

What, Me Worry?

Income Risks for Retiring Canadians

Michael Wolfson





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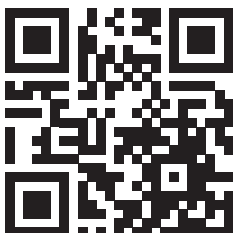
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Dr. Michael C. Wolfson received his B.Sc. with honours from U of Toronto jointly in mathematics, computer science and economics, and then a Ph.D. from Cambridge in Economics in 1977. He retired as Assistant Chief Statistician, Analysis and Development (which included the Health Statistics program and the central R&D function), at Statistics Canada in 2009. He was awarded a Canada Research Chair in Population Health Modeling / Populomics in the Faculty of Medicine at the University of Ottawa in 2010. Prior to joining Statistics Canada, he held increasingly senior positions in the Treasury Board Secretariat, the Department of Finance, the Privy Council Office, the House of Commons, and the Deputy Prime Minister's Office. While a senior public servant, he was also a founding Fellow of the Canadian Institute for Advanced Research Program in Population Health (1988-2003). He is an elected member of the Canadian Academy of Health Sciences and the International Statistical Institute.

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What, Me Worry?

Income Risks for Retiring Canadians

Executive Summary

Ideally, public policy should be based on the best available evidence. However, in the area of pension reform, this discussion is threatened by flawed attacks on key sources of high quality information and changes at Statistics Canada.

This paper reviews two recent and widely quoted studies that strongly suggest no major policy changes are required because there really is no looming retirement income problem. These studies – one published by the consulting firm McKinsey & Company in February 2015, the other published by the C.D. Howe Institute in June 2015 – lower the bar for evidence-based analysis. The first uses “black box” methods, the antithesis of open science and open government. The second relies on anecdotes and simple numerical examples, and criticizes the most sophisticated tool available, Statistics Canada’s LifePaths projection model, funding for which has been cut.

The author concludes that nothing in either of these two high-profile studies seriously challenges the principal conclusion from the in-depth studies

that have used the LifePaths model: a large proportion of middle-income Canadians (possibly 50 percent) will likely face a significant reduction in their living standards in retirement – a drop of 25 percent or more in their net income replacement rate by age 70.

This evidence strongly supports some form of expansion of CCP/QPP or, in the absence of federal leadership, the development of provincial initiatives, such as the Ontario Retirement Pension Plan process unfolding in the province of Ontario.

Introduction

Over the past few years, the debate in Canada over the expansion of the Canada and Quebec pension plans (CPP/QPP) has taken a number of twists and turns.

Most recently, two 2015 studies have put forward the view that we don't have a retirement saving problem in the first place. The clear implication is that there is no need at all for expansion of the CPP/QPP. One of these studies was published by the consulting firm McKinsey & Company in February 2015;¹ the other is a commentary by retired Mercer actuary Malcolm Hamilton, published by the C.D. Howe Institute in June 2015.²

In this brief analysis, my main purpose is to review critically these two studies. Secondly, because Hamilton levels a number of serious criticisms of my own recent analyses,³ especially the Statistics Canada LifePaths simulation model on which they are based, I show that these criticisms are flawed or simply wrong. Nothing in either of these high-profile studies seriously challenges the principal conclusion from the various in-depth studies that have used the LifePaths model: over coming decades, a large proportion of middle-income Canadians will likely face a significant reduction in their living standards after retirement.

Finally, because the funding at Statistics Canada for the LifePaths model has been cut and important changes have been made to the Survey of Household Spending, I also observe that fundamental national statistical resources for sophisticated analysis of pension and related policy questions have been seriously crippled, if not destroyed. With the McKinsey study, these resources are being replaced by black box studies whose quality cannot be assessed but is almost certainly far inferior – the antithesis of open science and open government.

Context

By way of background, CPP expansion found its way onto the official agenda in 2009 (after a considerable hiatus from previous “great pension debates,” especially in the early-1980s), when provincial and federal finance ministers agreed to study the issue of retirement income adequacy. In June 2010, former federal Finance Minister Jim Flaherty and a majority of provincial finance ministers endorsed a modest expansion of the CPP. It was then scheduled for discussion at a federal-provincial finance ministers’ meeting in June 2011. That meeting was abruptly cancelled, accompanied by a declaration of lack of interest in CPP expansion by the federal government. The issue went back and forth, and a meeting in December 2013 broke up when the federal government went on the offensive against CPP expansion.

The idea of CPP expansion was then picked up by Ontario, in a proposal in its 2014 budget to explore the creation of an Ontario Retirement Pension Plan (ORPP) designed explicitly as an add-on to the CPP.⁴ That proposal became a central feature of the Ontario Liberal party’s 2014 election platform and is now well along in its planning phase.

The federal government continues to be inconsistent. At the same time as it has allied itself with financial services industry interests in claiming that there is no problem with Canada’s retirement income system, it has introduced a succession of proposals with the announced intention of fixing that system:

- The Pooled Registered Pension Plan (PRPP) which is actually a Registered Retirement Savings Plan (RRSP) by a different name and is run by a different financial services industry interest;⁵
- The Tax Free Savings Account (TFSA), which is designed to appeal, among other things, to lower-income savers who, if they instead saved in an RRSP, would see their future Guaranteed Income Supplement (GIS) benefits eroded; and
- Most recently, the suggestion by the Minister of Finance that the Canada Pension Plan Investment Board might be turned into a kind of public sector mutual fund, accepting voluntary contributions from individual Canadians.

Needless to say, these proposals represent considerable activity for a problem that doesn’t exist.

The two most recent studies, by McKinsey and by Hamilton, open with sweeping statements implying that there is no need to expand the CPP – a bit of tweaking of private retirement saving arrangements may be all that is needed. These statements have been quoted by federal ministers and lobbyists who are opposed to an expanded public role. The opening text and conclusions of the Hamilton study mask much more equivocal contents in the body of the study. In the McKinsey report, the lack of transparency of their methodology and assumptions seriously limits any careful assessment of their claims.

Readers should therefore be wary of the “headline” conclusions of both studies.

Interestingly, neither study comments on the declines in private sector workplace pension plan coverage. Further, it is widely acknowledged – by virtually everyone in Canada except the mutual fund industry – that private individual retirement savings options are very costly in terms of management fees. The popularity of Registered Retirement Income Funds (RRIFs) reflects the widespread dislike of the life annuity market. And the tax incentive for RRSPs is disproportionately used by the well off, not those with mid-range earnings.

The implicit assumption in both studies is that lack of workplace pension coverage, growing unused RRSP “contribution room,” and high (but often invisible) fees on typical individual retirement saving assets are not a problem.

It is important to distinguish two major policy objectives for Canada’s retirement income system. One is to avoid poverty in old age; the other is to facilitate Canadians’ ability to maintain their living standards into retirement, to have flows of resources – both disposable income and dissaving – that can “replace” pre-retirement earnings. The debate about whether or not to expand the CPP is related to the second “income replacement” objective. It is, therefore, mainly focused on Canadians with middle-class incomes during their working years.

Low-income earners often find themselves with more income after retirement than before. But this says more about the inadequacy of the minimum wage, aggregate demand in the economy, and our social safety net for people of working age than it says about the adequacy of Canada’s retirement income system, especially given the more adequate income guarantees provided to seniors through Old Age Security (OAS) and GIS.

At the other end of the income spectrum, those with high incomes in their working years are much better able to decide how much to save for their

post-retirement incomes, which can end up being multiples of the pre-retirement incomes of those in the middle class. Therefore, income adequacy in terms of replacement need not be a high public policy priority for those in the upper part of the income spectrum.

Malcolm Hamilton's study

The statement on the cover of the Hamilton study for the C.D. Howe Institute has provided ample fodder for opponents of CPP expansion:

“Reports of undersaving by Canadians for retirement are exaggerated. They rely on faulty assumptions, questionable numbers and ignore the diversity of individual retirement goals.”

Hamilton concludes that “Canadians are reasonably well prepared for retirement. Most save more than the 5 percent household saving rate. Most can retire comfortably on less than the traditional 70 percent replacement target.”

In the main text of his paper, I agree with about two-thirds in terms of the page count. But Hamilton's paper falls far short of demonstrating his principal conclusion. It focuses on savings rather than income adequacy in retirement. It is based primarily on averages rather than on data that capture the wide variation of experience around the average, notwithstanding his explicit reference to “the diversity of individual retirement goals.” And it either ignores or dismisses more sophisticated analyses of retirement income that endeavor to reflect trends in incomes and expenditures over a lifetime.

First, in focusing on savings, the study asks the wrong question. The more appropriate question is not about saving, but rather whether Canadians are on track to have adequate incomes in their retirement – especially those with middle-incomes.

I agree with Hamilton's criticism that National Accounts data on the household saving rate is of no use at all in judging the adequacy or the distribution of households' saving for retirement. The household saving rate reflects a mixture of saving by those who are typically younger or middle-aged (e.g. paying down a mortgage, contributing to an RPP or RRSP) and those who are older and are typically dissaving – selling their house to downsize, receiving a pension or annuity from their RPP or RRSP where the payments are a blend of yield and return of capital, i.e. dissaving). In other words, the

household saving rate in any given year is an amalgam of the flows of both savers and dissavers.

Moreover, as Hamilton notes, the number of people in each age group influences the household saving rate in any given year. If the proportion of elderly were to increase, for example, with everyone's (age-specific) saving rates remaining unchanged, the population would comprise relatively more dissavers, so the overall or average household saving rate would decline. This may be of interest for macro-economic analysis, but it is irrelevant and even misleading for analysis of the adequacy of retirement incomes.⁶

What matters for understanding the adequacy of projected retirement incomes is a combination of individual level saving and dissaving, and collective provisions both at the workplace level in the form of workplace pension plans, and at the government level through tax/transfer programs such as OAS/GIS and CPP/QPP.

Further, what is really fundamental is how much consumption expenditure one can afford after retirement compared to what was afforded prior to retirement – where the ratio of these two levels of consumption expenditure is typically called the replacement rate (RR). This is the proper focus of any analysis of retirement income adequacy.

Analyzing Averages: Drowning in an 18-inch Deep River

The Hamilton study focuses almost exclusively on averages. As he acknowledges, individuals and families are very heterogeneous, so ideally it is important to look at the distribution of projected RRs. Nevertheless, Hamilton approvingly observes: “according to a 2008 OECD study ... , the average income of Canadian seniors, adjusted for tax and family size, is about 91 percent of the average income of working age Canadians, similarly adjusted.” (p3) He then goes on to use this observation as part of his argument that there is no retirement saving problem.

But the issue is not about broad averages: some seniors are very well off; others have experienced and will in future experience major declines in living standards after retirement. The issue is how many seniors will face big declines after retirement – is this a negligible proportion, as the McKinsey study (see below) argues, or is it substantial, as my studies have projected? Hamilton provides no evidence on this central question.

The study repeats the use of comforting but largely irrelevant statistics in referring to increasing household net worth and increasing aggregate

pension assets. There is a well-known adage in statistics – “beware of the mean” – with its related story of the person who drowned while crossing a river whose average depth was 18 inches. The issue is not aggregates or averages; it is with distributions – what proportion will suffer significant declines.

The Appropriate Replacement Rate Measure

In support of his contention that many Canadians are saving more than they need for retirement, Hamilton next observes that recent retirees do not sell their homes or run down their RRSPs as fast as they could. But he provides no data, even in aggregate form. Further, he makes no reference to one of the main explanations for why seniors tend to hold onto assets (to the extent they have many) – namely the uncertainties of when they will die (longevity risk) and whether they will be faced with huge bills should they become seriously ill. In addition to these precautionary motives for holding onto savings longer than some (mostly orthodox economists) think they should, many individuals would like to leave something for their children and grandchildren.

Uncertainty about longevity by itself will tend to drive Canadians to save more than they would, on average, need for themselves. But virtually no one lives “on average” and there are legitimate fears of “outliving your savings.”⁷

End-of-life health care costs are also an important factor driving observations of continued saving after retirement. Canadians are rightly proud of our universal health care, but the only health care services that are universally insured are for doctors, hospitals, and to some extent, drugs. There are major risks of substantial out-of-pocket costs for chronic disease and disability that require expensive long-term care which can be poorly covered by public health insurance in Canada.

Hamilton more than ignores the results of much more sophisticated studies of retirement income dynamics. First, he presents static “snapshot” examples and focuses his critique on the commonly used retirement income target of 70 percent of pre-retirement earnings. Then he criticizes Statistics Canada’s LifePaths model. Let me discuss these in turn.

In its opening summary, the Hamilton analysis starts by claiming that a 70 percent gross income replacement rate (RR) is too high a target. He suggests a lower target RR. Much later, in the main part of the study, he gives a handful of simple numerical examples showing why the 70 percent gross RR target is inappropriate.

I agree completely.

Individuals have varying family responsibilities over the life course. They also pay taxes and receive transfers, especially public pensions like OAS/GIS and CPP/QPP. It is, therefore, essential to look at *net* RRs based on disposable income, saving and dissaving, home ownership, and changes in family size over the life cycle.

For those above a poverty threshold, the best way to judge the adequacy of projected retirement monetary resources, including disposable income as well as dissaving, is to compare post-retirement resources (incomes, taxes, and dissaving) to correspondingly defined pre-retirement resources (incomes, taxes, saving, and contributions). That comparison is best expressed as the projected *net* (“consumable”) income replacement rate (RR).

That is precisely the issue that Canadian researchers (including myself) have explored using Statistics Canada’s LifePaths model. LifePaths is a sophisticated simulation model based on detailed multivariate analysis of broad and deep data sets that can be used to track the impact of demographic, labour market, and economic trends on individuals over time.

With reference to Hamilton’s critique of the 70 percent gross RR target, my 2011 LifePaths analysis shows that a 60-70 percent *gross* RR can translate into a *net* RR anywhere between 60-100 percent.

However, the issue is not whether a *gross* RR of 70 percent is too high a target; rather the whole point of using the LifePaths model is that the real concern should be with the *net* RR – i.e. after taking account of taxes, transfers, saving and dissaving, and changes in family size over the life cycle. The issue is whether projected *net* RRs, which provide the conceptually correct measure, will be too low, and if so, for what proportion of future retirees.

Critique of the LifePaths Model

A substantial portion of the Hamilton study is a critique of LifePaths-based analyses.

My earlier detailed studies⁸ as well as those of others⁹ have used the LifePaths model from Statistics Canada to produce the most sophisticated estimates available in Canada of the projected adequacy of future retirement incomes measured in terms of *net* RRs, including exploration of a range of alternatives to the key assumptions that are required in any such projection. The central conclusion was that about half of the middle-income members

of Baby Boom cohorts can expect a drop of at least 25 percent in their *net* RRs by age 70.¹⁰

The proportion projected to face substantial declines in their *net* RRs is considerably higher at age 80. This is especially notable for women and it is related to limited indexing and survivor benefits in private pensions and in private saving arrangements.

Interestingly, an earlier C.D.Howe study¹¹ also approvingly used the LifePaths model:

“[W]e used LifePaths – a sophisticated simulation tool developed at Statistics Canada which integrates a large amount of data on the socio-economic experience of Canadians to project ... What makes LifePaths particularly valuable is its ability to model time-varying demographic and socio-economic patterns on diversified and representative people of various ages over time.

“If ongoing behavior and economic circumstances were to persist indefinitely, however, more Canadians may find maintaining their working-life consumption in retirement more difficult. ... In short, if existing trends and behavior continue, the number of working Canadians at risk of a significant drop in their living standards in retirement will rise over time.”

Still, some of Hamilton’s criticisms of LifePaths-based analyses could be reasonable. In particular, LifePaths projections involve a number of assumptions, as is inevitable with any projection into the future. An informed and lively public policy debate should explore key assumptions, such as future labour force participation rates of women, or trends in life expectancy, as well as key policy choices such as our expectations of how much any net worth in owner-occupied housing should be used to finance retirement. But the Hamilton study either fails to address these questions or is mistaken. For example, Hamilton says that “LifePaths, as run for the studies in question, *assumes* that retirement outcomes deteriorate going forward” (p23, emphasis added). Not quite! LifePaths *projects* based on detailed extrapolations of observed trends over more than a decade. Of course, such extrapolations involve some assumptions, but they are based on what has actually been happening, not some nefarious desire to bias the results.

So yes, my analysis is based on projections that Defined Benefits RPP coverage in the private sector will decline in future. But this is exactly what has already been occurring and there is no evidence that this trend is about to be reversed. LifePaths also assumes that currently legislated provisions like automatic indexing OAS and GIS to keep up with inflation will continue.

But with any real per capita wage growth in future, this means that these benefits, while remaining flat in terms of constant dollars, will decline over time in relation to average wages. The LifePaths baseline projections also assume that the CPP/QPP will continue unchanged, which includes real increases in pensions in pay due to the indexing of the pre-retirement earnings base to real average wage growth. This is most certainly another input to “retirement outcomes”, but one generally that does not “deteriorate going forward.”¹²

Hamilton asserts that the deterioration is based on assumptions about real rates of return. But I used similar assumptions to those used by Canada’s Chief Actuary in his (then) latest report to Parliament on the CPP. Further, in a sensitivity analysis, my 2011 study explored various combinations of equity and bond returns going back many decades for the projected returns on RRSP assets, using more detailed historical results on yields than actuaries use conventionally (i.e. explicitly reflecting uncertainty stochastically, while actuaries typically use only single-valued long term averages).

Hamilton claims: “The LifePaths model is quite capable of comparing post-retirement consumption to consumption before the age of 40 but no one has asked it to do so. Instead, the studies focus exclusively on the years leading up to, and following, retirement” (p23). The first phrase is correct – LifePaths is capable. But the second part of this quote is simply wrong. My 2011 analysis included several tests of the sensitivity of projected net RR distributions to alternatives for the pre-retirement denominator, including all years from age 18 to 64 – the same earnings base as in the CPP/QPP.

The more important question, which Hamilton does not address, is just which pre-retirement earnings years should be used as the basis for assessing RR adequacy. The CPP/QPP has for almost half a century embodied one view – including most of the years of working age, with special consideration for years caring for young children (updated to account not only for inflation, but also real wage growth); while a plurality of workplace Defined Benefit plans take the opposite view, typically using the last or best five years. In my analysis, I’ve focused on a middle view between these two. Ideally, there should be a public discussion of this fundamental choice in pension plan design, one that should be informed by high quality information such as that provided by LifePaths.

It is true, as Hamilton observes, that “LifePaths does not simulate behavioural response” – at least not in the sense of orthodox neo-classical individualistic utility-maximizing economic theory – a theory that is completely alien to psychologists and anyone who has not endured introductory

economics courses. But LifePaths' projections do include many complex and multivariate changes in "behaviour" – e.g. changes in rates of fertility, marriage, divorce, employment, and RPP coverage – on the basis of observed trends and multivariate correlation patterns.¹³ So yes, faced with a looming shortfall in retirement income RRs, many Canadians may adjust their behaviour beyond the evolving patterns implicit in these projections. But how many will do so and by how much? Hamilton does not offer any specific suggestions, just a vague series of questions: "How then should we interpret the findings? A sensible interpretation would be that the next generation will need to do things differently. If they enter the workforce later, marry later and have children later, maybe they should retire later. If they live longer and earn less on their investments maybe they should save more, or retire later, or work part-time after retirement. Maybe they can figure some of this out for themselves. Instead we conclude that young Canadians cannot manage their finances properly, offering as proof a model that assumes that young Canadians cannot manage their finances properly."

I conclude nothing of the sort. The implication (innuendo?) is that the more sophisticated analyses which he dismisses fail to address these questions. That is simply incorrect. LifePaths-based projections do include declining fertility, increasing marriage dissolution, and increasing labour force participation. My 2011 analysis using LifePaths first observes that if things continue along current trend patterns (note that these "trend patterns" are not assumed constant), there will be a problem. In my 2011 study and in more depth in my 2013 study, I explored a "modest" expansion of the CPP/QPP to address the projected retirement income adequacy gap, as well as several other options. But this proposal, and the P.E.I. and Ontario proposals as well, still leave major gaps in projected net RRs. So there would remain plenty of room for the kinds of individual behavioural responses about which Hamilton is concerned.

Indeed, Hamilton's discussion of behavioural response seems to imply (a) they are essential if we are to do reasonable projections, and (b) since LifePaths does not include them, no such projections should be done or used. This is throwing the proverbial baby out with the bath water.

Hamilton states: "Of the three studies referenced by Ontario, two assumed that retired individuals would access only 50 percent of their home equity and one assumed that they would access none of it. LifePaths does not yet have the ability to simulate inheritance. This means that 50 percent of home equity simply disappears in two of the studies and 100 percent of home equity disappears in the third" (p24).

It is correct that LifePaths does not simulate inheritance between generations explicitly. But (a) it does explicitly simulate inheritance between spouses; (b) intergenerational inheritance is included implicitly since the model was calibrated to mirror the actual distribution of home equity at age 65 in Statistics Canada's Survey of Financial Security (SFS, the asset and debt survey) – so to the extent that inheritance has been used to purchase or upgrade primary residences, or pay down mortgages, and are expected to continue to do so, they are implicitly included; and (c) my 2011 study did, in fact, explore scenarios where 100 percent of home equity was used to finance retirement incomes.

Hamilton's discussion of ex ante and ex post assessments of retirement adequacy is unclear. Of course, at the individual level, there are important uncertainties that can knock an otherwise sensible retirement saving plan off course – e.g. becoming unemployed at age 55 or divorced at age 65. But LifePaths' supposedly ex post analysis – it is not after the fact; it is a projection – is based on simulations of millions of individuals. LifePaths simulations are not designed to provide advice to a specific individual; rather they are designed to provide information to policy makers, and to the general public, to inform collective, society-wide actions. Statistically, it provides the best available estimates in Canada of retirement income adequacy, taking full account of these risks – including rates of participation in paid employment and divorce rates, both, in turn, based on detailed results from labour force and census data (among other data sources).

Hamilton does acknowledge: “As studies of our retirement system become more sophisticated, we focus more on the distribution of outcomes and less on the averages. We inevitably discover that while many appear to be saving too much relative to the arbitrary thresholds chosen for these studies, others appear to be saving too little. The size of the group that appears to be ‘at risk’ (of saving too little) cannot be accurately determined nor can the attributes of its members be usefully described” (p1).

As indicated in my comments so far, I agree with the first two sentences in this quote. But this last sentence completely ignores what LifePaths was designed to do. A major objective of using the LifePaths model is precisely to determine “the size and attributes of the at risk group.” Hamilton has raised some questions at the margins about the assumptions used in a number of LifePaths projections, but he has not identified any fundamental flaws in the methodology or assumptions that would undermine, or even weaken, the conclusions of those studies.

The Hamilton critique of LifePaths would be far more useful if he had expended the effort to understand what the LifePaths projections had actually done and, to the extent he disagreed with any of the underlying assumptions, had run LifePaths with his own preferred assumptions, though admittedly this would require considerable effort. Constructive criticism is always welcome; ill-informed criticism is at best unfortunate.

The McKinsey Study

The analysis in Malcolm Hamilton's paper is based on a mix of prose discussion and relatively simple numerical examples. So his assumptions are reasonably transparent, and therefore his work can be held up to outside scrutiny. This is not the case with the widely cited McKinsey study (including a favourable reference by the federal Minister of Finance in June 2015). It states in its opening:

“Demographic shifts and rising life expectancy have created a common perception among Canadians that they face a retirement crisis, and that millions will be forced to significantly lower their standard of living when they leave the workforce. Yet McKinsey's latest research on the subject shows that a strong majority of Canadian households are actually on track to maintain their standard of living in retirement.

“This robust retirement readiness does, however, leave 17 percent of the nation's households financially unprepared for retirement. McKinsey research reveals that most of these households fall into two groups, meaning that the challenge is quite narrow, and that the best way to address it would be a targeted approach that leaves the rest of the system intact and maintains fairness for all Canadians” (p2).

From what is published, it is possible to make some guesses as to the elements that must have been included in their underlying projection model, and the private survey of income, wealth and saving they conducted, and on which their model is based. But very few details are published in their study. Ideally, there would be a technical annex that clearly explained their methodology. However, when I contacted the McKinsey authors directly and asked them to provide their modeling assumptions and to give details that would allow assessment of the quality of their survey, they refused to pro-

vide any written documentation; though they kindly did provide some comments over the phone.

There are positive aspects to the McKinsey study. Like many others, the authors focus on net replacement rates (RRs), what they call their “retirement readiness index.” And unlike the Hamilton study, they fundamentally recognize that RRs are heterogeneous, so their computer model projects RRs separately for each of their sampled households.¹⁵

For example, the McKinsey model is based on saving rates of individuals by age, sex, and income. However, there are no published results from their survey at all, let alone any statistics that would enable comparison of their survey results with Statistics Canada’s related surveys, especially the SFS used by LifePaths. There is no way to tell whether there were any biases in their survey or systematic recall errors, especially for the saving rates in their survey’s responses, which are critical for their projections. And there is virtually no information on how the accumulated savings of their sampled individuals were moved forward in time to form their projection.

An important assumption is how accumulated private savings will be drawn down after retirement. All we know from the published study is that everyone is assumed to purchase an annuity at the time of retirement. But the McKinsey authors did not publish anything at all on, nor would they say when asked directly, what annuity factor they used. This is critical because implicit in the annuity factor is their assumption about how much indexing of benefits there would be to protect against inflation after retirement. A pension or annuity that may look sufficient at age 65 could fall in real value by one-third or more by age 80 if inflation runs at 2 percent annually and the payments are not indexed. Such a lack of inflation indexing could leave the retiree in severely straightened circumstances in later years.

At one point, the study states: “No significant difference in retirement readiness was found between those households with public sector DB plans and those with private sector DB plans” (p7). This comment is very surprising given the widely available data showing that private sector Defined Benefit plans provide substantially smaller benefits for a given level of pre-retirement earnings, have poorer – if any – inflation indexing, and poorer survivor benefits. It raises important questions about the validity of their modeling assumptions; but again they have refused to make them available for external scrutiny.

Another crucial assumption is the target net RR, or in McKinsey’s terminology, the “retirement readiness index” – what minimum ratio of post- to pre-retirement consumption would still be acceptable to middle-income

Canadians. Their study describes examining Statistics Canada data on household consumption using data from the mid-1990s to 2008. Not surprisingly, they show that household consumption falls considerably between age 55 and age 65.¹⁶ But if the average household is larger by one or two members at age 55 (it is not clear how the age of a household was measured) than at age 65, then of course observed consumption will decline. For example, there would likely be fewer income recipients in the older household, and with fewer members, these older households will often have moved to a smaller dwelling.

Apparently McKinsey did not look at any of these factors, unlike my 2011 LifePaths analysis, where great care was taken to adjust for such variations in family size continually over the life cycle. Yet they have used these data to say, in effect, that there is no policy-relevant decline in retirement standards of living as long as consumption – not total income, nor disposable income, but after taking into account saving and dissaving – falls by no more than 35 percent after retirement. In other words, a fall of more than one-third in the consumption one can afford after retirement is no cause for concern.

The McKinsey authors were kind enough to rerun their simulation model using 75 percent rather than 65 percent as the threshold, the same net RR threshold as used in my 2011 study. They said the result was that one-third of individuals in the middle-income quintile would face a drop of at least 25 percent in their consumption after retirement.¹⁷ This result is closer to my analysis, which projected that one-half would face this decline, and is double their published result of 17 percent not having enough retirement savings.

While the McKinsey study does compare its results to those of the 2009 Mintz study conducted for the federal Department of Finance¹⁸, there is no comparison with any of the other studies using the far more sophisticated LifePaths simulation model. They also offer no comment on the Mintz study's choice of a 90 percent target net RR compared to their target of 65 percent. Indeed, they offer no comment on why, in a similar McKinsey U.S. study, a 100 percent target was used.¹⁹

The McKinsey study violates the most basic canons of rigorous analysis – transparency and replicability. In contrast, the Statistics Canada LifePaths model and my analyses are all open and publicly available, so all assumptions can (admittedly with some effort) be seen, understood, and changed if one would like.

McKinsey's lack of transparency, limited validation approach, and its evidently simplistic modeling notwithstanding, its key (unpublished) finding – that one-third (not the published 17 percent) of households, all of whom

are in the middle-income range, are not saving enough for retirement – is itself hardly cause for the complacency being voiced by those who quote its headline conclusion.

Conclusion

Public policy debates that require a decades-long planning horizon and involve billions (if not hundreds of billions) of dollars require more thoughtful debate and supporting analysis. The LifePaths model, while it has limitations, is an attempt to support that debate. Anecdotes do not do justice to this debate, nor do analyses that fail to meet the fundamental requirements of transparency and replicability – a hallmark of truly open government.

Nothing in either of these two high-profile studies seriously challenges the principal conclusion from the various in-depth studies that have used the LifePaths model: a large proportion of middle-income Canadians (50 percent in my 2011 study) will likely face a significant reduction in their living standard in retirement – a drop of 25 percent or more in their net income replacement rate by age 70 in my study.

LifePaths is the only analytical tool available to serious analysts to address the fundamental questions about the performance of our retirement income system and Canadians' expected incomes in retirement.²⁰ Because it is a simulation model based on a wide range of data sets collected by the federal government, it needs to be continually supported – as another year's data become available, as new legislation changes the context, and new policy options are proposed. LifePaths, as policy analysis infrastructure, is not like a bridge or dam that, once built, can be left largely alone for decades.

But as noted by Hamilton in his study, Statistics Canada ceased supporting the LifePaths model in 2014. More obscure is the fact that a revision to Statistics Canada's Survey of Household Spending, the only source of household level data on saving, was redesigned so that, since 2010, there are no longer any official data on the distribution of this most fundamental economic variable. As a result, discussion of multi-billion dollar policies – discussions that could be informed by far smaller investments in statistical infrastructure – can now be pursued in ignorance.²¹

In a political environment in which a government can simply dispense with the long-form Census and muzzle scientists who might provide evidence contradicting their policies and underlying beliefs, it is hardly surprising that needed data and an innovative, powerful tool for quantitative

analysis uniquely suited to the evaluation of retirement system options can simply be allowed to die.

Attempting to minimize the issue using averages, anecdotes, and mistaken criticisms of the LifePaths model, as Hamilton does, or by drawing sanguine conclusions from a black box model and survey, as the McKinsey authors do, may serve opponents of the policy responses currently under consideration. But for those Canadians who actually risk facing a substantial drop in their living standard after retirement – Canadians who stand to benefit from CPP/QPP expansion – flawed, opaque studies tilt the policy playing field against them. And that would be another stake in the heart of evidence-based policy decision-making.

Notes

1 McKinsey&Company. “Building on Canada’s Strong Retirement Readiness”. Retirement Income Practice. February 2015. <http://www.mckinsey.com/search.aspx?q=canada+pension+plan>.

2 Malcolm Hamilton. “Do Canadians Save Too Little?” C.D. Howe Institute, Commentary No. 428. June 2015. http://www.cdhowe.org/pdf/commentary_428.pdf [However, in a personal communication, Malcolm Hamilton said he was not opposed to modest expansion of the CPP.]

3 Michael C. Wolfson. “Projecting the Adequacy of Canadians’ Retirement Incomes: Current Prospects and Possible Reform Options”. IRPP no. 17. April 2011. <http://irpp.org/wp-content/uploads/2014/05/Wolfson-No17.pdf>

4 <http://www.ontario.ca/government/ontario-retirement-pension-plan>.

5 The PRPP is neither pooled nor a pension plan, and is registered only in the sense that an RRSP is registered for tax purposes. Such a plan could not be registered as an actual pension plan because provincial and federal pension benefits acts require employer contributions.

6 Even for macroeconomic analysis, what matters far more than the household saving rate is the rate of investment by the corporate sector, which may be funded by household saving = selling bonds or shares or mutual funds to households, but is more likely funded out of corporate profits, from borrowing, and via investments from abroad. In turn, the rate of investment is fundamental to the rate of overall economic growth, and the economy’s ability to support public pensions, to the extent that these are funded out of general tax revenues (e.g. OAS/GIS). The household saving rate is a minor part of this story. So it is poor economic reasoning to focus on household saving rates if the main concern is the future overall size of the economy. The major determinants of the rate of investment are a mix of the availability of corporate profits, and (as Keynes called them) “animal spirits”. At present, Canadian corporations have plenty of accumulated profits; what they lack is a sense that there are profitable investments to be made – they lack the confidence (“animal spirits”) that they can make money by turning cash (finance capital) into physical (or R&D or human) capital. Furthermore, those who see GDP growth as a measure of improvements in living standards – the usual measures of economic growth associated with saving rates and other National Accounts aggregates – risk being seriously misled. GDP could grow tremendously over the next 10 to 20 years, but if it does so by raising atmospheric CO₂ levels, or filling

the oceans with plastic that eventually destroys fish stocks, neither of which is counted in GDP, then a substantial portion of that measured GDP growth will have been false.

7 Purchasing a life annuity from the insurance industry is, in principle, an appropriate response. But Canadians were so unhappy with the life annuities on offer that the Minister of Finance was forced to come up with an alternative. As a tax policy analyst in the late-1970s, I invented the RRIF, which was introduced in the next federal budget. The tremendous popularity of RRIFs today suggests considerable ongoing dissatisfaction with the current life annuity market for individual RRSP savers, though another factor is advantageous income tax deferral in RRIFs as they have evolved – more than was originally intended.

8 Supra Note 3.

9 Moore, Robson, and Laurin. 2010. http://www.cdhowe.org/pdf/Commentary_317.pdf.

10 I chose age 70 rather than age 65, since an increasing number of Canadians are continuing to work past age 65, but most have withdrawn from paid work by age 70.

11 Supra Note 10.

12 To the extent that more recent birth cohorts are starting work at later ages, average CPP/QPP benefits may decline automatically as individuals in future might have fewer years of contributory earnings, a factor that is included in LifePaths. But to the extent that yields on private sector defined benefit pension plan funds continue at historically very low levels, benefits under these plans would have to decrease, or contributions increase. These factors have not been included in my LifePaths simulations.

13 To be more precise, albeit in technical jargon, LifePaths is a microsimulation model of individual dynamics where these dynamics are stochastic, and defined by multivariate transition probability density functions.

14 Supra Note 1.

15 Personal communication.

16 According to their telephone comments, these data were for households, unadjusted for changes in family size over the life cycle, in constant dollars, and using the data as repeated cross-sections rather than synthetic cohorts.

17 Personal communication.

18 See Wolfson, 2011, p. 4. Mintz's "Summary Report on Retirement Income Adequacy" Prepared for the Research Working Group on Retirement Income Adequacy of Federal-Provincial-Territorial Ministers of Finance. Ottawa: Department of Finance, 2009 concludes:

"Canadians are, by and large, doing relatively well in ensuring that they have adequate savings for their retirement...There is, however, evidence that not all working Canadians are saving enough to obtain the same level of consumption in their retirement as in working years. These estimates suggest that one-fifth of Canadians may not have sufficient RPPs and RRSP assets to replace at least 90% of their pre-retirement consumption, with higher degrees of inadequacy especially for modest- and middle-income Canadians. Further study is needed to determine the degree of saving inadequacy since the estimates are based on a stylized model and exclude other sources of retirement income." (26)

My results are not as sanguine. I show that a much larger proportion of Canada's future elderly is likely to face a substantial decline in living standards. Statistics Canada's LifePaths model enables me to employ a significantly more sophisticated analysis than that of Mintz. Statements made one year ago by the federal finance minister and a number of provincial finance ministers appear to show that Mintz's conclusion has been rejected, and that the conclusions of this

study, the analysis by Moore, Robson, and Laurin (2010) for the C.D. Howe Institute, and some similar internal government analyses, all based on Statistics Canada's LifePaths model, are now considered the most appropriate.

19 Restoring Americans' Retirement Security, A Shared Responsibility. McKinsey and Company. http://www.retirementmadesimpler.org/Library/Retirement_Security.pdf

20 LifePaths has also been used to assess future prospects for home care and long term care for needy seniors. This analytical capacity has also been seriously hurt by the budget cut to LifePaths.

21 The changes to the Survey of Household Spending have also destroyed important capacity in another Statistics Canada model, the widely used Social Policy Simulation Database and Model (SPSD/M) – in particular its ability to analyze commodity taxes like the GST and HST, and various options for carbon taxes.



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