

Why Canada Has No Retirement Crisis

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There is a widespread perception in Canada that the country is on the brink of a major retirement crisis. A more considered view is that while most recent retirees are faring reasonably well, Canada faces a slowly deteriorating situation in which a growing proportion of future retirees will experience a substantial drop in their standard of living. This article challenges the credibility of even this more considered view, demonstrating that several important sources of future retirement income are being underreported and understated. Further, most projections do not factor in the near-certain increases in the average retirement age that will unfold over the next 20 years. Generalizing from these findings, it is unlikely that the conclusions set out in this article apply only to Canada.

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Perceived Indicators of the Coming Retirement Crisis

In Canada, as in other developed countries, the perceived retirement crisis is a logical conclusion based on the following set of observations:¹

- In Canada's three-pillar retirement system, Pillar 1 – the government-provided Old Age Security (OAS) pension and its companion program, the income-tested Guaranteed Income Supplement (GIS) – confers only a subsistence level of retirement income. Moreover, Pillar 1 will gradually diminish in importance because the OAS and GIS amounts are indexed only to price inflation, not to wage inflation. The rising proportion of one-person households and the recent government decision to push the starting age for OAS benefits from 65 to 67 are also contributing factors.
- The universal Canada/Quebec Pension Plan, funded by employer and employee contributions, provides a benefit equal to roughly 25% of the average national wage. This important Pillar 2 component offers a buffer against outright poverty but, even when combined with Pillar 1, falls well short of providing a comfortable level of retirement income for middle- and high-income households. The other part of Pillar 2 is the voluntary, employer-sponsored Registered Pension Plan (RPP), but private-sector RPP coverage has been declining for decades and currently stands at just 21% of the private-sector workforce (which constitutes 80% of the total workforce).

- Pillar 3, consisting of tax-assisted vehicles either sponsored by employers or maintained by individuals, is intended to top up pensions from the government-sponsored programs for workers without RPPs. The main vehicles in Pillar 3 are group and individual Registered Retirement Savings Plans (RRSPs). The problem is that Pillar 3 vehicles are voluntary, and coverage is low: only 30% of taxpayers set aside money in an RRSP in any given year.
- Prospective returns on capital accumulations are widely forecast to be lower than we have seen in recent decades, which will further diminish the effectiveness of both RPPs and RRSPs.
- People are living longer. As measured from age 65, average life expectancy is now about five years longer than it was a half-century ago, and this trend is expected to continue for decades to come, increasing the chances that a growing number of people who have to rely on capital accumulations will outlive their savings.

But does the resulting widespread perception of a retirement crisis hold up to closer scrutiny?

Confirming Studies

Several studies have attempted to quantify the extent of the looming crisis. By studying 2006 tax data, [Keith Horner \(2009\)](#), in a study produced for the federal government's Research Working Group on Retirement Income Adequacy, calculated that 69% of Canadian households saved within Pillar 3 vehicles

at rates sufficient to maintain 100% of their pre-retirement consumption levels, and 78% of households saved enough to meet a 90% threshold.

Moore, Robson, and Laurin (2010) based their analysis on LifePaths, a sophisticated simulation tool developed by Statistics Canada over many years. Their study is a convenient way to analyze the extent to which Canadian households are falling short of their savings targets, since (a) it was based on very robust data, (b) its findings are generally consistent with those of Horner (2009), and (c) it contains a useful breakdown of results by income quintile, which facilitates further analysis. The tool was created to aid in the analysis and development of long-term policies having a longitudinal dimension (Moore 2012). It integrates millions of person-months of data, tracing the socioeconomic experiences of individual Canadians (Moore et al. 2010), and is recalibrated regularly by comparing its totals to actual aggregate statistics.

For the purposes of the LifePaths study, Moore et al. (2010) considered a consumption replacement ratio in retirement of less than 75% as constituting a substantial reduction in standard of living. Using this benchmark, an estimated 16% of recent retirees were projected to experience a substantial reduction in their standard of living. The real problem, according to Moore et al., lies in the future: if trends persist, 44% of current 25- to 30-year-olds will find themselves in a similar predicament by the time they retire.

Why There is No Crisis

Despite the dire forecast of the LifePaths study (Moore et al. 2010), this article challenges the premise that a retirement crisis is looming. This is not to say that all Canadians will maintain a similar living standard in retirement, only that the problem group will be relatively small. Why? Because the forecasts of insufficient retirement income understate the importance of certain sources of retirement income. Moreover, those forecasts do not reflect a near-certain change in the average retirement age that will unfold over the next 20 years.

To substantiate these claims, it is useful to start by dividing Canadian households into income quintiles. Table 1 shows average pre-tax income (in approximate 2012 dollars) by quintile for households consisting of two or more people. It is commonly acknowledged that the retirement crisis, to the extent that one exists, is concentrated in the middle three quintiles.

Quintile 1 consists of low-income earners who, by and large, will do better in retirement than while they were working, thanks largely to income from Pillar 1. Consider, for instance, an

average Quintile 1 household of two or more people with total pre-tax employment income of C\$29,000. In retirement, they would receive about \$6,000 in CPP pension, \$12,900 in OAS pension, and \$8,100 in GIS, for a total of \$27,000. When we take into account various payroll deductions before retirement, most Quintile 1 households can expect 100% consumption replacement, and often substantially more. The LifePaths results for the 2006–2010 retirement cohort, for example, show that 90% of the Quintile 1 group had consumption replacement rates of 105% or higher (Moore et al. 2010). For this reason, I exclude Quintile 1 from my analysis.

Below, I show that the percentage of future retirees who can expect to experience a substantial reduction in standard of living is substantially smaller than the LifePaths model predicts. The demonstration relies heavily on the LifePaths results (Moore et al. 2010) but incorporates three key modifications to those results.

Table 1: Population Breakdown by Income Group

Income Quintile	Average Total Income*
Quintile 1 (lowest)	\$29,000
Quintile 2	\$53,000
Quintile 3	\$78,000
Quintile 4	\$110,000
Quintile 5 (highest)	\$204,000

* Based on Statistics Canada Table 202-0703, which shows average total income by after-tax quintiles, with figures for 2009 increased by the change in the average national wage for 2009, 2010, and 2011 to approximate 2012 quintile thresholds.

Modification 1: Use Pillar 4 Assets

The first modification is to recognize so-called Pillar 4 assets, which include equity in a home,² other real estate holdings, financial assets held outside of tax-assisted vehicles, collectibles, and equity in a business. Many, though not all,³ retirement studies tend to ignore the role of Pillar 4 assets in generating retirement income. Such assets can be, and routinely are, used to supplement retirement income – for example, by downsizing the family home at the point of retirement, collecting rent on an investment property, or selling off a business and investing the proceeds. Table 2 shows the aggregate assets (net of liabilities) held by Canadians as of the fourth quarter of 2009.

Table 2: Aggregate Assets Held by Canadians

Category	\$ Billion
Pension assets, including RRSPs, workplace pension plans, and CPP/QPP investments (Pillars 2 and 3)	1,860
Real estate equity, net of mortgages (Pillar 4)	1,917
Other financial and non-financial assets (Pillar 4)	2,619
Less consumer debt (Pillar 4)	(536)
Net worth	5,859

Source: Canada, Department of Finance (2009, Table 1)

Real estate equity, which includes one’s principal residence as well as other real estate, has a higher value than all assets held in all Pillar 2 and Pillar 3 vehicles combined. More surprising, perhaps, is that other financial and non-financial assets within Pillar 4 also have a higher value than aggregate Pillar 2 and 3 assets, even if one nets out consumer debt.

The study by Moore et al. (2010) does account for half the equity in one’s principal residence when estimating retirement income but does not recognize the value of other financial and non-financial assets. Given the size of these other assets, this omission needs to be rectified. This is especially important because, since income tax has already been paid on most assets that are not in tax-assisted (Pillar 3) vehicles, the income such assets can generate is greater than can be derived from tax-assisted assets of equal monetary value.

Baldwin et al. (2011) attempt to estimate the impact of these Pillar 4 assets. They estimate that non-housing wealth other than that held in tax-assisted vehicles increases after-tax income per adult in households headed by 65- to 74-year-olds from 79% to 95% relative to households headed by 45- to 64-year-olds. This finding suggests that the consumption replacement ratios predicted by LifePaths (Moore et al. 2010) should be increased by 20% to reflect financial assets in Pillar 4. For example, a consumption replacement ratio of 60% would be increased to 72%.

In reality, the percentage increase would vary by income level; it would generally be larger for households in the higher income quintiles, since they would tend to have a disproportionate share of Pillar 4 assets. Without more data on the distribution of wealth, it is not possible to quantify accurately how each quintile is affected. Given this uncertainty, I will be conservative

and reflect the impact of Pillar 4 assets by increasing the consumption replacement ratios derived by LifePaths by 0% for Quintile 2, 6% for Quintile 3, 12% for Quintile 4, and 24% for Quintile 5. The highly approximate approach of setting these increases by income quintile is clearly suboptimal, but it seems better to make some adjustment than to ignore this important factor entirely. For conservatism, the weighted average of the chosen percentages is substantially less than the 20% suggested by Baldwin et al. (2011).

It should be mentioned that this result apparently differs from the findings of MacDonald et al. (2011), who also used LifePaths data. A direct comparison to reconcile the difference is difficult, since MacDonald et al. use a different threshold for adequacy than either this study or Moore et al. (2010), as well as using a different approach to measure the consumption replacement ratio.

Modification 2: We Spend Less at Advanced Ages

The second modification is to change the income stream that one can generate with retirement savings from a life annuity that is fully indexed to price inflation to a non-indexed annuity. Börsch-Supan (1992) surveyed more than 40,000 German households headed by a senior and found that the actual spending behavior of retirees is very different from what theory predicts. Wealth should be declining with age as one draws down one’s assets in retirement, and this does in fact happen until about age 70; but then, rather unexpectedly, wealth starts increasing again. Older retirees save more than younger retirees and even more than people who are still working.

The rate at which people save is a better indicator of income adequacy than the rate at which they spend. If older retirees are spending less, one might theorize that this is because they have less to spend; if they are also saving more, however, then we have to look elsewhere for a reason. According to Börsch-Supan (1992), Germans aged 50–54 save a little more than 6% of their net income. As we would expect, this savings rate falls after retirement, dropping to as little as 2.3% at 65. After that, however, the savings rate increases steadily until it reaches 10% for people 80 or older.

Börsch-Supan (1992) considered and subsequently dismissed several possible explanations of this phenomenon. One possible explanation is that the result is a statistical aberration—a small percentage of wealthy older retirees skew the results, while the less wealthy majority are spending every penny. This interpretation can be ruled out for two reasons: first, the wealthiest 2% of households were left out of the study; second, further investigation showed little difference between the average savings rate and the median in this case. Another possible explanation is that older retirees are saving more in contemplation of their own mortality: they wish to leave a large bequest to their children.

Borsch-Supan also ruled out this possibility, as his study found no significant difference in savings rates between retirees with children and those without children.

In fact, it appears that the primary reason for saving more is that the very elderly have fewer opportunities to spend. Health can deteriorate, which inhibits traveling or even driving a car. The death of a spouse or close friends can increase isolation and make it difficult (or just less interesting) to spend money on entertainment. This conclusion resonates with anecdotal evidence and is further supported by examining the types of expenditures that decline with age: while spending per capita on health rises modestly with age, spending on transportation, travel, clothing, and durable goods drops dramatically.

In a large-scale study, [Banerjee \(2012\)](#) shows that seniors in the United States also exhibit a spending pattern that declines with age. With spending at age 65 as the benchmark, Banerjee found that household spending by Americans fell by 19% by age 75, 34% by age 85, and 52% by age 95. Likewise, spending by Canadian seniors declines significantly with age, based on the high savings rates at more advanced ages. [Hamilton \(2001\)](#) discovered that older retirees either save or give away a substantial amount of their income on a regular basis. In households where the head is 85 or older, 18.6% of net income on average represented either savings or cash gifts.

If we accept the conclusion that retirees spend less in real terms in the latter stages of their retirement, it stands to reason that their retirement income should be more front-loaded. In other words, the part of their income that comes from Pillar 2, 3, and 4 sources need not be fully indexed to inflation, especially given that pension income from Pillar 1 (and the CPP/QPP component of Pillar 2) is fully indexed. Overall retirement income would still be rising throughout retirement, and, based on the foregoing studies, there would be a better match of income to needs in the advanced stages of retirement.

The LifePaths model assumes that Pillar 3 and (to the extent it is recognized) Pillar 4 income will be fully indexed to inflation. Obviously, a non-indexed annuity that one could purchase at retirement would initially be higher than a fully indexed pension: based on inflation of 2.25%, it would be higher by about 24% based on current interest rates. The proportion of overall retirement income represented by Pillars 3 and 4 varies by income quintile, being higher at higher income levels. I have estimated that the impact of replacing indexed Pillar 3 and 4 retirement income with a non-indexed stream of benefits would be to increase overall retirement income (at the point of retirement) by 4% in the case of Quintile 3, 8% for Quintile 4, and 12% for Quintile 5. Once again, I caution that this is only an approximation.

Modification 3: We Will Retire Later

The final important modification concerns retirement age. Between 1976 and 1998, retirement ages steadily declined, from 65 in 1976 to 61 in 1998. The trend then suddenly reversed direction, and the average retirement age has been slowly but steadily climbing since 1998: the average retirement age in Canada is now 62 and rising. Just as increasing female labor-force participation and the Baby Boom generation created a large surplus of workers between 1960 and 2000, demographic trends suggest that the surplus is diminishing and that once most Baby Boomers have retired, we can expect to face a labor shortage within 10–20 years. At that point, the only large pool of labor available to be deployed to deal with the shortage will be workers in their sixties, who, in a previous generation, would have retired.

A recent C.D. Howe commentary predicts that Canadians will retire at least five years later on average, which would put the average retirement age at 67 ([Hicks 2012](#)). [Moore et al. \(2010\)](#) do not anticipate any changes in retirement patterns. My own calculations suggest that within 20 years we will need to defer retirement until age 66, on average, to make up for the expected shortfall in workers. For the sake of conservatism, I have assumed that the average retirement age will climb to 65.

Deferring retirement by three years increases income-replacement ratios by approximately 15% across the board. The one exception would be higher-income individuals who will receive most of their retirement income from a defined benefit plan in which the retirement income is the same at age 62 and age 65. We can ignore this exception, since it is not this group that is allegedly facing a retirement crisis. It is acknowledged that not everyone will welcome later retirement, nor will it be possible for all, as health concerns become a bigger factor after age 60. Still, Canadians have retired as late as 65 on average before, and, given the significant improvements in longevity and the economy's growing need for workers in the years to come, it is certainly plausible that the average retirement age will rise.

Modified Consumption Replacement Ratios

The three modification factors described above are summarized in [Table 3](#). They are multiplicative rather than additive, and are applied to current consumption replacement ratios. There is one other modification, which is to build in the deterioration in consumption replacement ratios over the period to 2050 as determined by [Moore et al. \(2010\)](#). Moore et al. estimate that consumption replacement ratios will fall by about 20% from current levels due to factors such as the declining importance of OAS and GIS. Combining that percentage with the three modification factors set out in [Table 3](#), we arrive at the Overall Adjustment Factors to be applied to the existing consumption replacement ratios from [Moore et al. \(2010\)](#), shown in the far right-hand column of [Table 3](#).

Table 3: The Three Modifications and Their Overall Effect

Income Quintile	Modification 1	Modification 2	Modification 3	Overall Adjustment Factor
Quintile 2	1.00	1.00	1.15	0.92
Quintile 3	1.06	1.04	1.15	1.01
Quintile 4	1.12	1.08	1.15	1.11
Quintile 5	1.24	1.12	1.15	1.28

If we apply these factors to the long-term projections from Moore et al. (2010), once again excluding the bottom income quintile, we get the results set out in Table 4, which shows that by 2050, only 8% of Canadian households will have consumption replacement ratios below 75%, the threshold of acceptability mentioned earlier. Moreover, about two-thirds of those households with low ratios are in income quintiles 4 and 5, which suggests that their retirement troubles are self-inflicted: most will have the means to prepare better for retirement if they so choose, and it becomes a philosophical question of how paternalistic (or invasive) governments should be in forcing them to save more before retirement. Equally interesting is that 42% are projected to have consumption replacement ratios over 105%, including about 30% with a ratio of 115% or more. Given that saving for retirement is painful and difficult for many households, more saving is not necessarily a positive result if it leads to too much consumption's being deferred until after retirement.

Table 4: Distribution of Consumption Replacement Ratios by 2050 (Income Quintiles 2–5)

Consumption Replacement Rate (%)	Proportion of Households (%)
<55	1
55–75	7
75–95	17
95–105	11
>105	42

An Over-Saving Problem?

Based on these modified projections, Canadians are not facing a retirement crisis, nor is such a crisis likely to arise. The bigger problem may very well be one of over-saving among a large proportion of Canadian households. This would seem like a virtue at best, and innocuous at worst, but if a significant proportion of the population is already over-saving, then increasing the level of forced savings would simply exacerbate the situation and lead to a lower standard of living before retirement for many Canadians. This finding has obvious public policy implications, in that most public pressure at present is to enhance government pension programs or increase forced savings. If the modified projections are correct, such measures would be counterproductive.

Reliance on government and employers for retirement security is still a relatively new phenomenon in Canada, as in most developed countries. Most social security programs are less than a century old, and most employer-sponsored retirement programs are younger still. It is not surprising, then, to find that many people do not rely solely on government and employer sources of retirement income and will continue to supplement these with their own accumulations of assets. The result will be adequate retirement incomes for most retirees and excessive incomes for a significant cohort who underestimate the value of their combined financial resources. It is unlikely that this phenomenon is unique to Canada.

Endnotes

1. The future is unknowable, and the conclusions reached in this article depend on many assumptions that may or may not prove accurate. I have assumed that inflation will remain low but will not morph into deflation. I have also assumed that the impact of the three modifications discussed will be spread uniformly within an income quintile. Like the original LifePaths paper (Moore et al. 2010), this article assumes that home ownership will continue to have a positive impact on Pillar 4 wealth going into retirement and that there will be no long-term effects from the bursting of a housing bubble, as we have seen in the United States. I make no assumption of any “black swan” events such as a large increase in longevity, future shortages in key commodities such as oil, a severe crash in the financial markets, or a devastating global conflict.

The adjustments to consumption replacement rates resulting from the proposed modifications in methodology are approximate, though I have tried to err on the side of conservatism. Clearly, not all households in Quintiles 2–5 will have significant Pillar 4 assets that can be converted into income, nor will expenditures decline with advancing age in every case. Nevertheless, correcting for these outliers, if it were possible, would not be expected to change the conclusion in any significant way.

The results described in this article are based on the Canadian retirement system’s continuing as it is. In particular, I have assumed that no adjustment will be made to the amounts payable under OAS and GIS to reverse the slow deterioration in relative value that is due to Pillar 1 benefits’ being indexed to price inflation rather than wage inflation. In addition, I make no assumptions about the introduction of new or enhanced retirement programs, such as the much-heralded Pooled Registered Pension Plans or an enhanced Canada Pension Plan. The assumption of maintaining the status quo is generally conservative.

2. The LifePaths work (Moore et al. 2010) did include half the equity in a home as a source of retirement income, an approach I have also adopted.
3. Examples of studies that recognize the importance of Pillar 4 assets are Mintz (2009) and Baldwin et al. (2011).

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