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The Adequacy of Retirement Savings:

Subjective Survey Reports by Retired Canadians

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Abstract: We examine retired Canadians' subjective survey reports of satisfaction with finances,and with life, relative to the period before retirement.

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1. Introduction

Does public policy, in conjunction with Canadians' own preparations, result in Canadians having adequate financial resources in their retirement years? Has the adequacy of retirement provisions changed over time? These are obviously important questions - and they can only become more important as the population ages. However, they are also very difficult questions to answer.

One obstacle that must be overcome in answering these questions is to define a notion of adequacy. Like most economists, we would suggest that retirement preparations are appropriate if the individual or household can not be made better off (in an ex ante sense) by reserving addition financial resources from earlier life stages to use in their retirement years, or by bringing some resources forward from retirement to an earlier stage of life. We also accept that, in general, individuals prefer constant living standards to fluctuations. Together, these ideas imply (roughly) that appropriate retirement provisions equalize living standards between pre- and post-retirement years. This captures the essence of the life cycle framework for modelling consumption and saving behaviour, which is favoured by many economists (see, for example, Browning and Crossley, 2001).[1] It also accords well with common sense: many Canadians would consider adequate financial preparations to be those that allow individuals to enjoy a standard of living in retirement years similar to that which they became accustomed to during their working life.

[1] More formally, life cycle models of optimal saving behaviour imply that forward looking households should allocate resources between current consumption and future consumption (saving) so as to equalize the discounted expected marginal utility of expenditure.

How then can we judge whether public and private provisions for retirement are sufficient to maintain pre-retirement living standards into post-retirement life? One practical idea is to examine incomes. The problem with this, of course, is that income is only one component of financial resources. If Canadians enter retirement with non-annuitized wealth, and dis-save that wealth in retirement, then income will understate their financial resources, and hence standard of living, in retirement. For this reason, many economists prefer to examine expenditure (or consumption), pre- and post-retirement (see for example, Banks, Blundell and Tanner, 1998). The idea is that what people spend is a good indicator of the financial resources at their disposal. Moreover, the thinking goes, total expenditure is closely related to total consumption, which is a natural measure of material well-being – and therefore expenditure is closer than income to what should be "smoothed" (or equalized between the pre- and post retirement periods of life).

However, even total expenditure is an incomplete measure of living standards, and the relationship between expenditure and material well-being may differ between the pre- and post-retirement years. First, many goods have a "public" nature to them so that it is uncontroversial that larger households enjoy some economies of scale ("two can live cheaper than one"). Individuals live in households of different sizes, and in particular, Canadians tend to spend their retirement years in smaller households (after their children have moved out, for example.) Thus comparisons of pre- and post-retirement expenditure levels will depend critically on adjustments made for the different needs of households of different sizes. While such adjustments are in principal easy to make, it is rather more difficult to know whether one has made the right adjustment. (Does a household of two persons need half the expenditure of a

household of four persons to have the same standard of living? Or do they require two thirds of the expenditure? Or three quarters?)

Second, retirement is a period when income may be tighter, but time is more plentiful. Evidence is beginning to accumulate that retired households maintain material living standards by substituting time for market expenditures. They can do this in a number of ways. For example, they may shop more in order to take advantages of sales and other price variability, and hence lower the expenditure required for a constant quantity of goods and services. Additionally, they may engage in more home production (substituting ingredients and cooking time for the purchase of prepared foods, for example.) For further details, and compelling evidence, see Aguiar and Hurst (2005a, b) and Brzozowski and Lu (2006) (of which the latter analyses Canadian data.) The implication is that assessing living standards with consumption data requires a careful modelling of both spending and time use, which is a daunting task.

Given these difficulties, it would be useful to have another way to assess the living standards of retired Canadians, and the adequacy of their financial preparations. In this paper we examine retired Canadians' answers to subjective questions regarding their satisfaction with their current financial circumstances and with their life in general. Although economists have traditionally focused on quantitative measures of behaviour (such as incomes and expenditures), the use of subjective survey measures of economic well-being has been rising in recent years (see Frey and Stutzer (2002) for a survey.)

It turns out that Statistics Canada has been asking such questions of retired Canadians, in a variety of surveys, stretching back quite a few years. Moreover, some of the relevant satisfaction questions are posed *relative to* the respondents' pre-

retirement years. As such, they line up nicely with our notion of adequacy, which hinges on the equality of pre- and post- retirement living standards. For example, both the 1994 and 2002 General Social Surveys ask:

> *Compared to the year before you retired, would you now say that you are better off financially, worse off or about the same?*

If the models in the life cycle framework are broadly correct, then retired Canadian seniors should on average report that their financial circumstances are about the same as before retirement. Of course some households may experience positive shocks, and some households may experience negative shocks, but financial circumstances should not be substantially worse (or better) after retirement *on average.* If a majority of retired Canadians indicated that they experienced living standards in retirement that were higher than prior to retirement, that would indicate excessive saving (where saving is broadly defined, and includes, for example, the accrual of CPP/QPP entitlements). On the other hand, if a majority of retired Canadians indicated that they experienced retirement living standards that were lower than prior to retirement, this would indicate that financial preparations (savings) for retirement were not adequate (again, on average).

A more general question about enjoyment of life, again *relative* to before retirement was asked in three General Social Surveys (1989, 1994 and 2002), and we examine this as well.

The objective of this short paper is to assess what the responses to these questions indicate about the adequacy of financial preparations for retirement among retired Canadians, past and present. The novelty of the analysis lies in the use of

subjective survey responses to assess living standards, rather than data on income or expenditure.[2]

In the next section, we consider the life cycle path of "happiness", and contrast it with life cycle paths of income and expenditure. This provides further motivation for our main analysis, which is of the "relative satisfaction" questions described above, and which is reported in Section 3. Section 4 provides a concluding discussion.

2. Age-Profiles of Income, Expenditure and Happiness

To further motivate what follows, we first look at broad patterns of income, consumption and happiness over the life cycle. These are presented in Figure 1. The top right hand panel presents the age profile of average real equivalent disposable income: household income, net of taxes and transfers, has been deflated to 1992 Canadian Dollars using the Current Price Index, and divided the commonly used `root

[2] We are aware of one other paper to take this approach with Canadian data. Baker et al. (2005) use cross cohort variation in entitlements to examine the effect of government retirement income programs on the well being of the Canadian retirees. In addition to income and consumption, they use self-reports of happiness in the General Social Surveys as a well being measure. Their analysis differs from ours in that they focus on the effect of policy changes on the well-being of seniors, rather than on a comparison of pre- and post-retirement living standards (which is our focus). They naturally therefore focus on the direct happiness questions in the GSS (which we also examine in Section 2) but do not employ the *relative* satisfaction questions that are our main focus.

of household size' equivalence scale. The top right panel presents the age profile (or life cycle path) of average real equivalent expenditure on nondurable consumption. Finally, the bottom left hand-side panel presents the age-profile of happiness, where happiness is measured as the % of respondents reporting they are "very happy" or "somewhat happy".[3] The income and consumption figures are based on the 1992 Family Expenditure Survey and the 1998 Survey of Household Spending. The happiness figure is based on the 1990 and 1998 General Social Surveys.[4] In each case we use two surveys because it is well known that cross-sectional age profiles confound both age and cohort effects.[5] In these figures, the solid lines connect

[3] The exact question is: *Presently, would you describe yourself as…very happy, somewhat happy, somewhat unhappy, very unhappy?*

[4] General Social Surveys in a number of other years collected the happiness reports that we use to produce this picture. However, these two particular surveys were chosen because the public use file of the GSS for these two years had a continuous (rather than categorical) age measure. The continuous age measure allows us to line up birth cohorts in successive surveys exactly. The FAMEX/SHS surveys were chosen to match the timing of the GSS surveys as closely as possible. There was a FAMEX survey in 1990 but it is only representative of Canadians in major urban centres. The surveys we employ to produce Figure 1 sampled both urban and rural Canada.

[5] Within a given year, older individuals are also born earlier. If older cohorts have lower lifetime earnings (because of productivity growth, for example), then their entire age profile may be lower than that of latter cohorts. When individuals of different cohorts are combined in a cross-sectional age profile, the lower incomes of earlier cohorts may be misinterpreted as a decline with age.

observations on the same five-year birth cohort, and the number associated with each dot gives the first year of the five-year birth cohort.[6] While some cohort differences (at a given age) are apparent, the overall shape of the age profiles is quite clear.

The income and consumption figures exhibit a definite hump shape. Using income or consumption as a well-being measure suggests that well-being rises through early life, peaks in middle age, and falls thereafter, with a substantial decline in retirement. The patterns shown here replicate very well known results, and they are not sensitive to the data we use, or to various measurement choices.[7]

In stark contrast, the age-profile of happiness is quite flat. The shape of this profile is robust to our treatment of the categorical responses.[8] While it is well known that happiness rises with income within a group of respondents at a given point of time, this figure illustrates that average happiness does not seem to track the movements of income over the life cycle.[9] Self-reports of happiness seem to tell a quite different story about the evolution of well-being with age, and about the well-being of Canadians of retirement age.

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[6] So, for example, the cohort born in 1920 through 1924 is labelled "20".

[7] See Browning and Crossley (2001) for U.K. evidence and further references to the international literature. For Canadian evidence see Robb and Burbidge (1989) and, more recently, Pendakur and Crossley (2006).

[8] In fact, the fraction of respondents reporting each of the four possible responses is largely invariant to age. Thus any combination of categories or cardinal treatment of the responses gives a similar profile

[9] This is somewhat reminiscent of the now famous finding that average happiness in a country does not rise over time with improvements in per capita income (Easterlin 1974, 1995)

Figures such as these infer the evolution of average well-being with age from the responses of (distinct) samples from a given birth cohort at different points in time. In our main analysis, which is reported in the next section, we instead use question about satisfaction relative to the year before retirement to infer the changes in living standards experienced by individuals.

3. Relative Satisfaction with Life and Finances

3.1 Data and samples

The data we employ in this section is drawn from four Statistics Canada surveys, which together cover a quarter of a century. They are:

(i) Cycle 16 of the General Social Survey (2002).

(ii) Cycle 9 of the General Social Survey (1994),

(iii) Cycle 5 of the General Social Survey (1989),

(iv) The 1975 Retirement Survey

Comparisons over time rest on survey comparability. Fortunately, the three General Social Surveys are similar in their design and coverage, and hence data from these three surveys is broadly comparable. Comparisons with the 1975 Retirement Survey are more difficult. The only thing we can do is to find broadly comparable subsets of the data. For example, the 1975 Retirement Survey only surveyed individuals over 55 years of age, and it is obviously not difficult to impose this sample restriction on the data from other years. Such comparisons are of interest, even if they are imperfect, so long as we are mindful of the inherent limitations.

The *1975 Retirement Survey* was conducted in February of 1975. The sample was drawn from households rotating out of the Labour Force Survey. If a respondent was over 55, a survey was left for self-enumeration. Screening questions determined

whether the respondent received the retirement survey or a pre-retirement survey.[10] There were 1590 responses, corresponding to a response rate of approximately 80%. From these we deleted 54 observations with missing age information and 141 observations whose Labour Force Survey responses indicated they were working or looking for work. These restrictions resulted in a working sample of 1395 observations.

The *General Social Survey* series was introduced in 1985 and continuously conducted each year since. The objective of GSS is to monitor changes in the well being of Canadians over time and provide immediate information on specific social issues of current interest. Our analysis is based on cycles 4, 9 and 16. Some information about these surveys is summarized in Appendix Table A1.

For cycles 4 and 9 the target population is Canadians 15 years of age older while in Cycle 16 the target population was restricted to persons aged 45 and over.

In the *1989 GSS* (cycle 4) the core content concerns education and work. Module K of the survey includes questions about respondents' retirement experience. Of the 9338 valid respondents to the survey, 1143 were screened into this retirement module. From these we kept only respondents who declared their main activity during the previous year (1988) as "retired" and deleted those that respondent "no" to the question "have you ever worked at a job or business?" In order to be consistent with 1975 Retirement Survey, we kept only respondents aged 55 and older. These selections resulted in a final sample of 1003 respondents.

[10] The screening questions were: "Are your working?", "Are you looking for work?" and "Do you consider yourself permanently retired?". Entry into the Retirement Survey required the sequence of answer "No", "No", "Yes".

The core content of *1994 GSS* (Cycle 9) concerns the transition into retirement and post-retirement activities. Of the 11,876 valid responses we again selected those that were screened into "Section K" on retirement, currently self report being retired, and who used to work at a job before retirement, and who are aged 55 or older. This left us with a working sample of 1537 respondents.

The *2002 GSS* (Cycle 16) was designed to provide data on the aging population, and contains information about person's retirement preferences and experiences. There are 24,870 valid respondents, all aged 45 years or over. The GSS first asks the main activity of the people in last 12 months. If the respondent declared this as "retired", she or he is defined as a retiree. The rest are asked a second screening question: "Have you ever retired?" If the answer of this question is yes they are also classified as a retiree. From this pool we selected respondents who are aged 55 years or over; who are not looking for work; and have not worked since their retirement. This left a working sample of 7940 retirees.

Our analysis is based on publicly available micro-data files, and in all calculations we use the sample weights provided in these files by Statistics Canada. Descriptive statistics for our sample from the 2002 GSS are provided in Table A2.

3.2 Satisfaction measures

These are cross-sectional (rather than panel) surveys. However, it is the retrospective nature of the financial satisfaction questions in the 1994 and 2002 General Social Surveys (and the general satisfaction questions in 1989, 1994 and 2002) that allows us to study a life cycle (that is, dynamic) question. In particular, as noted above, the satisfaction questions ask about satisfaction *relative* to the year before retirement:

Compared to the year before you retired, would you now say that you are better off financially, worse off or about the same?

Compared to the year before you retired, do you now enjoy life more, less, or about the same?

Thus, if these questions are answered properly, they should capture *changes* in financial satisfaction or living standards, across the retirement event.

An obvious methodological concern is the validity of the subjective satisfaction measures. There is currently considerable disagreement among social scientists, and even among economists, as to the value of such measures. One can compare, for example, the quite negative view of Bertrand and Mullainathan (2001) with the more positive stance of Frey and Stutzer (2002) or Kahneman and Krueger (2006). A key issue with subjective questions is the comparability of responses across individuals or groups of individuals (whether individuals interpret the scale in the same way.) A second advantage of the fact that the questions we study in this section are asked *relative* to an earlier time period is that a relative formulation diminishes concerns about interpersonal comparability somewhat. Simply put, the responses "better off, about the same, worse off" seem less subject to individual interpretation than an absolute scale ("unsatisfactory, somewhat satisfactory, very satisfactory"). More formally, if individual assessments of financial or life satisfaction are comparable up to location, then asking a question about changes may effectively eliminate ("difference-out") remaining heterogeneity in response behaviour.[11,12]

[11] This would be true if response-scale heterogeneity could be modelled as an additive individual "fixed-effect".

[12] The current best practice for assessing the comparability of subjective responses across individuals or groups involves the use of "vignettes" (see, for example, King, Murray, Salmon and Tandon (2004) or Kapteyn, Smith and van Soest, (2006)). In this paper we report analysis of the best currently available data, but a natural future

Another concern with the subjective responses is the possibility of "adaptation", a phenomenon well known in the literature (Kahneman and Krueger, 2006). A crude strategy for assessing whether adaptation is a serious problem in our analysis is to repeat the analysis on the subset of individuals who are quite recently retired at the time of the survey.

3.3 Levels of Relative Satisfaction with Life and Finances

We begin, in Table 1, by tabulating responses to questions about satisfaction with life. Columns 1, 3, 4 and 5 report calculations based on the RS75 and 1989, 1994 and 2002 GSS, respectively. In each case, the calculations are based on our standard samples of retired Canadians aged 55 years and over. The GSS question is as described above. The most comparable question in the RS75 asks "*Is any aspect of life better or worse than expected?"* This question shares the relative aspect of the GSS question although it is relative to pre-retirement expectation, rather than relative to pre-retirement experience. It is also important to note that having an aspect of life better than expected, and having an aspect of life worse than expected are *not* mutually exclusive possibilities (in contrast, with the GSS question, a respondent cannot be *both* more and less satisfied.)

In 1975 about equal numbers (23 and 25 percent) of retired Canadians indicated that some aspect of retirement life was, respectively, worse, and better, than they had expected.

In the GSS surveys, about 40 percent of Canadians report that they enjoy life about the same as in the year prior to retirement (39, 34 and 46 percent in 1989, 1994

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extension would be to collect new data using vignettes or other methods to assess the comparability of subjective responses.

and 2002, respectively.) More than 40 percent report that they enjoy life *more* than prior to retirement (44, 48 and 42 percent in 1989, 1994 and 2002). The number of retired Canadians, 55 years of age and over, that report enjoying life less than in the year before retirement never exceeds 20 percent, and only 12 percent in 2002.

The rest of Table 1 reports the same calculations for two different subsets of the data. The first sample limitation we consider, in columns 2, 6, 7 and 8, is to focus specifically on retired Canadians aged 70 and older. There are two reasons to do this. First our samples are of retired Canadians. If only those Canadians that can afford retire do so, then our sampling is endogenous to the outcome we are examining, and the numbers we report could be misleading. Second, patterns of retirement have changed over time, and perhaps even the notion of what it means to be retired has evolved. This means that the process of selection into our sample may differ across years, which would compromise any comparisons over time.

At any age, the higher the fraction of the population that is retired, the less scope there is for selection issues to influence our results.[13] As we move from samples of retired Canadians aged 55 and above to samples of retired Canadians aged 70 and above, retirees become a larger fraction of Canadians in the relevant age group. Thus the potential selection affects should be attenuated. It is certainly *not* our contention that our calculations on samples of retired Canadians aged 70 and above are immune to selection problems. Rather, our hope is that significant selection problems might reveal themselves in the comparison of the two sets of numbers (columns 1, 3, 4, 5 against 2, 6, 7 and 8). The limitation of this kind of robustness check, of course, is

[13] In the extreme, if all Canadians above an age k are retired in all years, then tabulations of responses from Canadians above age k would not suffer from either of the selection problems outlined above.

that differences between the two sets of numbers could also reflect genuine age or cohort effects, rather than selection.

The result, as Table 1 reveals, is that limiting the analysis to those 70 years of age and older has little effect on the time path of satisfaction levels. For example, in either sample, the fraction of retirees indicating that they enjoy life less (than in the year prior to retirement) fell from1989 to 1994, and then fell further to 2002. This robustness of the time patterns in the data gives us some hope that they are not simply the consequence of the changing nature or conception of retirement.

On the other hand it is true that, in every year, the number of retirees stating that they enjoy life less than the year before retirement is higher in the older sample. In each year, the fraction stating that the enjoy life more is correspondingly lower in the older sample. It is possible that this difference reflects more selection in the younger sample (that is, at younger ages, those who are not financial prepared do not retire, but at older ages there is less scope for continued work). Alternatively, it may reflect genuine age effects (arising, for example from declining health), or even cohort effects.

A second robustness check is reported in Column 9. Here, for the 2002 GSS only, we tabulate responses to the relative life satisfaction question only for those respondents within 5 years of their first retirement. Because the satisfaction question asks the respondents to make a comparison to the year prior to retirement, focusing on this group captures comparisons made over a shorter time span. One reason to do this is the concern that the self-reports suffer from adaptation, whereby individuals finding themselves in less advantageous circumstances eventually adjust their expectations to their new circumstances and return to previous levels of self-reported well-being. Comparing Column 9 to Column 5 indicates that in 2002 comparisons of life to the

year before retirement were a bit more favourably among recent retirees than among retirees overall. Just as with our first robustness check, this comparison potentially confounds multiple effects (for example, an age effect with an adaptation or other time-since-retirement effect). Nevertheless, the general stability of the response distribution across columns suggests to us that the broad picture given by these numbers is correct.

In RS75 respondents were asked to identify which aspects of life were better or worse than expected (if any). In the 1989 and 1994 GSS (but not 2002) respondents who indicated that they enjoyed life less or more than prior to retirement were asked a follow up question about the reasons for this.[14] A partial tabulation of the responses is given in Table 2. The categories of response we report are income/economic and health. As in Table 1, we report the distribution of responses first among retired Canadians aged 55 and over (Columns 1, 3 and 4) and then among retired Canadians aged 70 and over (Columns 2, 5 and 6). In each cell there are two numbers. The top number indicates the fraction *of* those reporting that they enjoyed life less that gave this reason (the conditional probability of giving this response.) The lower number (in square brackets) gives the fraction of the entire sample that said they enjoyed life less *and* gave this response as the reason (the unconditional probability of being dissatisfied for this reason).

The number reported in Table 2 indicate that in 1989 and 1994, when retired Canadians report that they enjoy life less than prior to retirement, they are much more likely to attribute their dissatisfaction to health problems than to economic reasons or income. In 1994, of the 17 percent of retirees that said they enjoyed life less than prior

[14] They were asked: *What is the main reason that you now enjoy life less (more)? Is it*….

to retirement only 12 percent cited income or economic circumstances (Table 2, Column 4) as the reason. Combining these numbers, only 2 percent of retirees in 1994 indicated that they were enjoying life less than before retirement because of income or economic reasons. Four times as many cited health as the reason for enjoying life less than before retirement.

In Table 2 a significant difference is apparent between RS75 on the one hand, and the 1989 and 1994 GSS on the other. In RS75, more retirees cited income/economic circumstances than health as an aspect of life that was worse than expected. The change in the distribution of reasons for discontent between 1975 and 1989 might reflect the significant increase in public transfers to the elderly in the 1970s and the consequent reduction in poverty among seniors that has been well documented. However, comparisons between the RS75 and the 1989 and 1994 GSS should be made with considerable caution: the question posed to respondents is undeniably different.

Table 3 follows the same format as Table 1, except that it summarizes responses to the question about relative *financial* satisfaction. This question was not asked in the 1989 GSS and there is no comparable question in the RS75.[15]

In 2002, 74 percent of retired Canadians reported that they were better off financially (18 percent) or about the same (56 percent) compared to the year before they retired (Table 3, Column 2). The numbers for 1994 (Column 1) are similar. When we restrict the sample to retirees aged 70 and older, the distribution of responses is slightly more positive (Columns 3 and 4). On the other hand, when we

[15] The RS75 does contain questions about income satisfaction, but this question is not asked relative to pre-retirement expectation or experience.

focus on those that retired within the last 5 years (Column 5) we see a slightly higher fraction of negative responses (compare 31 percent with 26 percent in Column 2).

Overall, these numbers are broadly compatible with the view that in the recent past, the combination of public provisions and private preparations has delivered adequate financial preparation for retirement, at least in an *ex ante* sense. In both years (1994 and 2002) and in all the samples we consider, more than half of retirees describe themselves as being neither better nor worse off financially, compared to before retirement. These households claim to have successfully smoothed living standards. Of course, some households do report some deterioration of their financial position, but in most samples a fairly comparable fraction report being *better* off financially in retirement than before retirement. Against a standard of constant living standards, this latter group appears to have *over* saved.

3.4 Correlates of Relative Satisfaction

Table 1 through 3 reveal important heterogeneity. Some retired Canadians report being less satisfied with their finances than prior to retirement, while others report greater financial satisfaction than prior to retirement, and similarly for overall satisfaction with life. In Tables 4, 5 and 6, we relate these outcomes to observable characteristics of respondents and their families. The analysis is of course descriptive, and great caution should be exercised in ascribing causal interpretations to the associations in the data.

In Table 4 we tabulate the distributions of responses to the relative satisfaction questions conditional on values of covariates. The analysis is bivariate: we consider one covariate at a time. A number of interesting associations are immediately apparent. Married individuals, of either gender, report greater life satisfaction than those living alone, but there is little difference in the financial satisfaction of the two

groups. Life satisfaction appears to decline with age while financial satisfaction rises. Life satisfaction is strongly positively associated with education, but financial satisfaction is not. Among retirement reasons, those who retired because of unemployment are most likely to report that they enjoy life less than prior to retirement, and that they are worse off financial.

Home ownership and receiving a pension benefit from a former employer are also positively associated with life satisfaction. The financial satisfaction is also higher among retirees who receive pension benefits from a former employer.

In Tables 5 and 6 we turn to multivariate analyses and report estimates of Ordered Probit models for relative life and financial satisfaction respectively. The models are estimated standard maximum likelihood methods. Ordered Probit models are appropriate for modelling categorical variables in which the response categories can be ranked, as is the case with the satisfaction scales considered here. The dependent variable takes the value 0 if the respondent enjoys life less (is worse off financially), 1 if the respondent is about the same, and 2 if the respondent is enjoys life more (is better off financially). The use of ordered Probit models with satisfaction or happiness data is quite standard (see for example, Ferrer-i-Carbonell and Frijters, 2004).

In addition to estimated coefficients, we report marginal effects on the combined probability of enjoy more and about the same (or better off and about the same). Of course, this is the negative of the marginal effect on the probability of enjoying less (worse off).

For both outcomes we estimate two models. The first specification (on the left) conditions on sets of dummy variables capturing age, education, province and family type as well as a dummy variable for home ownership, a dummy variable

indicating receipt of a pension from a former employer, and a dummy indicating that retirement was “voluntary”. In the second specification (on the right) the voluntary retirement dummy is replaced by a set of dummies capturing alternative retirement reasons in greater detail.

The models for relative life satisfaction (Table 5) indicate a number of statistically and economically significant partial effects. First, there is a strong negative age profile in life satisfaction. Females report greater satisfaction with life than males. Retirees are more likely to report that they enjoy life more than prior to retirement if they own their own homes, or if they receive a pension benefit from a former employer. Finally, there is a strong positive association between relative life satisfaction and voluntary retirement. Retirements because of poor health or caretaking (presumably a partner’s poor health) or because of unemployment or business closure are all very strongly associated with enjoying life less than before retirement.

Turning to relative financial satisfaction, we again see a strong age profile, but in the opposite direction: financial satisfaction rises with age. As discussed above, this might reflect a genuine age effect, a cohort effect, or perhaps adaptation. It might also reflect a kind of selection effect, generated by differential mortality (with the financially secure outliving their less fortunate peers.)

The only other strong association with financial satisfaction is voluntary retirement. Those that report retiring voluntarily are 11 percentage points less likely to report that they are financial worse off than before they retired. When retirement reasons are broken down further, we uncover a very strong negative association between retirement because of poor health and financial satisfaction.

4. Summary and Conclusions

In this short paper we have explored response by Canadian retirees to subjective survey questions administered in General Social Surveys and in the 1975 Retirement Survey. We have documented a number of potentially important facts. They are:

i) Happiness does not track income over the life cycle. On average, income is hump- shaped, as is consumption. Average happiness is flat across age, including normal retirement years.

ii) Many more retired Canadians report enjoying life more than before retirement than the converse; more than 80% enjoy life more or the same as the year prior to retirement. This was true in 1989 and 1994, as well as in the most recent available data, from 2002.

iii) Retired Canadians who report that they do not enjoy life as much as in the year prior to retirement are much more likely to cite health concerns than economic reasons for their dissatisfaction.

iv) In 2002, three quarters of retired Canadians reported being either as satisfied or more satisfied with their finances than they were in the year prior to retirement. Almost as many reported an improvement in financial situation as reported a decline.

v) Life satisfaction appears to fall with age while financial satisfaction appears to rise with age (both measured relative to the year prior to retirement). An important caveat here is that the cross-sectional data available to us may confound age, selection and cohort effects.

Subjective survey reports of relative financial or life satisfaction seem to paint quite a different picture than analyses of income or expenditure. On their face, these survey responses would seem to suggest that past cohorts of retiring Canadians reached that stage of the life cycle with adequate financial preparations.

Recent U.S. studies (Ameriks et al., 2007; Hurd and Rohwedder, 2006) indicate that while there is a decline in expenditures at retirement, this decline is fully anticipated by households, and as such, probably does not represent a fall in living standards. These anticipated expenditure declines appear to be associated with declining consumption needs and with the substitution of time inputs for market

expenditures. Comparable expectations data is not currently available for Canada. If the average expenditure falls around retirement apparent in Canadian data (as in Figure 1) were similarly anticipated, and related to the same factors, it would explain why most retired Canadians do not report a decline in their financial situation, and many report an improvement.

An additional important point is that some retired Canadians *do* report deterioration in their financial circumstances. Because no more report deterioration than improvement, this does not indicate a systematic failure of preparation. It may be that there is a subset of Canadian households for whom the combination of private actions and public provisions does not deliver adequate financial resources for retirement (and, equally, another subset that *over*-saves). Alternatively, it could be that as they approach retirement, Canadian households face risks that neither private nor public arrangements fully insure. Most notions of adequate ex ante preparations still allow the possibility of negative (and positive) surprises, ex post. The last important fact produced by our analysis is consistent with this second hypothesis. It is:

vi) The most significant correlate of financial dissatisfaction that our analysis uncovers is involuntary retirement, and in particular, involuntary retirement associated with poor health.

Again, suggestive connections can be made to the international literature. For example, in a recent study of expenditure falls around retirement that employs panel data from the United Kingdom, Smith (2006) shows that spending falls only among (the households of) men who retire involuntarily. Findings such as these suggest areas where policy innovation might be most fruitfully targeted.

There are many problems with subjective survey self-reports of financial satisfaction. Social scientists and policy makers are right to be cautious, and even

sceptical when confronted with such data. Nevertheless, our view is that, at a minimum, the data summarized in this paper suggest that income and expenditure data also be interpreted carefully.

Further analysis and data are required. Most helpful would be a Canadian panel survey that collected incomes, expenditures and a range of other living standard measures (including subjective ones) around retirement. Data collection exercises matching this description are now underway in many other advanced countries.

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TABLES

Table 1: Relative Life Satisfaction of Canadian Retirees

Retirement Survey *Is any aspect of life better or worse than expected?*			**General Social Survey** *Compared to the year before you retired, do you now enjoy life more, less, or about the same?*						
	Aged 55 +	**Aged 70+**		**Aged 55 +**			**Aged 70 +**			**Retired within last 5 years**
	(1)	**(2)**		**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
	1975	**1975**		**1989**	**1994**	**2002**	**1989**	**1994**	**2002**	**2002**
Worse	23%	21%	**Less**	18%	17%	12%	20%	17%	14%	10%
			Same	39%	34%	46%	40%	36%	53%	41%
Better	25%	32%	**More**	44%	48%	42%	39%	44%	33%	49%

Table 2: Sources of Life Dissatisfaction, Canadian Retirees

	Retirement Survey *Aspect of life that is worse than expected*		**General Social Survey** *What is the main reason that you now enjoy life less? Is it….*					
	Aged 55 +	**Aged 70+**	**Aged 55 +**			**Aged 70 +**		
	(1)	**(2)**	**(3)**	**(4)**		**(5)**	**(6)**	
	1975	**1975**	**1989**	**1994**	**2002**	**1989**	**1994**	**2002**
Income / Economic	43% [15%]	39% [12%]	7% [1%]	12% [2%]	Not Asked	6% [1%]	6% [1%]	Not Asked
Health	23% [8%]	27% [8%]	58% [10]	46% [8%]		61% [12%]	53% [9%]	
			Conditional % [Unconditional %]					

Table 3: Relative Financial Satisfaction of Canadian Retirees

General Social Survey ***Compared to the year before you retired, would you know say that you are better off financially, worse off or about the same?***							
		Aged 55 +			**Aged 70 +**		**Retired within last 5 years**
		(1)	**(2)**		**(3)**	**(4)**	**(5)**
	1989	**1994**	**2002**	**1989**	**1994**	**2002**	**2002**
Worse	Not Asked	30.5%	26%	Not Asked	23%	21%	31%
Same		50%	56%		51%	57%	57%
Better		19.5%	18%		26%	22%	12%

Table 4: Summary Statistics of Financial & Life Satisfaction

2002 General Social Survey

	(Relative) Life Satisfaction			**(Relative) Financial Satisfaction**		
Demographics	*Worse*	*Same*	*Better*	*Worse*	*Same*	*Better*
Married/Common Law Male	9.9	46.6	43.5	26.7	57.6	15.8
Married/Common Law Female	9	42.7	48.3	25.9	56	18.1
Widowed/Divorced/Separated Male	18.4	49.3	32.4	29.6	52.8	17.7
Widowed/Divorced/Separated Female	18	47.5	34.4	26.5	52.3	21.2
Single Male	20.3	46.7	33	26.6	54.8	18.7
Single Female	10	44.3	45.7	17.5	55.2	27.3
Age 55-59	9.3	25.6	64.8	28.9	58.5	12.6
Age 60-64	8	42.9	49.1	32.6	54.8	12.6
Age 65-69	12.6	40.7	46.7	31.3	52.9	15.8
Age 70-74	10.9	52	37	25.8	55.3	19
Age 75-79	15.8	49.5	34.8	21.9	57.7	20.4
Age 80+	16.7	58.5	24.8	15.8	57.2	27
Atlantic	10.9	50.2	38.9	19.3	56.9	23.8
Quebec	15.6	39.1	45.3	16.5	60	23.4
Prairies	10.9	50.7	38.3	23.5	56.7	19.8
BC	9.3	50.7	40	31.5	49.6	19
Ontario	12.4	45.6	42	27.8	54.7	17.5
Less than High School	14.7	48.9	36.4	24	59	17
High School Diploma	12	43.5	44.4	28	52	19.8
University graduated	9.5	44.8	45.7	27.6	54.8	17.6
Retirement Reasons						
Mandatory	11.7	47.2	41.1	28.2	55.6	16.2
New technology	12.3	45	42.7	27.2	57.4	15.4
Poor health	19.6	44.1	36.3	35	49.9	15
Unemployed	24.4	49	26.6	36.7	47.3	16
Care Taking	15	52.1	32.9	26	53.1	20.9
Job Downsized	13	45.4	41.6	30.4	54.7	14.9
Business Closure	17.7	49.9	32.5	27.3	58.2	14.5
Family Reasons	12.3	46.2	41.5	21	50.6	28.4
Voluntary Decision	9.1	45.8	45	22.5	58.5	19
Other						
Home Ownership	9.9	46.1	44	26.6	55.4	18
"Not Home Owner"	20.4	45.5	34	25.8	56.1	18.1
Benefit from Employer	8.9	44.2	46.9	26.3	55.4	18.4
"No Employer Pension"	15.9	47.9	36.2	26.6	55.9	17.5

TABLE 5: Ordered Probit, Relative Life Satisfaction, GSS 2002

	Coefficient	Marginal Effect (More or Same)	Coefficient	Marginal Effect (More or Same)
Age [60-64]	-.274**	-.056	-.302**	-.063
	(-2.72)		(-3.19)	
Age [65-69]	-.373**	-.077	-.403**	-.085
	(-3.72)		(-4.30)	
Age [70-74]	-.524**	-.115	-.539**	-.120
	(-5.26)		(-5.82)	
Age [75-79]	-.638**	-.150	-.637**	-.150
	(-6.16)		(-6.59)	
Age 80+	-.786**	-.199	-.807**	-.206
	(-7.59)		(-8.32)	
High School Grad.	.076	.013	.055	.010
	(1.60)		(1.17)	
College Graduated	.086	.015	.069	.012
	(1.87)		(1.54)	
Atlantic	-.022	-.004	-.015	-.002
	(-0.45)		(-0.31)	
Quebec	.041	.007	.065	.011
	(0.72)		(1.14)	
Prairie	-.027	-.005	-.013	-.002
	(-0.56)		(-0.28)	
BC	.041	.007	.047	.008
	(0.81)		(0.94)	
Married Male	.206	.037	.187	.034
	(1.63)		(1.54)	
Married Female	.275*	.046	.276*	.047
	(2.08)		(2.18)	
Male, Separated, Divorced or Widowed	.044	.008	.023	.004
	(0.33)		(0.18)	
Female, Separated, Divorced or Widowed	.131	.023	.119	.021
	(1.02)		(0.97)	
Never Married Female	.332*	.050	.349*	.052
	(2.21)		(2.37)	
Home Owner	.173**	.033	.169**	.033
	(3.39)		(3.41)	
Benefit from Employer	.222**	.041	.214**	.040
	(5.68)		(5.51)	
Voluntary Decision	.439**	.093		
	(9.62)			
Mandatory			-.108*	-.021
			(-1.98)	
New Tech.			-.048	-.009
			(-0.52)	
Poor Health			-.314**	-.064
			(-6.97)	
Unemployed			-.425**	-.098
			(-4.61)	
Care Taking			-.195**	-.040
			(-3.08)	
Job Downsized			-.069	-.013
			(-1.14)	
Business Closure			-.247**	-.052
			(-2.99)	
Family Reasons			-.094	-.018
			(-1.13)	
Observations	7060		7112	

Table 6: Ordered Probit, Relative, Financial Satisfaction, GSS 2002

	Coefficient	Marginal Effect (Better or Same)	Coefficient	Marginal Effect (Better or Same)
Age [60-64]	-.050	-.016	-.082	-.027
	(-0.64)		(-1.02)	
Age [65-69]	.015	.005	.002	.000
	(0.21)		(0.03)	
Age [70-74]	.181*	.056	.168*	.052
	(2.43)		(2.21)	
Age [75-79]	.271**	.082	.264**	.080
	(3.57)		(3.39)	
Age 80+	.489**	.138	.477**	.135
	(6.03)		(5.76)	
High School Grad.	-.014	-.004	-.028	-.009
	(-0.32)		(-0.65)	
College Graduated	-.048	-.015	-.056	-.018
	(-1.18)		(-1.38)	
Atlantic	.126*	.039	.129*	.040
	(2.58)		(2.67)	
Quebec	.096*	.030	.109*	.034
	(1.97)		(2.26)	
Prairie	.071	.022	.091	.028
	(1.48)		(1.90)	
BC	-.046	-.015	-.056	-.018
	(-0.87)		(-1.07)	
Married Male	-.077	-.025	-.069	-.022
	(-0.72)		(-0.65)	
Married Female	.049	.015	.030	.009
	(0.45)		(0.27)	
Male, Separated, Divorced or Widowed	-.130	-.043	-.126	-.042
	(-1.13)		(-1.10)	
Female, Separated, Divorced or Widowed	-.026	-.008	-.039	-.012
	(-0.24)		(-0.37)	
Never Married Female	.243	.072	.264	.078
	(1.80)		(1.95)	
Home Owner	.048	.015	.048	.015
	(1.15)		(1.14)	
Benefit from Employer	.034	.011	.070	.022
	(0.94)		(1.87)	
Voluntary Decision	.332**	.113		
	(7.68)			
Mandatory			-.190*	-.064
			(-3.47)	
New Tech.			-.015	-005
			(-0.17)	
Poor Health			-.258**	-086
			(-6.21)	
Unemployed			-.151	-.051
			(-1.59)	
Care Taking			.013	.004
			(0.22)	
Job Downsized			-.094	-.031
			(-1.60)	
Business Closure			-.048	-.015
			(-0.58)	
Family Reasons			.210*	.063
			(2.48)	
Observations	7067			

Notes to Tables 1, 2

1. The exact wording of the questions in RS75 used here is:
   - *Are there any aspects of your life now which are much better than you expected before you retired? Please specify.*
   - *Is there anything much worse than expected before you retired? Please specify.*

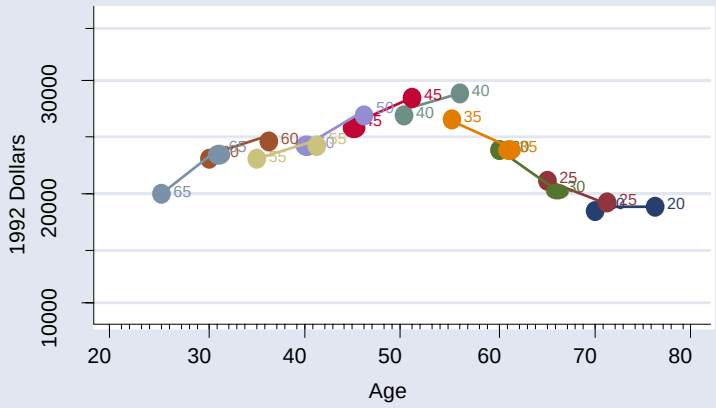
Notes to Table 4

1. Variables are defined as follows:
   a) *Married*: "Living Common in Law + Married"
   b) *Voluntary Decision*: Was your retirement voluntary, did you want to retire?
   c) *Home Owner:* Is this dwelling owned by a member of this household?
   d) *Benefit from Employer*: Do you receive a pension or retirement pension from any of your former employers?
   e) *Retirement Reasons:* Why did you retire? Was it because…

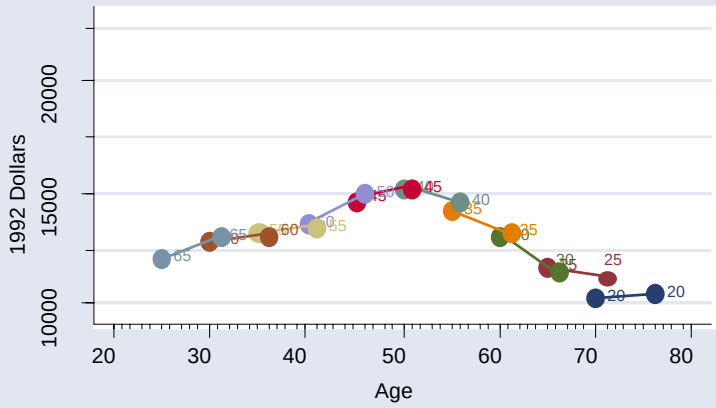
      Mandatory: Your Employer had a mandatory retirement policy?
      New Tech.: New Technology was introduced?
      Poor Health: Your health required it?
      Unemployed: You were unemployed and could not find a job?
      Care Taking: You needed to take care of a family member?
      Job downsized: Your job was downsized
      Business Closure + Family Reasons are created from inputs of people responded as other reasons
      Business Closure: Of a business closure or a lay off
      Family Reasons: Of a family reasons included re-location

Notes to Tables 5 and 6

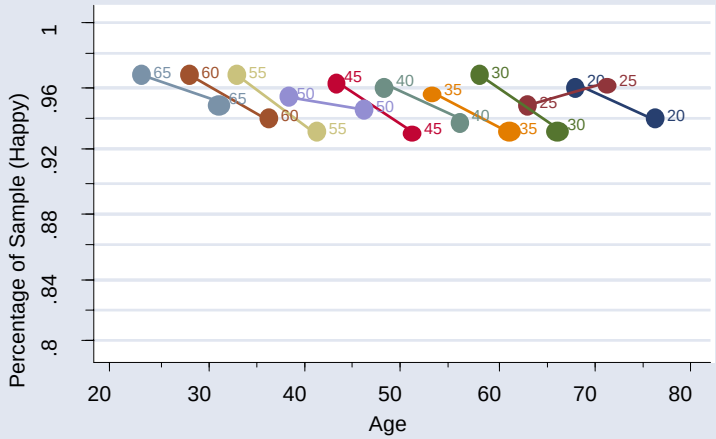
1. Variable definitions follow Table 4.
2. z-values in parentheses
3. ** indicates significant at the 1 percent level, * indicates significant at the 5 percent level
4. Reference (omitted) groups for categorical variables are: Age 50-54, Ontario, Less Than high School, Single Male
5. Table 5 is based on responses to the question: "Compared to the year before you retired , do you now enjoy life more, less, or about the same?" The dependent variable is coded 2 for "more", 1 for "about the same", and 0 for "less".
6. Table 5 is based on responses to the question: "Compared to the year before you retired, would you know say that you are better off financially, worse off or about the same?" The dependent Variable is coded 2 for "better", 1 for "about the same", and 0 for "worse."



Real Equivalent Net Income



Real Equivalent Nondurable Consumption



Happiness

Figure 1: Life Cycle Paths of Income, Consumption and Happiness

Income, Consumption: 1992 Family Expenditure Survey and 1998 Survey of Household Spending
Happiness: 1990 and 1998 General Social Surveys

Appendix

Table A1: Details of the General Social Surveys

	1989 (Cycle 4)	1994 (Cycle 9)	2002 (Cycle 16)
Sampling Frame	Random Digit Dialing Method (RDD).	Random Digit Dialing Method with supplementary sample drawn from Labor Force Survey sampling frame.	Respondents were randomly selected from a list of individuals aged 45 years and over who had responded to the Canadian Community Health Survey (CCHS) in 2001. The CCHS in turned used LFS sampling frame and RDD.
Target Population	Persons *15* years of age and older living in the 10 provinces.[1]	Persons *15* years of age and older living in the 10 provinces.[1]	Persons *45* years of age and older living in the 10 provinces[2].
Mode	Telephone interview	Telephone interview	Telephone interview
Core Content	Education and Work	Education, Work and Retirement	Social Support and Aging
Sample Size (Response Rate)	9,338 (80.7)	11,876 (81.2)	24,870 (86.3)

[1]The target population for the GSS was all persons 15 years of age and over in Canada, excluding residents of the Yukon and Northwest Territories and full-time residents of institutions.

[2] The target population for Cycle 16 of the GSS was all people aged 45 and over in Canada, excluding residents of the Yukon, Northwest Territories, and Nunavut; full-time residents of institutions; residents living on Indian Reserves, Crown lands or in some remote areas; full-time members of the Canadian Armed Forces.

Table A2: Summary statistics
Analysis Sample (Retired Respondents)
2002 General Social Survey

2002 General Social Survey

Demographics	*Percentage*	*Retirement Reasons*	*Percentage*
Male, married	40.95	**Mandatory**	12.60
Female, married	23.84	**New technology**	3.97
Male, divorced/widowed	8.35	**Poor health**	23.21
Female, divorced/ widowed	20.8	**Unemployed**	8.63
Male, never married	2.82	**Care Taking**	4.87
Female, never married	3.18	**Job Downsized**	9.92
Age 55-59	8.52	**Business Closure**	4.99
Age 60-64	15.49	**Family Reasons**	4.89
Age 65-69	22.96	**Voluntary Decision**	75.31
Age 70-74	21.40		
Age 75-79	17.23		
Age 80+	14.40		
Atlantic	8.27	*Financial Resources*	
Quebec	22.08	**Home ownership**	75.88
Prairies	40.53	**Pension benefit from former employer**	47.24
BC	14.37		
Ontario	14.75		
Less than high school	38.64		
High school diploma /+	26.37		
University graduate	33.99		
N=7940			

Number	Title	Author(s)
(2003)		
No. 380:	Population Aging, Productivity, and Growth in Living Standards	W. Scarth
No. 381:	The Transition from Good to Poor Health: An Econometric Study of the Older Population	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
No. 382:	The Evolution of High Incomes In Canada, 1920-2000	E. Saez M.R. Veall
No. 383:	Population Change and Economic Growth: The Long-Term Outlook	F.T. Denton B.G. Spencer
No. 384:	The Economic Legacy of Divorced and Separated Women in Old Age	L. McDonald A.L. Robb
No. 385:	National Catastrophic Drug Insurance Revisited: Who Would Benefit from Senator Kirby's Recommendations?	T.F. Crossley P.V. Grootendorst M.R. Veall
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No. 401:	MEDS-E Users' Manual	F.T. Denton C.H. Feaver B.G. Spencer

Number	Title	Author(s)
No. 402:	Socioeconomic Influences on the Health of Older Canadians: Estimates Based on Two Longitudinal Surveys (Revised Version of No. 387)	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
No. 403:	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
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