

This research was funded and released by the FP Canada Research Foundation, now known as the Canadian Foundation for Financial Planning™ Visit our website: www.canadianfoundationforfinancialplanning.ca

Get the Most from the Canada & Quebec Pension Plans by Delaying Benefits

The Substantial (and Unrecognized) Value of Waiting to Claim CPP/QPP Benefits

Bonnie-Jeanne MacDonald, PhD, FCIA, FSA, National Institute on Ageing, Ryerson University



have serious consequences that can spiral into social isolation, health deterioration and, ultimately, death (Sinha, 2019). What is more, the full impact will not be felt for a decade, when baby boomers enter their 80s – the stage of life when health is more likely to start deteriorating.

Public policymakers, academics, and industry practitioners have been strongly advocating for Canadians to overcome their retirement security hurdles by saving more. Indeed, it has been an overarching theme for the past four decades that Canadians should be saving more for retirement. As Gordon Pape said, “If there is one theme that dominates the whole retirement discussion, it is that we are not saving enough. People hear the message so often from so many sources that there is a danger it is becoming a background noise” (Pape, 2012, p. 114). Despite – or maybe even because of – this constant messaging, savings behaviour has not changed much over the past three decades.⁶ Voluntary private savings is clearly not the panacea it was once thought to be.

Retirement financial planning paradigms and practices – combined with the repeated refrain that Canadians should save more – have crowded out other options that could make retirement cheaper and more financially secure, particularly at older ages. Delaying CPP/QPP benefits offers higher returns and better financial protection in the new retirement environment of longer lives, lower interest rates and less family support.

3. Why Delay CPP/QPP?

CPP/QPP benefits can be taken as early as age 60, and as late as age 70. The uptake age affects benefit levels in two ways:

1. Individual work histories: CPP/QPP benefits are calculated based on lifetime earnings and can be impacted by earnings after age 60, depending on how a person's earnings during the deferral period compare to their earlier earnings history. For example, working Canadians continue to contribute to CPP/QPP through payroll tax, so each month of contributions can further increase their CPP/QPP benefits beyond the age adjustments if the month's earnings exceed those of a previous month in their work history, thereby improving their earnings history. On the other hand, lower (or zero) earnings could reduce their earnings history during the deferral period. This individualized calculation is done on a case-by-case basis, so the individual financial factors cannot be generalized, other than to say they can have a positive, neutral, or negative impact on the age-related advantages to delay CPP/QPP benefits. Section 5 discusses these and other considerations, and Section 8 investigates their financial implications.

2. Universal statutory delay incentives (i.e., CPP/QPP's actuarial adjustment factors for age): More relevant to this discussion, CPP legislation prescribes a "universal" actuarial adjustment factor applied identically to the benefit calculation for all recipients, according to their uptake age. This adjustment factor is conventionally described as follows: between ages 60 and 70, a 0.6% reduction for each month benefits are taken prior to age 65, and a 0.7% increase for each month after age 65. (The same applies to the QPP, except that the early adjustment factors are between 0.5% and 0.6% per month, depending on the individual's earning history.)

This section focuses on the actuarial adjustment factors, in that it does not incorporate the individual-specific implications of earnings and contributions during the delay period on the overall financial reward for delaying, which are discussed in Section 5. To capture the age-adjustment factors alone, therefore, the calculations in this section implicitly assume the work earnings history is unaffected by the delay – such as when an individual continues to contribute at a level that maintains their career average earnings or, in the case of lower (or no) earnings, has sufficient dropout room left to cover the delay period.

3.1 The financial incentives are higher than we think

Delaying CPP/QPP benefits is financially attractive, due to the high returns underlying the stated actuarial adjustment factors. Moreover, these adjustments are even greater than what is communicated to the public.

In addition to the conventionally reported statutory figures (a 0.6% reduction for each month of uptake prior to age 65, and 0.7% for each month after age 65), an additional incentive for delaying CPP/QPP is often overlooked. The universal actuarial adjustment factor is applied to benefits calculated using the Maximum Pensionable Earnings Average⁷ (MPEA) in the year of pension take-up, which increases with the compounding of average national wage growth year over year. Therefore, the “effective” actuarial adjustment factors are generally higher than the stated figures.

For example, assuming average wages increase by 1% beyond inflation (following the long-term assumptions of the CPP/QPP actuarial valuation report (OCA, 2019)),⁸ the 42% increase in benefits from a deferral from age 65 to 70 would grow by an additional 1% annually in excess of inflation over those five years.

Therefore, choosing to delay CPP/QPP from age 65 to age 70 would result in a 49.2% increase in the annual real (inflation-adjusted) benefit payout value rather than 42%, while taking CPP/QPP at age 60 would reduce benefits by 39.1% rather than 36%.⁹

Note that while the financial adjustment associated with the real wage growth component most often augments the incentive to delay, real wage growth can be (and has been) negative. Over the decade ending in 2019, real wage growth has averaged less than 1% overall; therefore, the adjustments are less than these projected levels.

Table 1 summarizes the historical adjustment generated by this overlooked component. It shows that the role of average national wage growth underlying the CPP/QPP benefit calculation increases the delay incentive and also heightens the penalty for taking benefits early (averaging delay periods ending between 2012 and 2019, and applying the current actuarial adjustment factors).

The first column lists the conventionally cited figures: relative to age 65, benefits are reduced by 36% for uptake at age 60 (0.6% per month for five years) and increased by 42% for uptake at age 70 (0.7% per month for five years).

The second column shows the further adjustment in the benefit calculation from the real wage adjustments derived from the MPEA baseline. The third column lists the total adjustment to the initial pension (in constant dollars, after accounting for the effects of inflation), showing the incentives to delay CPP have historically been greater than the

public-facing statutory description. In the fourth column, the incentives will be even greater going forward (according to the projection assumptions of Canada’s chief actuary).

Table 2 presents the same information as Table 1, except from the perspective of a 60-year-old looking to delay one,

Table 1: Statutory, historical (averaged across period ending 2012 to 2019), and projected CPP/QPP benefit delay incentive relative to age 65 benefit.

	Statutory CPP Actuarial Adjustment (inflation adjusted)	Historical additional increase on account of average national real wage growth (inflation adjusted)	Historical total increase to initial pension (inflation adjusted)	Long-term projected total adjustment to initial pension (inflation adjusted)
Age 60 Uptake	-36%	-2.8%	-38.8%	-39.1%
Age 65 Uptake	0.0%	0.0%	0.0%	0.0%
Age 70 Uptake	42%	3.4%	45.4%	49.2%

Table 2: Statutory, historical (averaged across period ending 2012 to 2019), and projected delay incentive relative to age 60 benefit level

	Statutory CPP Actuarial Adjustment (% increase inflation adjusted)	Historical additional % increase on account of average national real wage growth (inflation adjusted)	Historical total % increase to initial pension (inflation adjusted)	Long-term projected total % increase to initial pension (inflation adjusted)
1-year Delay	11.3%	0.7%	11.9%	12.4%
5-year Delay	56.3%	7.0%	63.3%	64.2%
10-year Delay	121.9%	15.5%	137.4%	145.1%

five, or 10 years. The first column shows the increases to CPP/QPP benefits from the standard reported actuarial age adjustment. A 60-year-old will receive a benefit increase of 11.25% by delaying to age 61, 56.3% by delaying to age 65 and 118.75% by delaying to age 70.

The math behind these numbers is as follows:

- Delaying CPP/QPP to **age 61** increases the benefit to 111.25% of what it would be at age 60 [$111.25\% = (100\% - 28.8\% \text{ four-year loss of claiming at age 61}) / (100\% - 36\% \text{ five-year loss of claiming at age 60})$].
- Delaying CPP/QPP to **age 65** increases the benefit to 156.3% of what it would be at age 60 [$156.3\% = 100\% / (100\% - 36\%)$].
- Delaying CPP/QPP to **age 70** increases the benefit to 218.75% of what it would be at age 60 [$218.75\% = (100\% + 42\% \text{ increase}) / (100\% - 36\%)$].

Using a round number for illustration purposes (although it exceeds the current maximum CPP pension at age 60), a monthly benefit of \$1,000 at age 60 would increase due to the statutory actuarial adjustment alone to \$1,112.50 by waiting one year, \$1,563.00 by waiting five years, and \$2,218.75 by waiting ten years – all in constant (inflation-adjusted) dollars. The second column captures the added increase from the real wage adjustments. The actual gain in column 3 (from having delayed CPP/QPP to 2012-2019) is effectively an additional

11.9% increase for one year, 63.3% for five years and 137.4% for 10 years¹⁰ (adjusted for inflation). Consider that a one-year delay is essentially the equivalent of investing a single year's CPP benefit at age 60 and getting a pension income of 11.9% of that initial investment, indexed by inflation, year over year, for life.¹¹ For people who value secure lifetime retirement income, this level of risk-free return is unparalleled in today's market, where government bond rates are not even meeting expected inflation.

While Tables 1 and 2 calculate the real (net of inflation) increases to the initial pension, the nominal increase to the initial pension – that is, the benefit increase that the person will actually see – is much more substantial. From a nominal perspective, the pension starting at age 70 is nearly triple that payable at age 60 – a 183.2% increase – based on the historical period examined. The nominal change is more directly comparable to the reported investment return statistics that the public often considers, although it does not capture the drop in purchasing power of the income flows.

How can delaying CPP/QPP deliver such large secure increases? Unlike the retail pension or annuity market, the expected investment rate of return underlying the CPP/QPP actuarial adjustment factors is not dynamically linked to current market yields and is instead based on long-term averages that are hardwired into the factors.

That means, it does not necessarily change – even in today’s rock-bottom interest rate environment. The necessity to adjust the factors is based on their actuarial justification, as determined by the Office of the Chief Actuary.¹²

In summary, the additional adjustment for average national real wage growth generally increases the incentive for claiming CPP/QPP benefits later and heightens the penalty for taking them earlier. On average, between 2012 and 2019, the financial penalty for taking CPP/QPP at age 60 rather than age 65 grew from 36% to 38.8%, and the incentive to delay from age 65 to age 70 increased from 42% to 45.4%.

3.2 Market-price comparison

Joe Tomlinson – an expert on the nuances of Social Security in the United States – explained that delaying Social Security is “like buying an annuity, but at a much better price” (Miller, 2017). The same is true in Canada with the CPP/QPP.

The conventional approach to explain the advantageous pricing underlying the CPP/QPP actuarial adjustments tends to be very technical.¹³ Mr. Tomlinson’s approach is powerful because it is a “real-world” view that the general public can understand, directly comparing the social security option to the price of purchasing income security in the retail market.

One challenge of the annuity price comparison is that individual Canadians currently cannot purchase inflation-indexed annuities in the retail market – despite their value in sustaining an individual’s standard of living throughout retirement. The closest substitute is a life annuity with payouts that increase by a fixed percentage, which could be made to match *anticipated* inflation (2% annually).

Using annuity price quotes as of October 6, 2020 (provided by CANNEX Financial Exchanges Limited), a 70-year-old with registered savings of \$100,000 could purchase an annuity with 2%-indexed (for inflation) payments of approximately \$5,299/year for males and \$4,688/year for females. Note that the price (\$100,000) is identical for both, but they receive differing payouts because of the different longevity expectations for males and females.

Delaying CPP/QPP for five years (from age 65 to age 70) is the equivalent of “purchasing” additional future CPP/QPP benefits at the “cost” of five years of forfeited CPP/QPP payments. In other words, the premium being paid is the five years of forfeited CPP/QPP payments, and the product being purchased is an inflation-indexed annuity with payouts matching the increase in CPP/QPP benefits. Presenting this transaction as a retail annuity product, a 70-year-old who has delayed CPP/QPP since age 65 will get \$9,080 in annual inflation-indexed payouts for every \$100,000 of premium (see Appendix B for the mathematical description).

Putting this all together, a 70-year-old man purchasing a private annuity would get only \$5,299 in annual payouts, versus the \$9,080 that the CPP/QPP delay would deliver for every \$100,000 of premium – making it 71% more expensive to purchase a retail annuity that matches the additional payout stream that delaying CPP/QPP benefits provide. For a woman, this payout drops to \$4,688, making it 94% more expensive than the price implied in the CPP/QPP adjustment factors.

In other words, buying the same level of secure pension income in the retail market nearly doubles the price. In addition, CPP/QPP payments are fully indexed to inflation (which can go above 2%). This risk-reduction feature further increases the value of the CPP/QPP income stream, making its implicit pricing even more attractive.

The key takeaway is that delaying CPP/QPP benefits is essentially the purchase of a very secure pension at an excellent price. Overall, the risk/reward trade-offs underlying the adjustment factors are far better than those currently available in the retail annuity market.

3.3 The risk (and lack of reward) of holding on to RRSP/RRIF savings

The most basic approach to evaluating alternative financial strategies is to quantify the trade-offs between reward (how much money can be expected) and risk (the likelihood that the future will not work out as expected). Generally, more reward also carries more risk.

Canadians who have RRSPs, RRIFs and TFSAs savings often try to stretch out their savings over the course of their retirement. For many Canadians comparing the financial risks and rewards of this decision, however, the better approach is to deliberately use a portion of those savings in early retirement to put off the start of CPP/QPP benefits.

A recent report published by the Canadian Institute of Actuaries and Society of Actuaries examined the costs and risks of this choice (MacDonald et al., 2020). The purpose of the study was to better inform the decisions of Canadians for whom delaying CPP benefits might provide improved financial outcomes and greater retirement income security. It provided a quantitative basis for understanding the CPP delay option, including a comprehensive view of the risk/return trade-offs, and the dynamics of the Canadian tax and social transfer system (Box A).

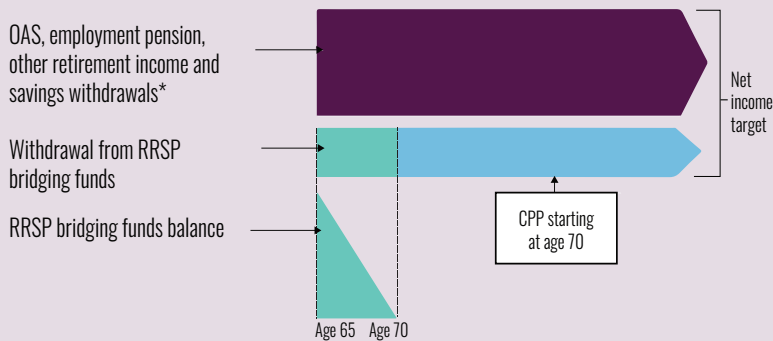
Box A: Excerpt from the July 29, 2020 Globe and Mail Opinion: *Here's a way Canadians with RRSP savings can get the most out of their CPP benefits*

A MATTER OF RISK

Two options aim to generate the same income each year, and start with the same level of savings and retirement income resources. The only difference is the age that CPP payments begin...and the risks involved.

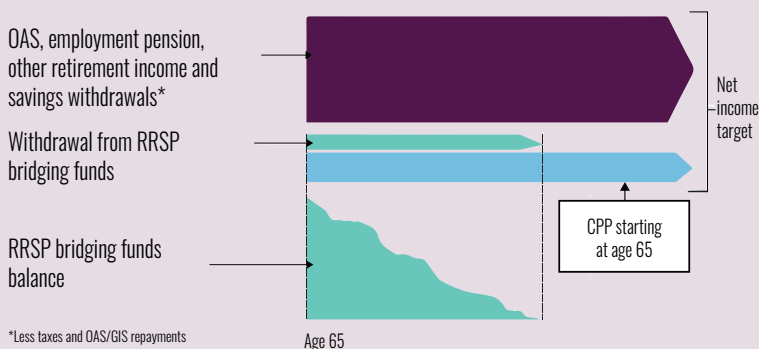
Option 1:

Delay payments from age 65 to 70, using a portion of RRSP/RRIF savings to provide an income bridge during that five-year period.



Option 2:

Claim CPP payments at age 65 and invest the RRSP/RRIF funds (which could otherwise be used as a bridge) in a portfolio subject to market risks, making annual withdrawals that generate the same net income as Option 1 (until death or the end of the bridging funds).



*Less taxes and OAS/GIS repayments

Source: MacDonald et al., 2020

“Using the example of a 65-year-old retiring Canadian, the goal of the research was to make a straightforward comparison of two otherwise identical financial strategies, where the only difference is the age that CPP payments start (see graphic).

In our study, we quickly realized the ramifications on personal income taxes and OAS/GIS eligibility are the same in both options as well. (Note that CPP death and survivor benefits are unaffected by the age of CPP uptake, and the same applies to employer pension plan benefits).

So, what’s the difference between these two options? The simple answer is the risks involved.”

The study found that if the goal is to securely increase lifelong income in retirement, then most Canadians with RRSP/RRIF savings are much better off using a portion of those savings in early retirement as a bridge to a higher delayed CPP benefit, rather than stretching out their RRSP/RRIF withdrawals over retirement. The two strategies generate the same tax and GIS/OAS eligibility implications, and survivor benefits are unaffected. However, delaying CPP offers greater reward and minimal risk.

Even looking at a scenario that favours the self-managed option – for example, where investments yield a mean long-term annual net (after fees) nominal return of 6% – a male with low longevity still faces a 51% probability of not achieving the same income as with delaying CPP. Overall, he is likely to get less return and will also be taking on a significant level of financial risk. It may seem counterintuitive, but taking CPP early was found to be the riskier option.

For retiring Canadians who intend to use their RRSP/RRIF savings to increase their retirement income, delaying CPP/QPP is a financially advantageous investment strategy in terms of risk and rewards, with less worry about sustaining a secure income throughout retirement.

3.4 How much are Canadians losing out?

But how much are Canadians really giving up when they take CPP/QPP benefits early? This question can be answered with the concept of **Lifetime Loss**, a concept that is explained more fully in Section 8.

According to the stylized calculations below, the Lifetime Loss for the average Canadian with the median CPP income who chooses to take CPP at age 60 rather than age 70 is over \$100,000 of secure lifetime income in current dollars (from the statutory actuarial age-adjustments and non-enhanced CPP benefits alone, before taxes and OAS/GIS repayments). That is significant income they could be spending in retirement.

Several factors influence these results:

- Life expectancy for a 60-year-old is 25.9 years for men and 28.5 years for women (Table 42, OCA, 2019).
- The median CPP income for 60-year-olds is 75% of the maximum benefit (Table 48, OCA, 2015). In 2020, this equals \$6,773 per year at age 60 (75% of \$14,110 less 36%), indexed to inflation.

