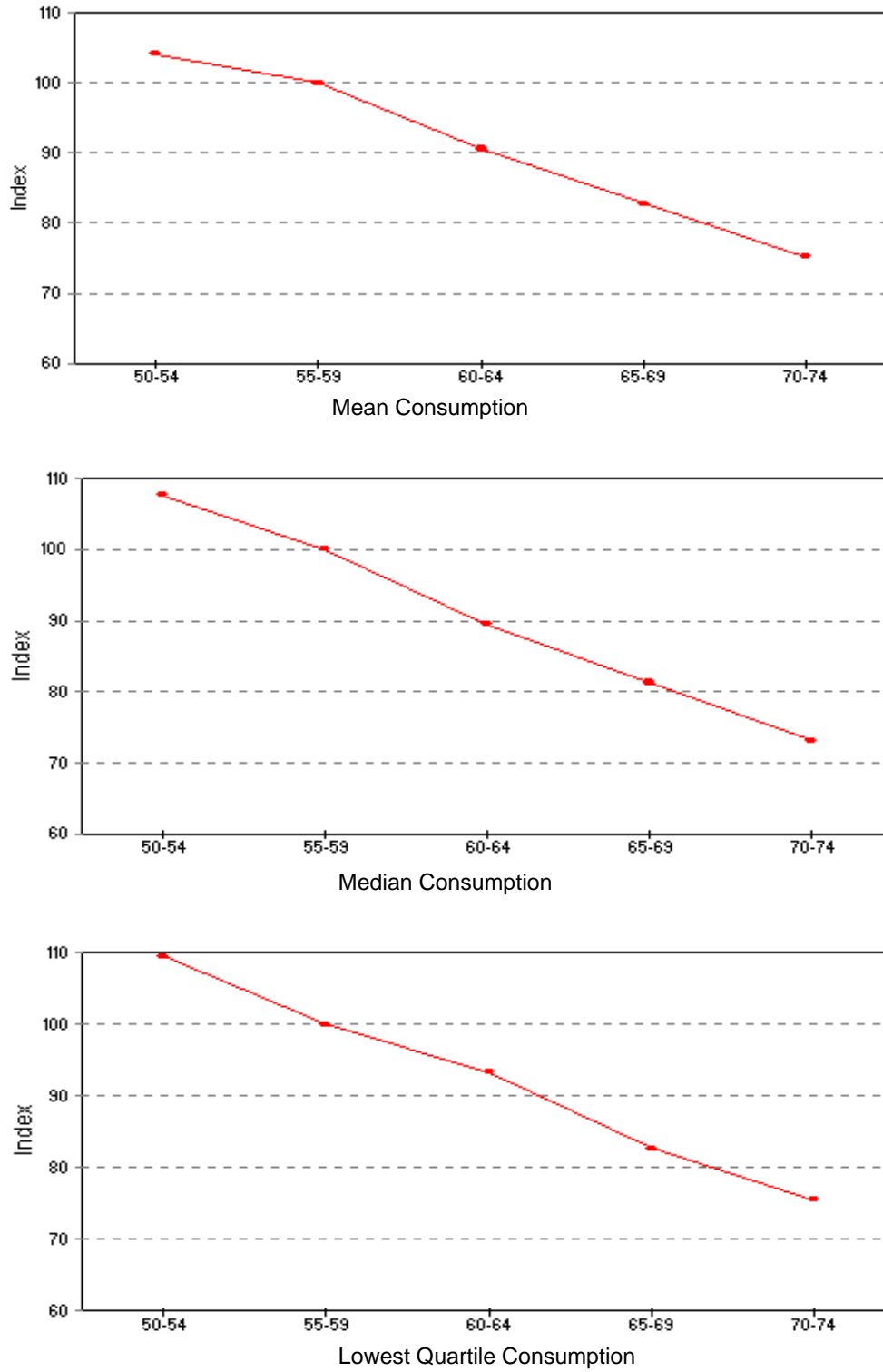
Note: See Tables 4 and 6.

**Figure 3: Government Transfer Payments as Percentage of Before-Tax Income for Husband/Wife Household Cohorts**



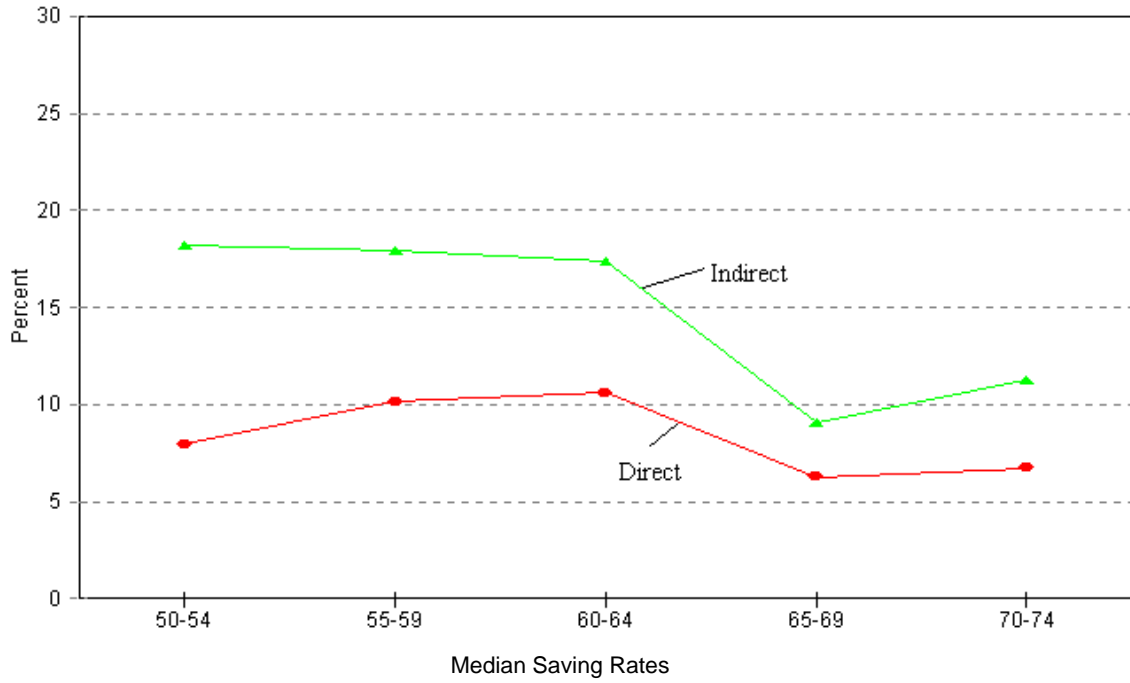
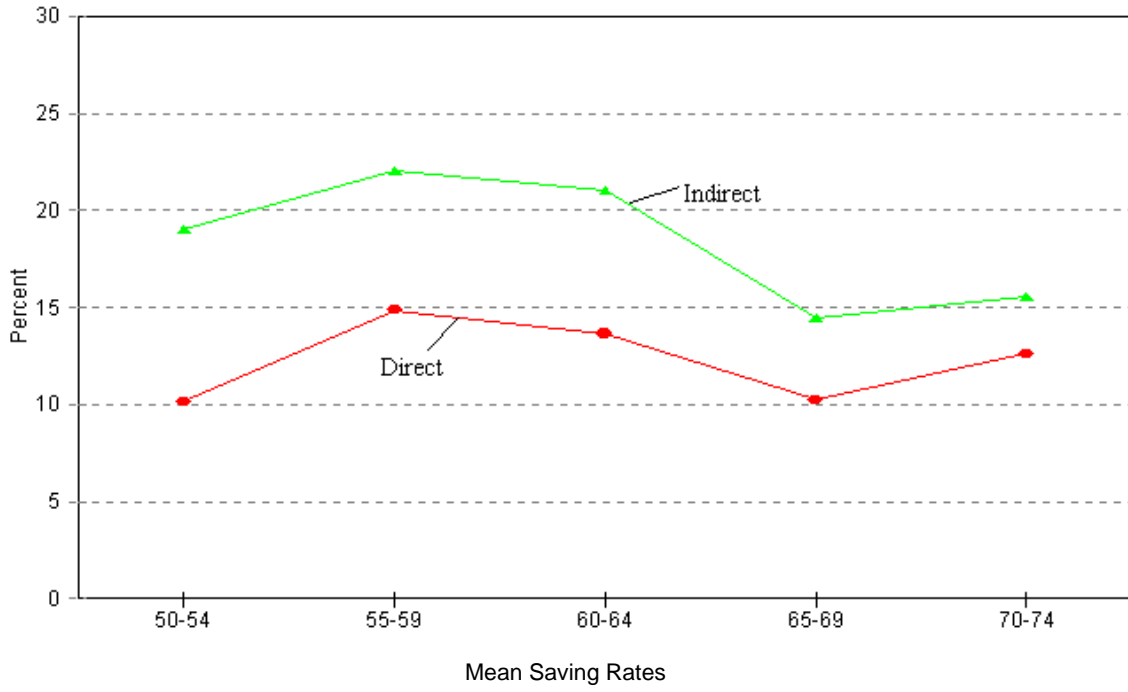
Note: Based on FAMEX data; see Table 7.

Figure 4: Synthetic Real Consumption Profiles for Husband/Wife Household Cohorts



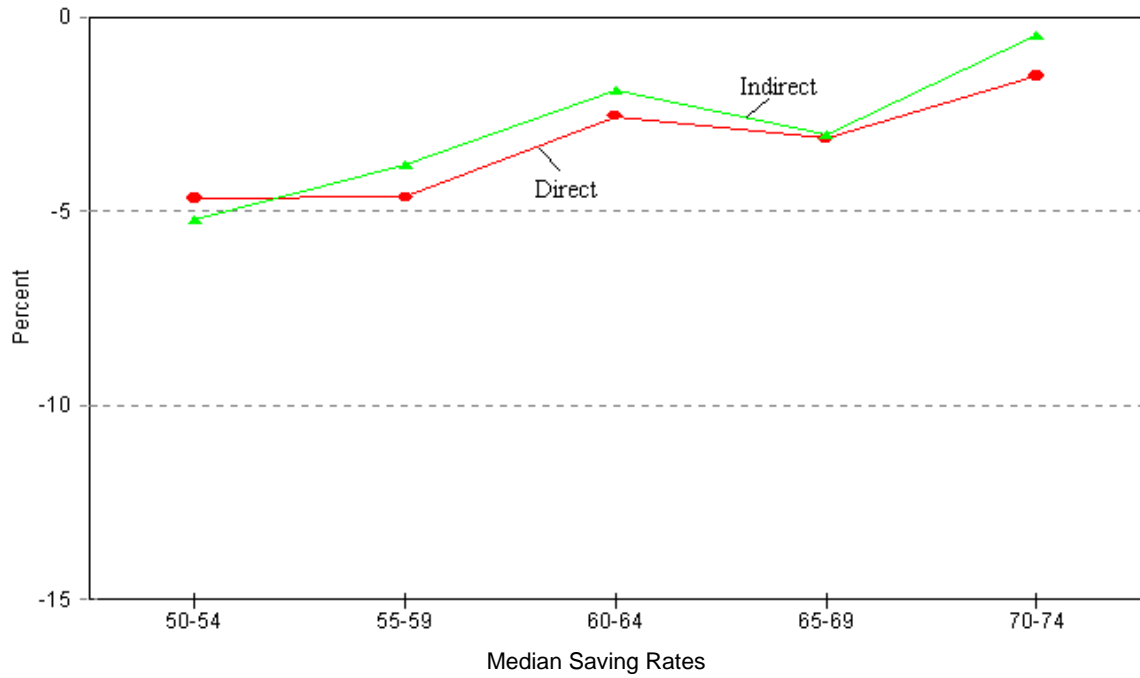
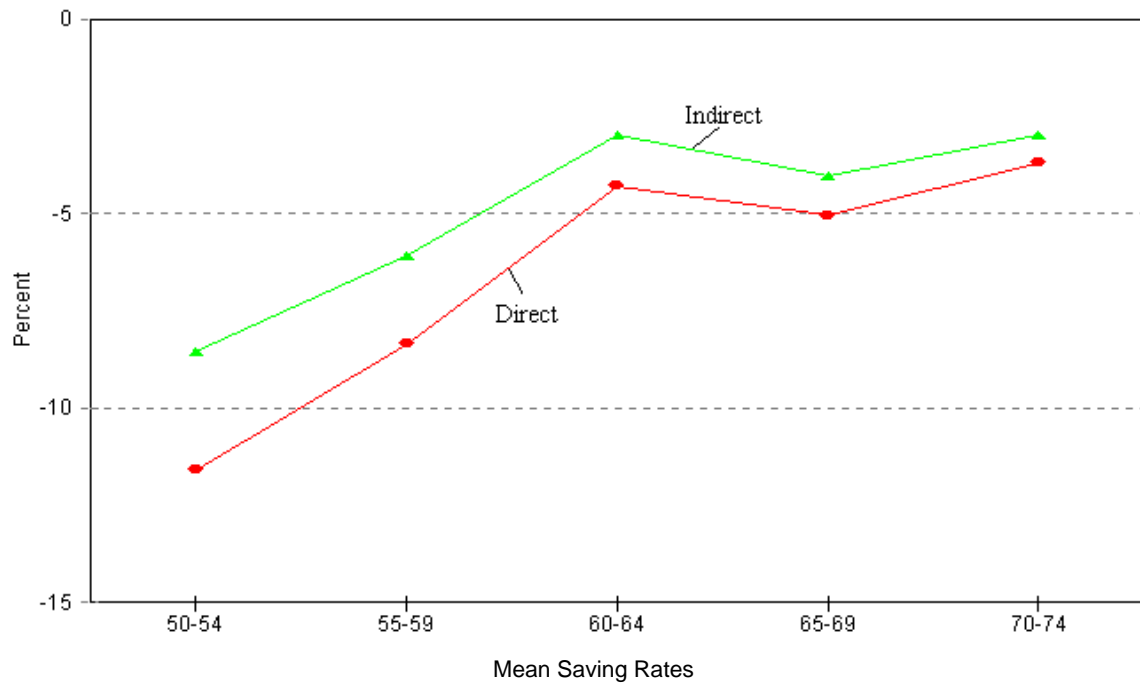
Note: Based on FAMEX data; see Table 9.

Figure 5: Overall Saving Rates for Husband/Wife Household Cohorts



Note: See Table 10.

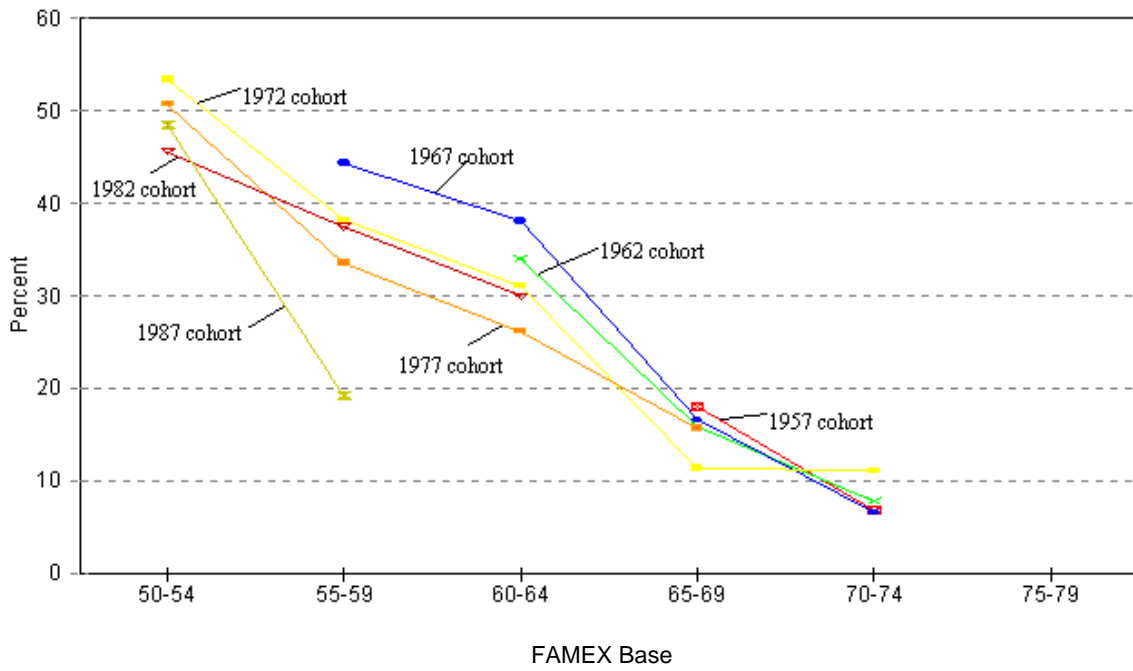
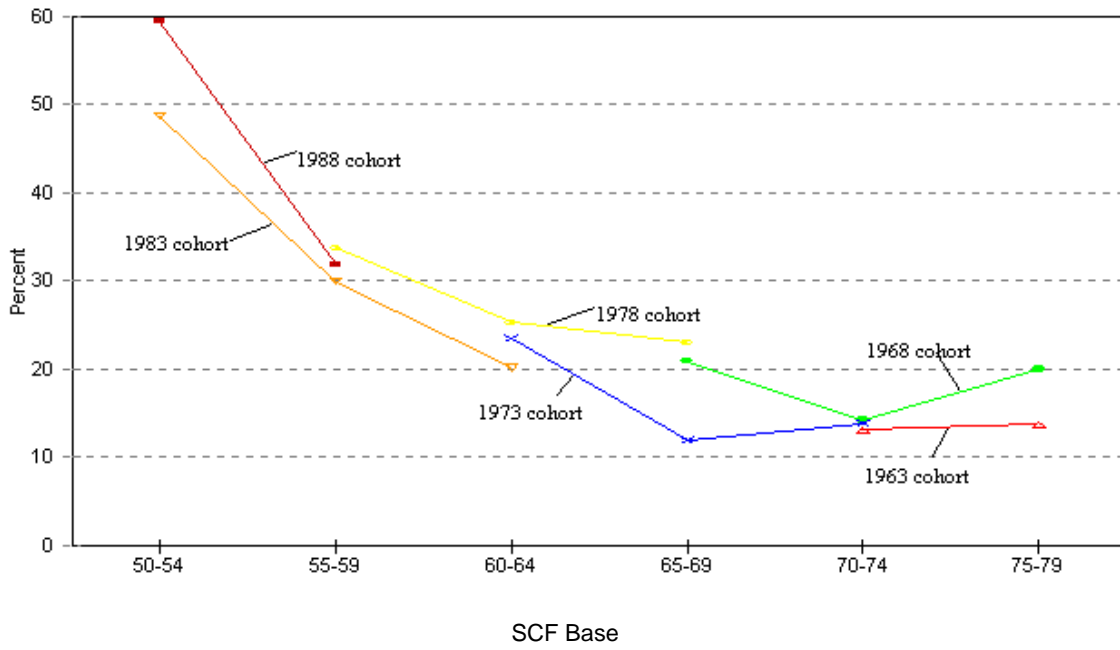
Figure 6: Saving Rates for Lowest Income Quartile Husband/Wife Household Cohorts



Note: See Table 11.

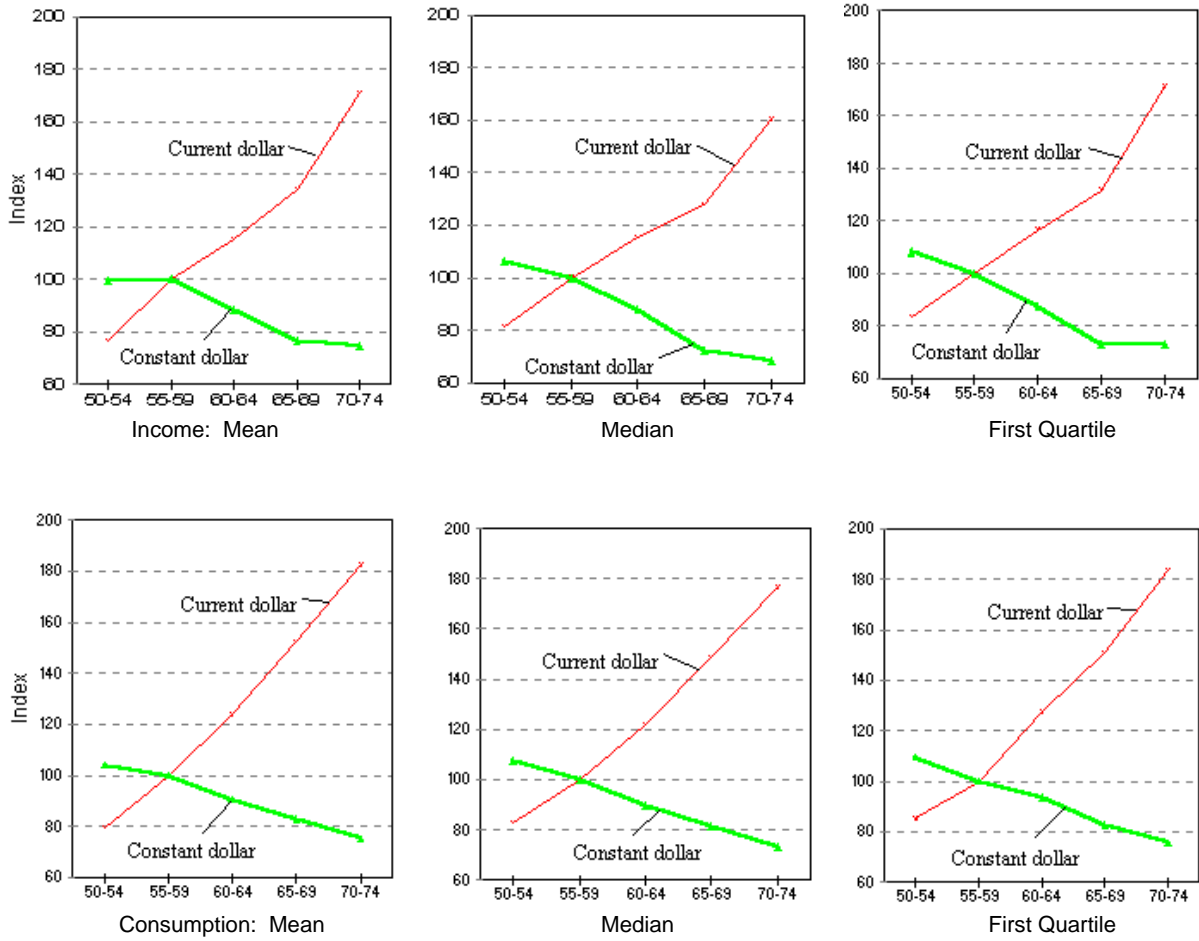


Figure 7: Percentage of Home Owners with Mortgages for Husband/Wife Household Cohorts



Note: See Table 13.

Figure 8: Comparisons of Current-Dollar and Constant-Dollar Income and Consumption Profiles



Note: See Table 14.

Table 1: Cohort Profiles for the Older Population: Labour Force Participation Rates

Cohort aged 50-54 in -	Participation rate (%) when cohort is of age -			
	50-54	55-59	60-64	65-69
--- males ---				
1960	93.6	92.8	73.5	30.0
1965	92.7	91.7	68.7	23.6
1970	92.1	88.8	63.8	19.6
1975	89.1	85.9	58.3	18.0
1980	89.1	81.1	52.8	17.1
1985	86.9	76.1	47.0	--
1990	86.9	70.0	--	--
1995	85.7	--	--	--
--- females ---				
1960	32.9	32.7	25.7	9.6
1965	40.0	36.6	25.2	8.2
1970	43.4	35.7	26.7	8.0
1975	40.6	39.4	26.4	7.2
1980	46.1	41.2	27.5	7.3
1985	52.1	43.6	26.7	--
1990	54.8	45.4	--	--
1995	63.7	--	--	--

Note: Based on data from the Statistics Canada Labour Force Survey, with interpolation by the authors to obtain separate rates for 50-54, 55-59, and 60-64 from ten-year age-group rates.

Table 2: Cohort Profiles for the Older Population: Real After-Tax Income per Household (1996\$), Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population (SCF Base)

Cohort aged 50-54 in -	Real Income after tax when cohort is of age -						Ratio to age 55-59 (%)			
	50-54	55-59	60-64	65-69	70-74	75-79	60-64	65-69	70-74	75-79
	--- mean income ---									
1953	--	--	--	--	24,216	--	--	--	--	--
1958	--	--	--	31,450	29,831	34,290	--	--	--	--
1963	--	--	38,593	31,897	35,535	33,884	--	--	--	--
1968	--	43,974	43,293	36,800	35,349	34,614	98.5	83.7	80.4	78.7
1973	42,165	47,537	41,529	35,340	37,744	--	87.4	74.3	79.4	--
1978	47,977	45,566	39,756	36,984	--	--	87.2	81.2	--	--
1983	50,342	53,208	40,782	--	--	--	76.6	--	--	--
1988	51,310	46,901	--	--	--	--	--	--	--	--
1993	49,098	--	--	--	--	--	--	--	--	--
	--- median income ---									
1953	--	--	--	--	18,944	--	--	--	--	--
1958	--	--	--	28,444	24,028	25,509	--	--	--	--
1963	--	--	36,589	26,759	28,512	26,978	--	--	--	--
1968	--	38,108	40,378	31,002	29,010	27,527	106.0	81.4	76.1	72.2
1973	41,078	44,065	36,834	30,477	32,551	--	83.6	69.2	73.9	--
1978	45,358	42,738	35,421	32,508	--	--	82.9	76.1	--	--
1983	46,432	46,879	36,521	--	--	--	77.9	--	--	--
1988	48,709	43,686	--	--	--	--	--	--	--	--
1993	44,139	--	--	--	--	--	--	--	--	--
	--- lowest quartile income ---									
1953	--	--	--	--	14,210	--	--	--	--	--
1958	--	--	--	18,286	17,274	21,075	--	--	--	--
1963	--	--	24,518	17,949	21,673	22,360	--	--	--	--
1968	--	29,332	26,909	23,127	21,442	22,295	91.7	78.8	73.1	76.0
1973	33,584	32,845	25,519	23,280	22,759	--	77.7	70.9	69.3	--
1978	33,821	29,909	25,763	23,899	--	--	86.1	79.9	--	--
1983	34,029	32,531	25,421	--	--	--	78.1	--	--	--
1988	36,354	29,935	--	--	--	--	--	--	--	--
1993	33,471	--	--	--	--	--	--	--	--	--
	--- interquartile range as % of median ---									
1953	--	--	--	--	77.9	--	--	--	--	--
1958	--	--	--	79.5	76.6	64.3	--	--	--	--
1963	--	--	62.7	89.1	73.3	66.4	--	--	--	--

1968	--	58.9	71.0	62.2	67.3	68.6	120.5	105.7	114.3	116.5
1973	37.8	62.5	72.5	60.6	73.4	--	116.0	97.0	117.5	--
1978	54.5	62.6	68.0	61.8	--	--	108.7	98.8	--	--
1983	64.6	84.8	72.1	--	--	--	85.0	--	--	--
1988	48.1	70.4	--	--	--	--	--	--	--	--
1993	69.5	--	--	--	--	--	--	--	--	--

Note: Based on weighted microdata from the Statistics Canada Survey of Consumer Finances (SCF), with interpolation by the authors to obtain estimates for years between survey years. A household is assigned to an age group on the basis of the husband's age.

Table 3: Cohort Profiles for the Older Population: Real After-Tax Income per Household (1996\$), Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population (FAMEX Base)

Cohort aged 50-54 in -	Real Income after tax when cohort is of age -					Ratio to age 55-59 (%)		
	50-54	55-59	60-64	65-69	70-74	60-64	65-69	70-74
	--- mean income ---							
1952	--	--	--	--	21,970	--	--	--
1957	--	--	--	24,623	24,537	--	--	--
1962	--	--	35,846	30,400	28,958	--	--	--
1967	--	41,330	38,721	34,013	31,119	93.7	82.3	75.3
1972	39,423	44,786	41,622	36,752	30,404	92.9	82.1	67.9
1977	45,022	44,777	41,195	35,166	--	92.0	78.5	--
1982	48,681	48,824	40,091	--	--	82.1	--	--
1987	50,552	45,946	--	--	--	--	--	--
1992	47,412	--	--	--	--	--	--	--
	--- median income ---							
1952	--	--	--	--	17,668	--	--	--
1957	--	--	--	20,904	20,759	--	--	--
1962	--	--	30,698	26,092	23,995	--	--	--
1967	--	38,284	33,281	26,603	25,542	86.9	69.5	66.7
1972	39,786	40,421	37,831	31,324	25,740	93.6	77.5	63.7
1977	42,607	38,455	36,556	30,698	--	95.1	79.8	--
1982	45,884	40,743	33,508	--	--	82.2	--	--
1987	49,373	41,312	--	--	--	--	--	--
1992	48,826	--	--	--	--	--	--	--
	--- lowest quartile income ---							
1952	--	--	--	--	13,819	--	--	--
1957	--	--	--	15,611	16,607	--	--	--
1962	--	--	24,173	18,902	18,730	--	--	--
1967	--	27,304	24,623	20,137	20,098	90.2	73.8	73.6
1972	25,925	29,723	26,898	22,410	20,366	90.5	75.4	68.5
1977	30,292	27,500	28,633	23,368	--	104.1	85.0	--
1982	33,310	29,290	24,923	--	--	85.1	--	--
1987	34,651	30,454	--	--	--	--	--	--
1992	34,667	--	--	--	--	--	--	--
	--- interquartile range as % of median ---							
1952	--	--	--	--	63.7	--	--	--
1957	--	--	--	71.2	50.3	--	--	--

1962	--	--	57.1	74.2	54.3	--	--	--
1967	--	68.7	60.7	68.3	74.1	88.3	99.4	107.9
1972	51.4	60.8	63.3	64.5	51.7	104.2	106.0	85.1
1977	64.8	76.1	61.8	65.6	--	81.2	86.2	--
1982	65.3	75.4	64.8	--	--	86.0	--	--
1987	66.1	56.1	--	--	--	--	--	--
1992	52.4	--	--	--	--	--	--	--

Note: Based on weighted microdata from the Statistics Canada Family Expenditure Survey (FAMEX), with interpolation by the authors to obtain estimates for years between survey years. A household is assigned to an age group on the basis of the husband's age.

Table 4: Synthetic Cohort Profiles for the Older Population: Real After-Tax Income per Household (1996\$) Based on Combined SCF and FAMEX Data, Husband/Wife Households Living in Metropolitan Areas with 100,00 or More Population (Indexes, age 55-59 = 100)

	Real income after tax when cohort is of age -				
	50-54	55-59	60-64	65-69	70-74
Mean	99.4	100.0	88.4	76.5	74.0
Median	106.4	100.0	88.1	72.2	68.2
Lowest quartile	108.1	100.0	87.7	73.2	72.8
Interquartile range as % of median	82.7	100.0	97.4	102.7	94.0

Note: Profiles were calculated by linking percentage changes in real after-tax income from one age group to the next, averaged over the four pairs of cohort values for which that was possible for each consecutive pair of age groups, in each of Tables 2 and 3. The indexes shown above were then obtained by averaging the SCF-based and FAMEX-based indexes so derived. See also notes to Tables 2 and 3.

Table 5: Cohort Profiles for the Older Population: Real After-Tax Income per Tax Filer (1996\$)

Cohort aged 50-54 in -	Real Income after tax when cohort is of age -					Ratio to age 55-59 (%)		
	50-54	55-59	60-64	65-69	70-74	60-64	65-69	70-74
--- all tax filers ---								
1948	--	--	--	18,853	--	--	--	--
1953	--	--	21,042	18,291	--	--	--	--
1958	--	21,976	22,005	19,590	--	100.1	89.1	--
1963	22,517	23,662	24,657	22,166	--	104.2	93.7	--
1968	24,370	26,923	27,329	23,869	21,200	101.5	88.7	78.7
1973	28,610	29,345	26,138	23,614	21,091	89.1	80.5	71.9
1978	29,998	28,342	25,957	22,144	--	91.6	78.1	--
1983	28,894	28,790	24,011	--	--	83.4	--	--
1988	29,748	26,612	--	--	--	--	--	--
1993	28,478	--	--	--	--	--	--	--
--- male tax filers ---								
1948	--	--	--	19,991	--	--	--	--
1953	--	--	22,906	19,987	--	--	--	--
1958	--	24,470	24,553	22,709	--	100.3	92.8	--
1963	25,557	27,003	28,735	26,192	--	106.4	97.0	--
1968	28,646	32,091	32,460	27,334	24,376	101.2	85.2	76.0
1973	35,060	36,968	31,998	28,179	24,709	86.6	76.2	66.8
1978	39,487	35,524	32,686	26,986	--	92.0	76.0	--
1983	37,731	36,684	29,887	--	--	81.5	--	--
1988	38,753	33,554	--	--	--	--	--	--
1993	35,639	--	--	--	--	--	--	--
--- female tax filers ---								
1948	--	--	--	15,489	--	--	--	--
1953	--	--	14,992	14,144	--	--	--	--
1958	--	14,880	15,388	14,658	--	103.4	98.5	--
1963	14,394	15,517	16,364	16,728	--	105.5	107.8	--
1968	15,026	17,109	18,512	19,083	17,673	108.2	111.5	103.3
1973	17,129	17,986	17,852	18,173	17,680	99.3	101.0	98.3
1978	17,250	18,255	17,381	17,055	--	95.2	93.4	--
1983	17,714	18,715	16,858	--	--	90.1	--	--
1988	19,188	18,545	--	--	--	--	--	--



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1993	20,577	--	--	--	--	--	--	--
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Note: Based on annual tables from Revenue Canada Taxation Statistics.

Table 6: Synthetic Cohort Profiles for the Older Population: Mean Real After-Tax Income per Tax Filer (1996\$)  
(Indexes, age 55-59 = 100)

	Mean real income after tax when cohort is of age -			
	50-54	55-59	60-64	65-69
All tax filers	103.7	100.0	91.2	80.4
Male tax filers	105.8	100.0	89.9	77.6
Female tax filers	97.0	100.0	98.0	99.3

Note: Profiles were calculated by linking percentage changes in real after-tax income from one age group to the next, averaged over four pairs of cohort values for each consecutive pair of age groups in Table 5. The four pairs were chosen to match those used in calculating the synthetic cohort profiles in Table 4, which are based on household survey data.

Table 7: Cohort Profiles for the Older Population: Government Transfer Payments as Percentage of Before-Tax Income, Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population

Cohort aged 50-54 in -	Government transfer payments as % of income before tax when cohort is of age -					
	50-54	55-59	60-64	65-69	70-74	75-79
--- all households: SCF base ---						
1953	--	--	--	--	38.7	--
1958	--	--	--	23.8	39.4	40.0
1963	--	--	4.0	31.4	39.2	40.2
1968	--	1.5	4.8	31.4	43.9	44.0
1973	3.0	2.7	6.8	39.0	40.7	--
1978	2.0	3.9	10.0	35.9	--	--
1983	2.7	2.4	11.2	--	--	--
1988	2.6	5.8	--	--	--	--
1993	4.6	--	--	--	--	--
--- all households: FAMEX base ---						
1952	--	--	--	--	41.5	--
1957	--	--	--	29.2	42.7	--
1962	--	--	3.8	33.9	42.1	--
1967	--	2.1	5.2	31.1	48.0	--
1972	1.9	3.4	6.7	33.4	49.1	--
1977	2.0	4.9	7.9	34.7	--	--
1982	3.3	4.2	13.3	--	--	--
1987	4.0	4.9	--	--	--	--
1992	5.5	--	--	--	--	--
--- lowest quartile income group: SCF base ---						
1953	--	--	--	--	82.9	--
1958	--	--	--	72.2	87.7	84.0
1963	--	--	23.8	78.5	87.2	88.2
1968	--	6.1	26.1	71.0	90.9	88.8
1973	11.4	12.3	31.8	84.0	84.4	--
1978	10.9	18.1	46.2	82.2	--	--
1983	16.2	14.8	40.2	--	--	--
1988	13.4	31.6	--	--	--	--
1993	23.1	--	--	--	--	--
--- lowest quartile income group: FAMEX base ---						
1952	--	--	--	--	82.0	--
1957	--	--	--	72.5	83.5	--
1962	--	--	21.1	74.0	86.3	--
1967	--	20.9	28.9	70.6	84.5	--
1972	21.4	24.8	35.4	76.3	88.4	--
1977	23.0	19.9	29.1	68.7	--	--
1982	27.2	25.2	52.5	--	--	--
1987	27.1	25.1	--	--	--	--
1992	36.9	--	--	--	--	--

Note: See notes to Tables 2 and 3. The calculations reported are ratios of average transfer payments to average before-tax income.

Table 8: Cohort Profiles for the Older Population: Real Consumption per Household (1996\$), Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population

Cohort aged 50-54 in -	Real consumption when cohort is of age -					Ratio to age 55-59 (%)		
	50-54	55-59	60-64	65-69	70-74	60-64	65-69	70-74
--- mean consumption ---								
1952	--	--	--	--	18,622	--	--	--
1957	--	--	--	21,531	20,262	--	--	--
1962	--	--	27,803	24,699	21,751	--	--	--
1967	--	33,672	28,875	24,676	25,524	85.8	73.3	75.8
1972	32,342	35,571	29,288	30,237	24,347	82.3	85.0	68.4
1977	35,237	31,837	33,581	29,643	--	105.5	93.1	--
1982	37,602	36,282	32,753	--	--	90.3	--	--
1987	40,011	35,748	--	--	--	--	--	--
1992	37,531	--	--	--	--	--	--	--
--- median consumption ---								
1952	--	--	--	--	16,280	--	--	--
1957	--	--	--	19,496	18,008	--	--	--
1962	--	--	24,000	21,423	19,188	--	--	--
1967	--	29,500	25,804	21,496	21,635	87.5	72.9	73.3
1972	29,972	32,614	25,761	26,263	20,952	79.0	80.5	64.2
1977	32,562	28,542	30,440	27,052	--	106.6	94.8	--
1982	34,526	32,988	28,686	--	--	87.0	--	--
1987	37,144	30,454	--	--	--	--	--	--
1992	34,314	--	--	--	--	--	--	--
--- lowest quartile consumption ---								
1952	--	--	--	--	13,127	--	--	--
1957	--	--	--	15,248	14,272	--	--	--
1962	--	--	18,633	17,201	14,967	--	--	--
1967	--	23,105	20,744	16,981	16,857	89.8	73.5	73.0
1972	22,063	24,707	20,937	19,960	17,255	84.7	80.8	69.8
1977	23,751	21,188	23,331	20,038	--	110.1	94.6	--
1982	26,649	23,179	20,983	--	--	90.5	--	--
1987	29,233	23,777	--	--	--	--	--	--
1992	25,911	--	--	--	--	--	--	--
--- interquartile range as % of median ---								
1952	--	--	--	--	53.3	--	--	--
1957	--	--	--	51.2	51.5	--	--	--
1962	--	--	65.2	58.5	60.4	--	--	--

1967	--	68.6	57.5	64.0	66.0	83.9	93.3	96.1
1972	49.7	57.3	55.1	60.7	46.3	96.2	105.8	80.8
1977	53.2	59.6	55.1	66.3	--	92.4	111.2	--
1982	57.3	62.8	71.2	--	--	113.3	--	--
1987	54.2	68.6	--	--	--	--	--	--
1992	55.5	--	--	--	--	--	--	--

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Note: Based on FAMEX data. See also note to Table 3.

Table 9: Synthetic Cohort Profiles for the Older Population: Real Consumption per Household (1996\$), Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population  
(Indexes, age 55-59 = 100)

	50-54	55-59	60-64	65-69	70-74
Mean	104.1	100.0	90.6	82.8	75.2
Median	107.7	100.0	89.5	81.3	73.1
Lowest quartile	109.5	100.0	93.3	82.7	75.5
Interquartile range as % of median	86.3	100.0	96.2	103.1	98.6

Note: Profiles were calculated by linking percentage changes in real consumption from one age group to the next, averaged over the four pairs of cohort values for which that was possible for each consecutive pair of age groups in Table 5.

Table 10: Cohort Profiles for the Older Population: Mean and Median Saving Rates, All Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population

Cohort aged 50-54 in -	Saving as % of after-tax income when cohort is of age -				
	50-54	55-59	60-64	65-69	70-74
--- mean: direct measure ---					
1952	--	--	--	--	10.3
1957	--	--	--	5.7	13.4
1962	--	--	13.4	11.2	19.8
1967	--	7.0	16.1	18.3	5.5
1972	7.5	12.9	21.3	8.3	14.1
1977	13.0	23.7	9.0	7.7	--
1982	14.7	19.4	8.4	--	--
1987	9.6	11.3	--	--	--
1992	5.9	--	--	--	--
--- mean: indirect measure ---					
1952	--	--	--	--	12.1
1957	--	--	--	10.6	16.8
1962	--	--	22.5	16.3	21.6
1967	--	15.9	25.1	23.8	9.8
1972	16.9	21.0	28.0	10.7	17.4
1977	21.1	29.6	14.7	10.8	--
1982	22.4	24.3	15.0	--	--
1987	17.0	19.3	--	--	--
1992	17.6	--	--	--	--
--- median: direct measure ---					
1952	--	--	--	--	2.8
1957	--	--	--	1.6	6.7
1962	--	--	8.8	6.5	10.4
1967	--	6.7	8.4	10.8	6.3
1972	6.3	8.3	14.5	10.4	7.5
1977	7.9	15.5	12.9	2.1	--
1982	10.7	12.2	8.4	--	--
1987	5.5	8.0	--	--	--
1992	9.4	--	--	--	--
--- median: indirect measure ---					
1952	--	--	--	--	6.9
1957	--	--	--	3.7	11.6

1962	--	--	17.0	10.8	13.2
1967	--	13.9	18.3	12.8	12.1
1972	17.1	18.0	22.8	11.4	12.4
1977	21.6	22.7	15.5	6.6	--
1982	18.8	18.9	13.5	--	--
1987	13.2	16.2	--	--	--
1992	20.4	--	--	--	--

Note: Based on FAMEX data. The calculations of the direct and indirect measures are described in the text. See also note to Table 3.

Table 11: Cohort Profiles for the Older Population: Mean and Median Saving Rates, Lowest Income Quartile Husband/Wife Households Living in Urban Centres with 100,000 or More Population

Cohort aged 50-54 in -	Saving as % of after-tax income when cohort is of age -				
	50-54	55-59	60-64	65-69	70-74
--- mean: direct measure ---					
1952	--	--	--	--	-19.8
1957	--	--	--	-22.2	-3.5
1962	--	--	-3.6	-21.3	-0.2
1967	--	-7.3	-8.3	-3.7	-3.9
1972	-18.5	4.3	-4.4	-18.8	-8.9
1977	-6.7	2.6	-20.6	-11.6	--
1982	3.8	-0.9	-25.8	--	--
1987	-20.3	-4.1	--	--	--
1992	-16.2	--	--	--	--
--- mean: indirect measure ---					
1952	--	--	--	--	-19.8
1957	--	--	--	-25.0	-0.8
1962	--	--	-2.5	-21.3	2.5
1967	--	-6.2	-7.3	-3.6	-4.3
1972	-14.9	5.4	0.5	-19.3	-9.4
1977	-5.3	7.1	-16.9	-15.0	--
1982	5.3	0.2	-20.6	--	--
1987	-15.6	-0.1	--	--	--
1992	-12.2	--	--	--	--
--- median: direct measure ---					



1952	--	--	--	--	-3.0
1957	--	--	--	-4.4	0.0
1962	--	--	-2.2	-0.8	0.0
1967	--	-9.4	0.0	-1.6	0.0
1972	-7.6	-11.9	0.0	-2.4	2.7
1977	-8.1	0.2	0.0	0.0	--
1982	2.9	2.1	0.0	--	--
1987	-10.5	-0.3	--	--	--
1992	-0.2	--	--	--	--

--- median: indirect measure ---

1952	--	--	--	--	-7.9
1957	--	--	--	-10.3	-1.2
1962	--	--	-1.4	-6.1	6.3
1967	--	-7.8	-5.8	-5.0	-1.2
1972	-2.3	-7.1	6.3	-3.1	2.2
1977	-12.8	3.5	-2.1	-7.0	--
1982	5.6	-3.6	-0.2	--	--
1987	-9.5	7.9	--	--	--
1992	-7.0	--	--	--	--

Note: See note to Table 10.

Table 12: Cohort Profiles for the Older Population: Percentage of Home Ownership, Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population

Cohort aged 50-54 in -	% of households owning their own homes when cohort is of age -					
	50-54	55-59	60-64	65-69	70-74	75-79
--- SCF base ---						
1953	--	--	--	--	59.8	--
1958	--	--	--	66.1	70.1	68.2
1963	--	--	68.8	68.1	71.0	70.0
1968	--	69.3	70.8	75.1	71.0	71.0
1973	64.1	71.2	75.9	79.3	82.0	--
1978	67.5	71.8	80.4	82.3	--	--
1983	71.2	79.1	84.2	--	--	--
1988	71.6	82.1	--	--	--	--
1993	75.9	--	--	--	--	--
--- FAMEX base ---						
1952	--	--	--	--	69.1	--
1957	--	--	--	60.3	68.1	--
1962	--	--	71.8	68.3	75.8	--
1967	--	59.4	72.4	74.1	71.0	--
1972	71.9	70.5	75.1	81.7	77.4	--

1977	70.9	82.6	82.5	83.5	--	--
1982	74.5	82.6	84.7	--	--	--
1987	79.4	73.8	--	--	--	--
1992	66.4	--	--	--	--	--

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Note: See notes to Tables 2 and 3.

Table 13: Cohort Profiles for the Older Population: Percentage of Home Owners with Mortgages, Husband/Wife Households Living in Metropolitan Areas with 100,000 or More Population

Cohort aged 50-54 in -	% of homeownership households with mortgages when cohort is of age -					
	50-54	55-59	60-64	65-69	70-74	75-79
--- SCF base ---						
1958	--	--	--	--	--	11.5
1963	--	--	--	--	13.2	13.7
1968	--	--	--	20.9	14.2	20.0
1973	--	--	23.5	12.0	13.9	--
1978	--	33.7	25.3	23.0	--	--
1983	48.7	29.9	20.2	--	--	--
1988	59.4	31.9	--	--	--	--
1993	51.8	--	--	--	--	--
--- FAMEX base ---						
1952	--	--	--	--	10.1	--
1957	--	--	--	17.9	6.8	--
1962	--	--	34.0	15.8	7.8	--
1967	--	44.3	38.0	16.6	6.5	--
1972	53.4	38.2	31.1	11.3	11.1	--
1977	50.7	33.5	26.1	15.6	--	--
1982	45.6	37.5	29.9	--	--	--
1987	48.5	19.2	--	--	--	--
1992	38.0	--	--	--	--	--

Note: See notes to Tables 2 and 3.

Table 14: Synthetic Cohort Profiles for the Older Population: Comparisons of Current-Dollar and Constant-Dollar Profiles to Illustrate the Effects of Inflation

(Indexes, age 55-59 = 100)					
Income after tax or consumption when cohort is of age -					
	50-54	55-59	60-64	65-69	70-74
--- SCF/FAMEX household income ---					
Mean					
Current dollar	76.4	100.0	115.5	134.2	170.8
Constant dollar	99.4	100.0	88.4	76.5	74.0
Median					
Current dollar	81.5	100.0	115.6	127.8	160.3
Constant dollar	106.4	100.0	88.1	72.2	68.2
Lowest quartile					
Current dollar	83.6	100.0	116.6	131.6	171.2
Constant dollar	108.1	100.0	87.7	73.2	72.8
--- mean tax filer income ---					
All tax filers					
Current dollar	79.1	100.0	118.8	138.6	--
Constant dollar	103.7	100.0	91.2	80.4	--
Male tax filers					
Current dollar	81.2	100.0	116.8	132.4	--
Constant dollar	105.8	100.0	89.9	77.6	--
Female tax filers					
Current dollar	74.0	100.0	127.2	170.4	--
Constant dollar	97.0	100.0	98.0	99.3	--
--- consumption ---					
Mean					
Current dollar	79.4	100.0	123.7	152.1	182.4
Constant dollar	104.1	100.0	90.6	82.8	75.2
Median					
Current dollar	82.7	100.0	121.7	148.6	176.5
Constant dollar	107.7	100.0	89.5	81.3	73.1
Lowest quartile					
Current dollar	85.1	100.0	127.4	150.8	183.4
Constant dollar	109.5	100.0	93.3	82.7	75.5

Note: The constant-dollar indexes are taken from Tables 4, 6, and 9. The current-dollar indexes are calculated in the same way as the constant-dollar ones.