



C.D. Howe Institute

BACKGROUND

THE PENSION PAPERS

Don't Double Down on the CPP: Expansion Advocates Understate the Plan's Risks

William B.P. Robson



In this issue...

The CPP is a gamble, not a guarantee: expanding the plan would raise the stakes on a bet most Canadians do not know they have made.

THE STUDY IN BRIEF

THE AUTHOR OF THIS ISSUE

WILLIAM B.P. ROBSON
is President and Chief
Executive Officer of the
C.D. Howe Institute.

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\$12.00

ISBN 978-0-88806-840-8

ISSN 0824-8001 (print);

ISSN 1703-0765 (online)

Advocates of an expanded Canada Pension Plan as a response to Canadian concerns about low incomes in retirement too often promote it as a plan with guaranteed benefits that are fully funded.

The CPP looks like a defined-benefit plan, but it is not. Most of its benefits are targets contingent on its financial condition, and past and upcoming revisions – including lower pensions for those taking them up before age 65 in both the CPP and its sister Quebec Pension Plan – show that governments can change the targets.

Nor is the CPP fully funded in the normal meaning of the term: able to pay its obligations with assets on hand at a point in time. The CPP's ability to pay currently promised benefits at an unchanged contribution rate, currently 9.9 percent, depends on investment returns well above those now available on Canadian sovereign-quality debt. Treat the CPP like a defined-benefit plan that should match its obligations with appropriate assets – the best match being the federal government's real-return bond – and its contribution rate would need to rise above 11.3 percent.

Adverse economics and demographics, combined with disappointing investment returns, are now forcing the Quebec Pension Plan to trim benefits and raise contributions. The same has happened to the CPP, and too few Canadians realize it is likely to happen again. The CPP is a gamble, not a guarantee: expanding the plan would raise the stakes on a bet most Canadians do not know they have made.

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ESSENTIAL POLICY INTELLIGENCE

The recent economic crisis highlighted the weak foundations of defined-benefit (DB) pension and social-security schemes around the world. The Canada Pension Plan (CPP) appears to have weathered that storm well, and some are advocating an expanded CPP to alleviate risks of low incomes in retirement. Proposals for a bigger CPP that talk of guaranteed or “fully funded” benefits may mislead distressed savers, however, since the CPP offers target benefits, not guarantees, and proposed increases would not be fully funded as most people understand the term.

Treat the CPP as a DB plan making firm promises, and it would need investment returns materially higher than those currently available on assets that match those obligations. Projections using the yield actually available on the federal government’s real return bond (RRB) show that, enlarged or not, the CPP cannot pay scheduled benefits at its current 9.9 percent contribution rate, and would instead need a contribution rate well above 11 percent to avoid benefit cuts. Expanding the CPP would raise the stakes on a bet that is different from, and riskier than, most Canadians understand.

The CPP as a Safety Net: The Reflex and the Reality

In the wake of the 2008 crisis and slump, sagging financial assets and threatened or actual bankruptcy of some private-sector pension-plan sponsors made the seemingly greater stability of

government-backed pensions attractive to many Canadians. Not surprisingly, proposals to fill gaps in voluntary and contractual retirement saving with an expanded CPP got a hearing. With asset prices and the private economy in recovery, and the severe post-crisis corrosion of government balance sheets more evident, this idea needs a sober rethink.

CPP-style social-security plans have many pros and cons as pillars of a national retirement-income system (Box 1). A critical misunderstanding about the CPP, however, arises from use of the term “fully funded” to describe its current status and potential expansions.¹ To most people, “fully funded” implies an ability to pay obligations with assets on hand. The CPP is not, and is not designed to be, fully funded in this sense. In discussions of the CPP, “fully funded” refers to the ability to pay existing promises or the enhanced benefits envisioned by big CPP advocates from a contribution rate (currently 9.9 percent) that will stay the same for more than seven decades. Critically, those projections depend on an assumption of a 4 percent net real return on the CPP’s investments – a number well above the yields currently available on sovereign-quality Canadian debt.

The Financial Foundations of Today’s CPP

The 1998 reforms to the CPP changed it from a pay-as-you-go plan with essentially no assets to a partially funded plan. They cut benefits – in particular moving from a three-year to a five-year average of the Year’s Maximum Pensionable Earnings to calculate retirement benefits. They ramped up the contribution rate to 9.9 percent to build a stock of assets that, while well short of full funding in the sense of discharging the CPP’s obligations at a point in time, would yield enough investment income to prevent the rate rising again for a 63-year period. The reforms also required enhancements to CPP benefits to be “fully funded”

I thank Jonathan Kesselman, Bernard Dussault, and an anonymous reviewer for comments, as well as the participants in the C.D. Howe Institute’s Pensions Advisory Group, in particular Keith Ambachtsheer, Bob Baldwin and Malcolm Hamilton, as well as my colleague Alexandre Laurin. I emphasize that the position argued in this paper is mine, and is not shared by all the reviewers.

¹ See, for example, Dussault 2010.

Box 1: Considerations For and Against CPP-style Social Security

Social-security schemes inspire both praise and criticism for their handling of risk and their costs.

On the risk side, advocates emphasize that compulsory coverage pools some risks that private insurers cannot easily handle, such as longevity, which should make social-security annuities more attractive than privately provided ones. Critics would charge that social-security schemes do not annuitize fairly by design, but rather systematically redistribute value – notably to the old from the young.

As for costs, a monopoly operating without the need for marketing or certain types of customer service on a national scale could, in principle, be low cost. In practice, however, government monopolies may not contribute to keeping costs low.²

Turning to the specifics of potential CPP expansion, there is a problem with targeting those Canadians who face relatively greater risk of painful drops in their living standards at retirement. The CPP covers only the lower part of the earnings spectrum, meaning that those who contribute, individually and through their employers, the greatest share of their pre-tax earnings are likeliest to suffer benefit clawbacks from the Guaranteed Income Supplement and other income-tested programs in retirement. So increasing the CPP's income-replacement rate will impose higher contributions on those who can least afford them, for benefits they are least likely to enjoy.

The alternative of covering income up to a higher level might seem better for the middle-income Canadians at greater risk of declining living standards in retirement.³ But raising pensionable earnings enough to make a real difference would also push contributions way up – not only pinching lower-income Canadians, but crowding out other retirement saving, leaving more of Canadians' nest-eggs in one government-run basket.

in the sense that the contribution rate would rise immediately to whatever new level would be sustainable over 63 years, rather than rising later. Judgments about the contribution rate's sustainability are the centerpiece of periodic evaluations by Canada's Chief Actuary, most recently at the end of 2009 (OCA 2010).

On their face, these reforms worked. The Chief Actuary has consistently concluded that the legislated 9.9 percent contribution rate will

sustain the plan. But in addition to the risks and uncertainties that always attend such projections,⁴ this approach pays near-term benefits on the basis of long-term investment returns that are higher than those available on assets that match the plan's liabilities. In the private sector, where this imprudent approach has led to unpaid pensions for workers in companies such as Stelco and Nortel, DB plans must now regularly show they can cover their obligations with assets actually on hand.

2 As noted below, the CPP Investment Board's total external and internal expenses in 2010 were \$850 million. Adding the operating costs of the plan itself, \$505 million in 2009 (CPP 2010), would produce a total of almost \$1.4 billion. Since the CPP is not a fully funded plan – its assets are not now, and are never intended to be, equal to its liabilities – it is controversial to compare all these costs to its investments to get an overall expense ratio, but expressed in relation to average beginning- and end-of-year investments in 2010, these costs amount to 136 basis points. A better metric, though less familiar as a measure of pension-plan costs, would be expenses per participant: expressed relative to the total of CPP contributors and benefit recipients – some 17.6 million – they come to about \$77 per participant.

3 See in particular Moore, Laurin and Robson (2010).

4 One assumption – a post-2016 increase in the inflation target so that inflation rises from 2.0 to 2.3 from 2019 on – is worth highlighting because, unlike variables such as birthrates and migration, it envisions a major policy change. Without it, the report would have concluded that the contribution rate should rise already. Under the assumption that inflation increases, OCA (2010) calculates a minimum contribution rate – the unrounded rate that yields equal ratios of plan assets to expenditures 13 and 63 years after the evaluation – of 9.86 until 2022 and 9.85 thereafter. An alternative projection in which inflation is 1.7 percent throughout the period yields a minimum contribution rate of 9.99 percent after 2022. (Higher inflation lowers the rate because it expands the plan's contribution base before it expands benefits.) The first scenario envisions a few years of 2.0 percent inflation before the increase to 2.3 percent, while the second envisions 1.7 percent inflation immediately. So assuming 2.0 percent inflation throughout would not yield a minimum exactly between 9.85 and 9.99, or 9.92, after 2022, but it would yield a rate above 9.9 percent.

What advocates of an expanded CPP do not sufficiently advertise is that the CPP does not guarantee its benefits. The reforms also provided that if the Chief Actuary calculates that the minimum contribution rate to sustain the plan needs to rise and Ottawa and the provinces fail to approve an increase, price-indexation of benefits will cease – cutting their real value to recipients. As the 1998 reforms demonstrated, moreover, governments can change the provisions of these plans in other ways. Following the latest federal/provincial review of the CPP in 2009 – and the 2011 Quebec Budget for the CPP's sister Quebec Pension Plan (QPP) – new amendments to the Q/CPP will further reduce the retirement benefits of those who leave the workforce before age 65 (Canada 2009, Quebec 2011).⁵

For the CPP to effectively guarantee its benefits by fully funding the plan in the normal sense of the term, it would need to back them with an asset of sovereign-risk quality that is indexed to inflation. The asset that comes closest to meeting that description is the federal government's real return bond.⁶

Contribution Rate Under a Fair-value Approach: 11 Percent-Plus

The Chief Actuary's report shows sensitivities to investment returns. While it does not simulate investing in RRBs directly, the figures provided

show that the gap between the 4.00 percent real returns in its base case and the 1.02 yield available on the RRB as of the beginning of June 2011 has major implications for the contribution rate the CPP needs to pay its benefits. Table 1 reproduces the Chief Actuary's projections of the minimum contribution rate to keep the CPP financially stable with real rates of return, net of expenses, ranging from 2.80 to 4.40 percent. It also shows my estimates, extrapolating from those projections, of the contribution rates required with net real returns based on recent RRB yields, after allowing for 7 basis points of expenses.⁷ I use 1.53 percent, the RRB yield as of the evaluation date (31 December 2009), and 1.02 percent, the RRB yield at the time of writing.⁸

This approach underlines the contingent nature of the CPP's promises. The lowest net real return modeled in the Chief Actuary's report is 2.80 percent. Projecting on that basis – about 1.3 percentage points above the actual yield on the RRB at the time – would have calculated a contribution rate of nearly 10.5 percent. At the RRB yield on the evaluation date, it would have calculated a contribution rate slightly above 11 percent. And at the June 2011 RRB yield, it would have calculated a rate around 11.35 percent – more than one-seventh higher than the 9.9 percent rate Canadians now pay.

The portfolio envisioned as yielding 4 percent above inflation in the Chief Actuary's report might actually do so,⁹ though the justification – that

5 Amendments to the CPP were introduced in Bill C-51, the *Economic Recovery Act* (stimulus), which received Royal Assent on December 15, 2009.

6 Benchmarking indexed, tax-backed promises against the real return bond is not universally accepted and, in the case of a social-security program, is open to objections that the float of such bonds is too small, and their backing by taxpayers economically unsound. However, using an observable yield on an asset that matches the liability in fundamental respects is better than any alternative (Laurin and Robson 2009 and 2010). An individual wishing to accumulate funds sufficient to cover inflation-indexed retirement income as secure as federal government debt could do so only by buying RRBs. Some would argue that the difference between that hypothetical portfolio and what the CPP holds on this person's behalf shows how much better an investment the CPP is; I would argue that it is a funding gap that exposes the CPP participant and/or future contributors to large and underappreciated risks.

7 The CPP Investment Board's expenses in 2010 were \$466 million in external management fees, \$148 million in transaction costs, and \$236 million in internal management expenses, for a total of \$850 million (CPPIB 2011). Expressed in relation to the average of beginning- and end-of-year investments, this amounts to 71 basis points. Because managing a portfolio made up solely of RRBs would be relatively simple, I assume total expenses of one-tenth this amount: 7 basis points.

8 The extrapolations are based on a simple regression of the contribution rate on the real rate of return and the real rate of return squared.

9 The best-estimate portfolio is invested 40 percent in fixed income, 42 percent in equity and 18 percent in real estate and infrastructure (OCA 2010, p 48).

Table 1: CPP Ultimate Minimum Contribution Rates Under Various Real Rate-of-Return Assumptions

	Rates Modelled in Chief Actuary's Report							Real-Return Bond Yields*	
								Dec 31, 2009	June 1, 2011
Rate of Return	4.40	4.20	4.00	3.90	3.50	3.20	2.80	1.46	0.95
Contribution Rate	9.68	9.74	9.85	9.97	10.13	10.31	10.49	11.13	11.35

* After allowing for 0.07 percent expenses.
Sources: OCA 2010; Bank of Canada; author's calculations.

such returns are comparable to the last 45 years of historical returns for large pension plans (OCA 2010, p. 23) – overlooks the likely slower economic growth in our demographically constrained future. But the lesson of broken DB pension promises, and of past and upcoming changes in the CPP and the QPP, is that pension-plan participants should understand that they have a choice. They can invest in assets that do not match plan liabilities in the knowledge that their benefits are aspirations – targets that may be missed. Or they can invest in assets that do match plan liabilities, and pay the resulting higher price for the guarantee.¹⁰

Disappointing investment returns, adverse demographics, and unhelpful economics are already forcing not only benefit changes, but also contribution rate increases in the QPP.¹¹ Even using aggressive investment-return assumptions, the margin between the CPP's projected minimum contribution rate and the legislated 9.9 percent is only 0.04 percentage points. Evaluating the CPP's

obligations using RRB yields – which private-sector pension plans must use for indexed pension liabilities – would indicate that it already requires a contribution rate well above 11 percent to avoid benefit cuts.

Shore Up; Don't Expand

A cogent objection to using the RRB yield to evaluate the CPP would be that the CPP is not, in fact, a defined-benefit plan. To repeat, the 1998 reforms not only built in provisions for automatic benefit cuts if needed, but also trimmed benefits at the time. So the CPP is a target-benefit plan that, in principle, might justifiably not match its assets and its liabilities (Baldwin 2010).

While some experts know of these provisions, however, most Canadians do not. The sales pitch on the 1998 reforms, like those for a bulked up CPP today, emphasized not the contingency of its benefits, but their reliability.¹² Too few realize that,

10 In a world where sovereign debts are now understood to carry larger risks than once assumed, calculations using the yields on even the highest quality assets may understate the price of a guarantee. Nothing in life is truly guaranteed, and very high-probability-payout guarantees are expensive – a point many advocates of CPP expansion, or DB plans in general, tend to overlook.

11 The 2011 Quebec Budget (Quebec 2011) proposes raising the QPP's contribution rate from 9.9 percent to 10.8 percent over five years. The rate would have had to rise above 11 percent if not for benefit changes related to timing of retirement that are expected to lower payouts.

12 Kesselman (2010) notes the tendency of other big-CPP advocates to talk in terms of defined benefits; while he discusses the contingency of current benefits, he does not note the importance of the 4 percent real net return assumption to the stability of the current plan or potential larger ones. Dussault (2010) presents the most ambitious proposal for a larger CPP; he does not mention the contingency of benefits, and never discusses investment returns at all. To its credit, the paper issued by the Steering Committee of Provincial-Territorial Ministers on Pension Coverage and Retirement Income Adequacy in January 2010 does acknowledge this issue, albeit only in a footnote that says, "There is a body of thought that argues that the true economic cost of any CPP enhancements should be measured on the assumption that the CPP assets earn only the risk-free return, and therefore the cost estimate should not anticipate higher returns on risky assets which may not materialize. In the current economic environment of low interest rates, the economic cost of CPP improvements would be materially higher than indicated by the existing actuarial assumptions." (SCPTM 2010, 18.)

like DB plans that failed or are struggling – or indeed any individual seeking a secure retirement at modest cost – the CPP is currently relying on future returns significantly higher than those available on low-risk assets. To fund its benefits securely at today’s RRB yield, the CPP would need to charge much more than 11 percent.

It is misleading to tell Canadians that the CPP is fully funded and could reliably deliver richer benefits on the same basis. The CPP is not fully

funded in the sense most Canadians would understand the term, and its benefits are not guaranteed. Alternative approaches to improving Canadians’ retirement prospects – more saving, and wider access to low-cost, professionally managed retirement-income plans for Canadians who do not now have them – present challenges of their own. But the CPP is a gamble, not a guarantee; doubling down means running the same risks on a larger scale.

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The C.D. Howe Institute launched the Pension Papers in May 2007 to address key challenges facing Canada's system of retirement saving, assess current developments, identify regulatory strengths and shortfalls, and make recommendations to ensure the integrity of pension earnings for the growing number of Canadians approaching retirement. The Institute gratefully acknowledges the participation of the advisory panel for the program.

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