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E-BRIEF

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PENSION POLICY

Ottawa's Secret Debt: The Burden and Risks of Federal Employee Pensions

by
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- The way the federal government reports its pension obligations to its employees obscures both the total cost these plans currently impose on Canadian taxpayers and how changes in economic circumstances can cause that burden to shrink, or to grow.
- A fair-value estimate for Ottawa's unfunded pension liability was $244.4 billion at the end of 2013/14 – more than $31,000 per Canadian family of four, and $91.3 billion higher than the reported number.
- A clearer picture of the value of Ottawa's pension promises would likely spur discussion of reforms that could produce more durable and affordable pensions for federal employees.

A major challenge facing businesses and governments in developed economies since the 2008 financial crisis has been the gap between the promises in defined-benefit (DB) pension plans and their capacity to pay them. Well before the crisis, pension plans were under duress, and the fallout from the crisis – an environment of falling rates of return and rising liabilities for plan sponsors – made their vulnerabilities more apparent.

Pre-crisis, retirement arrangements were already under strain. Returns on the kind of high-quality assets best suited to backing DB promises were declining. Longevity was rising. And

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the traditional approach to accounting for these plans and their potential impact on the financial position of their sponsors meant that the risks they created for sponsors – and potentially for participants as well – were understated and tended not to receive attention until the plan, and often the sponsor as well, was in trouble.

In response, the pension landscape has continued to evolve. Private-sector DB plans have generally needed to measure their assets and liabilities regularly with a view to establishing whether they would be able to meet their obligations in a crisis. Doing so has brought some key risks into clearer view – not just the potential volatility in the value of the assets held by the plan, but the volatility in the plan's liabilities when changes in yields on high-quality assets changed the amount of saving needed to guarantee the payments.

In Canada's public sector, the focus on plans' ability to meet their obligations at a point in time has been less sharp. The presumption is that the sponsor's ability to tax will prevent any sudden need to discharge obligations. Moreover, many pension plans in the broader public sector – notably plans covering education, healthcare and municipal workers – are not pure DB: they are shared-risk plans in which benefit flexibility helps deal with demographic and economic surprises that adversely affect their funding, which mitigates taxpayers' exposure.

Other public-sector plans, however, are pure DB. While current accounting does not oblige them to show current values for their assets and liabilities, they expose taxpayers to sizeable risks. Among these plans, the ones covering federal government employees stand out for their relatively generous benefits and their extensive coverage – which together mean their liabilities run into the hundreds of billions of dollars far in excess of their assets. The way Ottawa reports its pension obligations obscures both the total cost these plans currently impose on Canadian taxpayers and how changes in economic circumstances can cause that burden to shrink, or to grow.[1]

More meaningful financial reporting of federal employee pension plans would expose the cost to taxpayers – and value to plan participants – of Ottawa's pension guarantees. It would also alert legislators, taxpayers, and plan participants to the large swings in the fair value of the pension obligation as market conditions change. A clearer picture of the value of Ottawa's pension promises would likely spur discussion of reforms that could produce more durable and affordable pensions for federal employees.

The Value of Ottawa's Pension Promises

The federal government runs pension plans for members of Parliament, judges, the Public Service, the Canadian Forces and the Royal Canadian Mounted Police. All federal pension plans were unfunded until 2000. Although the federal government reported estimates of its pension obligations in its financial statements, it held no assets against them; the reported obligation was simply part of the government's debt. The plans for judges and MPs are still completely unfunded.

1 In practice, national governments that control their own central banks, as Canada's federal government controls the Bank of Canada, can force the central bank to buy their debt and thus finance any expenditure, pension payments included, with newly created money. Using the inflation tax in this way to finance pension payments is objectionable on many grounds, and in Canada would – unless undertaken entirely surreptitiously – likely prove politically unacceptable.

Since 2000, contributions to the Public Service, Canadian Forces and RCMP plans have been used to purchase assets. Those three plans are now partially funded, so the Public Accounts now show some pension assets as well as much larger liabilities. However, the numbers in the federal balance sheet, and the difference between them – Ottawa's unfunded pension liability – understate the problems these plans create for Canadian taxpayers.

The Reported Numbers

The most recently published Public Accounts are for fiscal year 2013/14 (ended March 31, 2014). They reported the accumulated obligation of the federal government's DB plans at $247.4 billion. After allowing for recorded assets of $84.9 billion and an "unrecognized actuarial loss"[2] of $9.4 billion, the balance – an unfunded liability that is part of the net federal debt Canadian taxpayers underwrite – was $153.1 billion (shown in the first column of Table 1).

Even scaled to the size of the federal government and the Canadian economy, $153.1 billion is a lot: about one-quarter of Ottawa's reported debt,[3] and more than $17,000 per Canadian family of four. Yet the truth is worse in two ways.

To begin with, the reported numbers are not economically meaningful. On the asset side, the reported $84.9 billion is an understatement, "smoothed" by recognizing gains and losses above a certain threshold over a number of years. The estimated market value of the plans' assets (shown at the top of the second column of Table 1) was $94.3 billion. Unfortunately, however, the liability side is also understated, and by a much larger amount.

Calculating the Fair Value of Federal Pension Liabilities

Because pension payments will occur in the future, expressing their present value requires discounting them. The most appropriate way to produce a "fair-value" calculation is to use actual market yields on securities that resemble the pension payments.[4]

Suppose Canadians not participating in federal pension plans want retirement income comparable to that of federal employees – or, alternatively, want income to cover the taxes the unfunded portion of those pensions will ultimately oblige them to pay. Those people would need assets with federal-pension-like characteristics – securities backed by taxpayers and indexed to inflation. The securities that best fit that description are the federal

2 This "smoothing" recognizes these losses gradually over time. Giving credit where it is due, we note that the Public Accounts previously labeled this item an "unamortized estimation adjustment." The new term is one of several changes in presentation in recent years that make federal pension accounting somewhat easier to understand.

3 The reported accumulated deficit stood at $602.4 billion as at March 31, 2013.

4 The term "fair value" reflects the idea that an asset or liability is worth what a person making an arm's-length transaction, not under duress, would pay for it or give to be relieved of it. It does not presume that market valuations are always correct; it nevertheless takes them as indications of the price at which such transactions are occurring. It is therefore a reasonable way to determine the net worth of an entity, whether or not an actual liquidation might occur.

Table 1: Balance Sheet of Federal Pension Plans, March 31, 2014

	Public Accounts	Fair Value
	$ billions	
Assets[a]	84.9	94.3
Liabilities[b]	247.4	338.7
Unrecognized net actuarial loss	–9.4	
Balance	*–153.1*	*–244.4*

a Includes investments and contributions receivable for past service.

b Fair value estimated using methodology found in text.

Sources: Canada, Receiver General for Canada (2013/14); authors' calculations.

government's real return bonds (RRBs). So the yield on RRBs determines the size of the nest-egg this person would need.[5] At the end of March 2014, RRBs yielded 0.9 percent.

The federal government, however, does not use the RRB rate to value its obligations. It uses two notional interest rates. One is a legacy from before 2000, when federal pensions were completely unfunded: a moving average of past and expected nominal yields on 20-year federal bonds – currently 2.6 percent in real (inflation-adjusted) terms. The other is an assumed return on fund assets for benefits earned since 2000 – currently 3.9 percent in real terms. These discount rates are higher than the RRB rate – not because they reflect returns actually available on assets of like quality, but because they are the product of arbitrary formulas or assumptions. Using them understates the true value of federal pension promises to plan participants, and their true cost to taxpayers.

5 Discounting liabilities at rates that reflect the nature of a plan's obligations, rather than using assumed returns on plan assets, is still controversial in some quarters, despite its increasing acceptance among pension experts (see, for example, Andonov, Bauer, and Cremers 2013, 8) and the clear silliness, when a plan is under- or unfunded, of using assumed returns on assets that do not exist. In the case of Ottawa's pensions, the challenge to non-federal employees seeking the same retirement income, or hedging against the taxes they expect to pay to cover federal employee pensions, makes the wisdom of discounting at the RRB yield clear. Suppose federal employees received an offer to buy them out for a price calculated using the higher discount rate used in the Public Accounts. Any decent financial advisor would say "don't do it!". The nest-egg needed to replace the pension would be larger than the offer. The fact that the federal plans are "pure" DB plans, with pension benefits geared to work history and salary only, is a key justification for the RRB as a comparator. If the federal government were to alter already-earned benefits, either as part of an agreement to transition to target-benefit plans with benefits contingent on funded status (as we discuss later in this E-Brief), or unilaterally, an appropriate discount rate would be higher than the sovereign-grade RRB yield.

The Public Accounts do not provide all the information needed to calculate federal pension liabilities at a real rate of 0.9 percent, but they allow an estimate (see Box 1). In short, the gap between the 2.6 and 3.9 real discount rates used in the Public Accounts for the unfunded and funded elements of the plans respectively on one side, and the 0.9 percent yield on the RRB on the other, translates into a pension obligation that is not the $247.4 billion reported (see the first column of Table 1), but $338.7 billion (see the second column of Table 1).

The final step toward a fair-value estimate for Ottawa's pension balance sheet is to remove the "unrecognized net actuarial loss." This number (in Table 1's first column) represents changes in asset values and liability estimates that will enter the Public Accounts gradually through "smoothing" but are not yet fully there.[6] Fair value recognizes all such changes immediately, so this figure has no counterpart in a fair-value measure (Table 1's second column).

The net result is an unfunded pension liability of $244.4 billion at the end of 2013/14 – more than $31,000 per Canadian family of four, and $91.3 billion higher than the reported number. Because the unfunded pension liability is part of Ottawa's debt, the fair-value adjustment raises the net public debt by the same amount: from a reported $611.9 billion at the end 2013/14 to an adjusted $703.2 billion.

The Growth, Volatility and Significance of Federal Pension Obligations

The size of the federal government's unfunded pension liability is startling; so too are its changes over time.

Tracking the Unfunded Liability sine 2000

The unfunded liability has trended upwards as the salary base and years of service on which pensions are calculated have grown. Over and above that, the difference between the reported and fair-value numbers has fluctuated with economic conditions (Figure 1).

The gap was small at the beginning of the 2000s, when the RRB yield was close to the notional interest rates used to discount the obligations in the Public Accounts. It subsequently grew, as RRB yields declined faster than the notional interest rates were revised downwards (Table 2 shows the key numbers underlying the calculations for each year). And some of the year-to-year swings were substantial – a deterioration of almost $40 billion in 2011/12, when the RRB yield plunged, for example, and an improvement of almost $30 billion in 2013/14, when the RRB yield rebounded.

Just as the unfunded pension liability is part of the net federal debt, so changes in its value are part of the annual budget balance. Taking account of these swings results in adjusted annual budget balances for the federal government markedly different from those officially reported (Figure 2). Our calculations show that the higher-than-reported growth of Ottawa's pension obligations, if included in the budget bottom line, would have reduced or eliminated the surpluses the government reported from fiscal years 2001/02 to 2007/08 and made the deficits over the next five years far worse than reported. The picture was quite different in 2013/14, when an increase in the RRB yield reduced the present value of the pension obligation and would have created an adjusted surplus.

6 For a discussion of why smoothing is no longer standard practice, and speculation about governments also abandoning it, see Beauchamp 2014.

Box 1: Discount-Rate Sensitivity of Estimates of Federal Pension Plan Obligations

The 2012/13 Public Accounts changed the reporting of federal pension plans in a number of ways. Many of those changes were for the better. In particular, the Public Accounts now separate the "unfunded" obligations – those accrued before the 2000 reforms that established investment funds – from the "funded" obligations accrued after the reforms, and present separate figures, including discount-rate sensitivities, for the two categories. The duration of the unfunded obligations, which were earned longer ago, is much shorter than that of the funded obligations, so getting separate estimates of the sensitivity of the two is better than using a combined figure.

Unfortunately, however, the Public Accounts did not accompany the separate presentation of the two categories of obligations with separate estimates of their sensitivies to different interest rates. The Public Accounts do show the effect of a one-percentage-point change in the discount rate for the funded obligations. With respect to the unfunded obligations, however, the Public Accounts show only the effect of a change in future bond yields – not the effect of a change in the discount rate applied to the entire obligation. In Robson and Laurin (2014), we referred back to the 2011/12 Public Accounts for an estimate of the sensitivity of the unfunded obligations to a change in the discount rate that year, and used the ratio of that figure to the sensitivity of the funded obligations in 2012/13 to come up with a sensitivity for the unfunded obligations in 2012/13. To estimate the sensitivity for the unfunded obligations in 2013/14, we use the same method with our 2012/13 sensitivity estimate as an input (see Box Table1). This method suggests that the effect of a 1 percent lower discount rate on the funded portions of the plans is $19.3 billion, and the effect of a 1 percent lower discount rate on the (much larger) unfunded portion of the plans is $19.9 billion.

The actual difference between the discount rates used in the unfunded and funded portions of the plans is 1.7 and 3.0 percentage points, respectively. Multiplying these by the appropriate sensitivities results in the $91.3 billion upward adjustment in plan liabilities shown in Tables 1 and 2. Because the effect of differences in the discount rate is not linear – the sensitivities in the Public Accounts show that, while lowering the discount rate on the funded parts of the plans increases their liability by $19.3 billion, but raising it lowers the liability by only $14.7 billion – this adjustment is conservative. It more than compensates for any exaggeration in our estimate of the sensitivity of unfunded obligations to a one-percentage-point change in the discount rate. So our total estimate of pension liabilities is lower than would be a fair-value estimate based on more complete information.

Finally, we note that the Public Accounts present estimates labeled as fair values (Canada, Receiver General for Canada 2013/14, 2.35) that show the difference between "carrying value" and "fair value" for various federal assets and liabilities. Those estimates include a "fair value" for the net unfunded pension liability that reflects only a restatement of the assets to their market value (and the recognition of actuarial gains/losses), and no adjustment to the liabilities and thus to the discount rate assumed for the valuation of pension obligations. As shown here, full application of the fair-value approach would produce much larger adjustments – and in particular, discounting with the RRB rate produces a much larger amount for the pension obligation and for the net unfunded liability. It is regrettable that the Public Accounts use fair-value terminology, but not fair-value methodology.

Box Table 1: Estimates of the Sensitivity of Pension Obligations to a Decrease in the Discount Rate

	Funded	Unfunded	Total
	($ billions)		
Fiscal year 2012/13 sensitivity to a decrease of 1 percent in the discount rate of "funded" obligations and to a decrease of less than 1 percent (undisclosed value) for "unfunded" obligations (from Canada, Receiver General for Canada 2013/14, 2.25)	18.1	9.9	28.0
Fiscal year 2012/13 sensitivity breakdown for full one percentage point discount rate change (from Robson and Laurin 2014)	18.1	20.7	38.8
Fiscal year 2013/14 sensitivity to a decrease of 1 percent in the discount rate of "funded" obligations and to a decrease of less than 1 percent (undisclosed value) for "unfunded" obligations (from Canada, Receiver General for Canada 2013/14, 2.25)	19.3	9.5	28.8
Estimated fiscal year 2013/14 sensitivity to a decrease of 1 percent in the discount rate, deducted using the ratio of 2012/13 unfunded sensitivities as a guide	19.3	19.9	39.2

Sources: Canada, Receiver General for Canada (2011/12, 2012/2013, 2013/14).

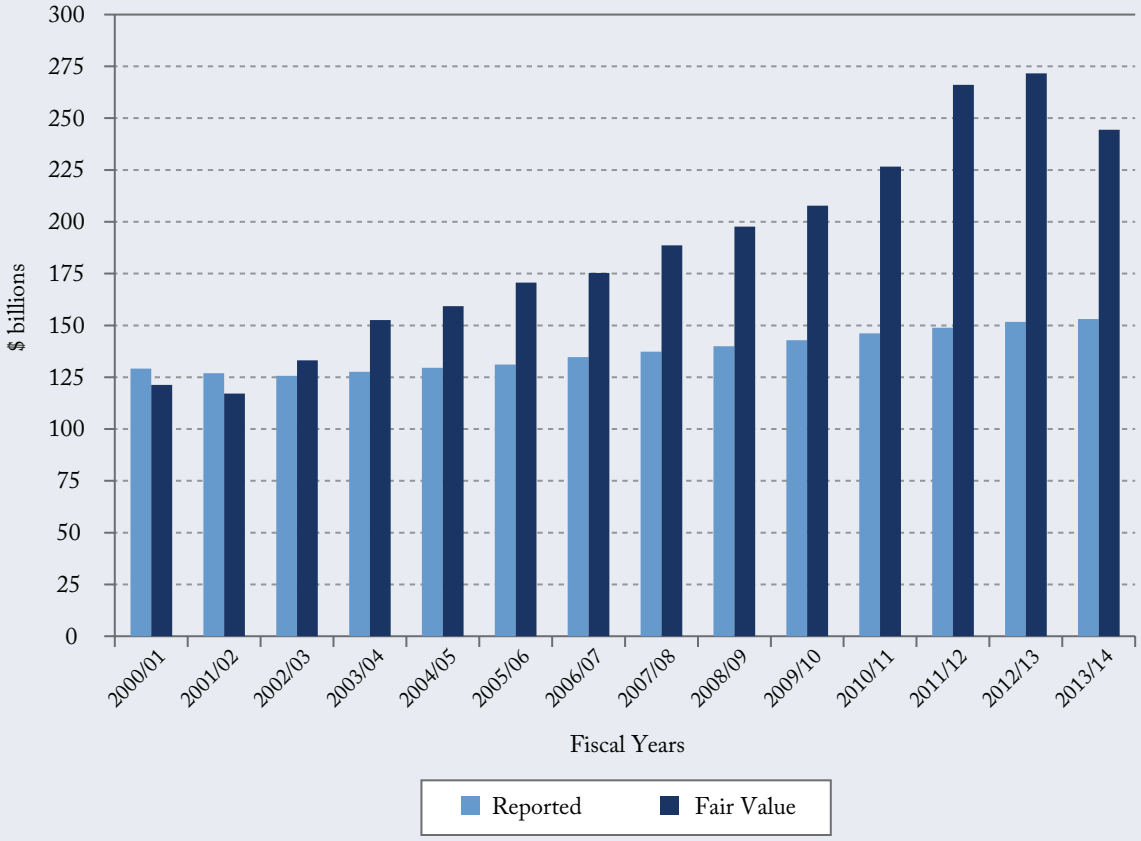
The result for the fiscal year 2014/15, however, will be bad. At March 31st 2015, the RRB yield was 0.2 percent. Even using the previous year's obligations in the calculation, a valuation at that yield would produce a balance sheet deterioration of about $28 billion – an adverse swing big enough to turn the surplus the government will otherwise report into a large deficit.

The Larger-than-Reported Cost of Federal Government Employment

If fair-value restatements make Ottawa's annual budget balance generally worse, they must mean either that the original figures overstated revenue or understated expense. The problem is on the expense side: the total cost of compensating federal employees has been greater than shown in the Public Accounts.[7] Going a layer deeper, the composition of federal expenditures has been different than reported (see Box 2 for more detail).

7 The 2015 federal budget cited pension expense as a reason for the government operating costs rising faster than projected (Canada 2015, 357). The gradual recognition of the impact of low yields on pension costs mean that such surprises will continue well into the future.

Figure 1: Net Federal Pension Obligation, Reported versus Fair-Value Estimate, Fiscal Years 2000/01–2013/14



Sources: Canada, Receiver General for Canada (various years); authors' calculations.

Fair-value accounting would have shown lower interest charges, since the notional interest rates on the pension portion of the public debt were higher than market yields. More than offsetting those lower interest charges, however, would have been much higher compensation of employees: both the current cost (present value) of deferred compensation earned each year, and an upward trend in the value of pension benefits earned in the past.

Federal Pension-Related Risks Borne by Canadian Taxpayers

Critics of fair-value accounting for DB pension plans see the large swings in net worth and correspondingly volatile annual balances that the fair-value approach produces as a defect. Our view is the opposite: we think the volatility revealed by fair-value approaches conveys an essential truth about DB plans.

Advocates and critics of DB plans agree on one thing: these plans are intended to protect plan participants from risk by transfering it to plan sponsors. The sponsor can mitigate this risk to the degree the plan holds assets

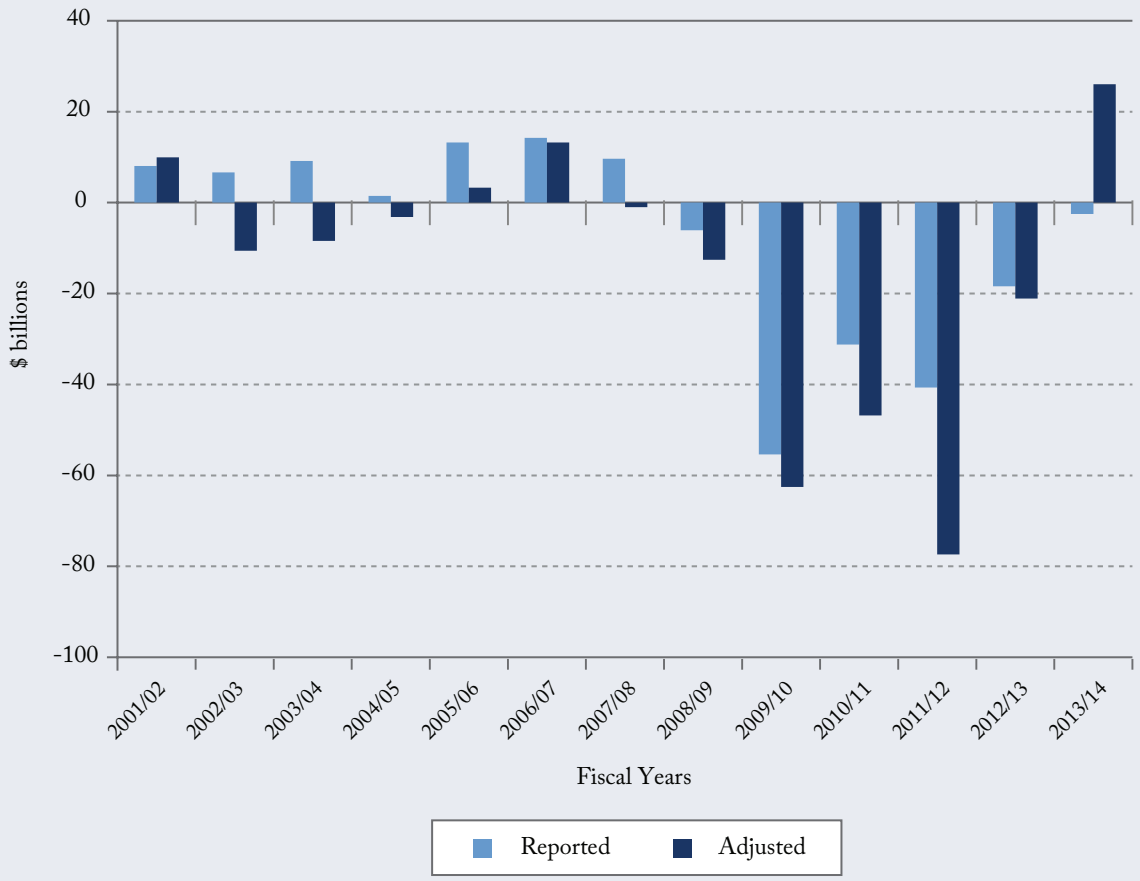
Table 2: Fair-Value Adjustments to the Federal Pension Balance Sheet, Fiscal Years 2000/01–2013/14

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	($ billions except where otherwise indicated)													
Assets as reported	2.8	5.9	8.9	13.4	18.3	24.9	31.6	38.7	37.2	44.9	53.5	62.0	71.7	84.3
Assets at fair value	2.5	5.6	8.1	14.2	19.4	27.6	35.0	38.9	33.8	46.3	58.0	64.5	76.1	93.7
Obligation as reported	124.0	125.9	134.3	142.4	145.3	155.8	168.3	178.6	190.3	201.4	213.3	230.8	242.7	247.4
Effective discount rate used in Public Accounts (%)	3.52	3.54	3.47	3.49	3.52	3.31	3.34	3.37	3.15	3.19	3.23	3.12	unfunded: 2.6 funded: 3.9	unfunded: 2.6 funded: 3.9
Real return bond yield (%)	3.51	3.68	3.05	2.39	2.03	1.58	1.76	1.60	1.81	1.56	1.15	0.51	0.49	0.91
Sensitivity of liabilities to 1% lower discount rate	18.6	18.6	17.5	22.6	22.7	24.9	27.0	28.1	31.1	32.6	34.6	38.4	unfunded: 20.7 funded: 18.1	unfunded: 19.9 funded: 19.3
Obligation at fair value	124.3	123.2	141.7	167.3	179.1	198.8	210.9	228.3	232.1	254.5	285.2	331.1	348.2	338.7
Unrecognized actuarial gain/loss	8.3	7.3	0.7	-0.9	3.1	0.7	-1.3	-1.7	-12.6	-13.2	-13.2	-19.4	-18.9	-9.4

Note: For the first time in 2013, the Public Accounts show a separation between "funded" and "unfunded" benefit obligation sensitivities to discount rate changes; see Box 1 for further methodological details.

Sources: Canada, Receiver General for Canada; Canada, Office of the Chief Actuary; Bank of Canada; and authors' calculations.

Figure 2: Federal Budgetary Balance, Reported versus Adjusted with Fair-Value Pension Accounting, Fiscal Years 2001/02–2013/14



Sources: Canada, Receiver General for Canada (various years); authors' calculations as described in text and explained in Laurin and Robson (2009).

with characteristics that match the obligations – if, for example, the federal plans had actually accumulated RRBs or similar assets (like currency-hedged investments in the US government Treasury Inflation-Protected Securities, for example).[8] Typically, however, DB plans do not hold such assets. Indeed, the bulk of Ottawa's pension

8 From the perspective of someone concerned about the federal government's overall balance sheet and its net debt, federal pension plans identical to those that now exist but backed largely or entirely by a stock of RRBs much larger than currently exists might not appear to be much, if any, improvement. If the unfunded pension liability were, say zero, but the stock of RRBs and therefore market debt were larger by the same amount, where's the advantage? One answer to that question is that Ottawa's pension plans would not likely have evolved as they have if funding them had required actual issues of debt rather than book-keeping entries. Issuing market debt historically required special authorization from Parliament, involves auctions in which investors put up cash, and requires interest payments that are also in cash. The transparency and exposure to capital markets that approach would have required would almost certainly have led the federal government to modify its employment practices, better controlling the generosity of its compensation, and/or hiring fewer employees.

Box 2: Fair-Value Pension Adjustments to Federal Employment Costs

In the federal Public Accounts, the reported annual costs of federal employees are wages and salaries, the current cost of health and other benefits, plus the recorded increase in the present value of post-retirement benefits earned, less relevant employee contributions.[a] In the Public Accounts, reported interest costs include notional interest on the reported pension obligation.[b] The fair-value approach would result in different figures for both the current employee cost and interest payments.

The smaller adjustment is to interest payments. Fair value accounting uses a market interest rate. When, as now, market yields are considerably lower than the notional interest rates Ottawa uses, the result is lower annual interest payments on the pension obligation (even though the obligation itself is higher).[c]

The larger adjustment is to the current and past value of pension benefits earned by federal employees (Box 2 Figure). The rate at which federal employees earn benefits is a much higher share of their pensionable earnings than Ottawa reports when it calculates the value of the benefits with a high discount rate. The declining trend in RRB yields has also affected the stock of benefits earned in the past. In most years, lower RRB yields have increased their value to plan participants, and increasing the obligation they create for taxpayers. An exception was the 2013/14 fiscal year, when an increase in the RRB yield from 0.5 percent to 0.9 percent reduced the value of accruing and already-earned benefits (the fall in the yield that occurred over the 2014/15 fiscal year substantially increased it again).

a In the case of pensions, the recorded increase consists of pension benefits earned (net of employee contributions) plus various adjustments related to plan amendments, curtailments or settlements and amortization of actuarial losses or gains – this last category having no place in a fair-value approach.

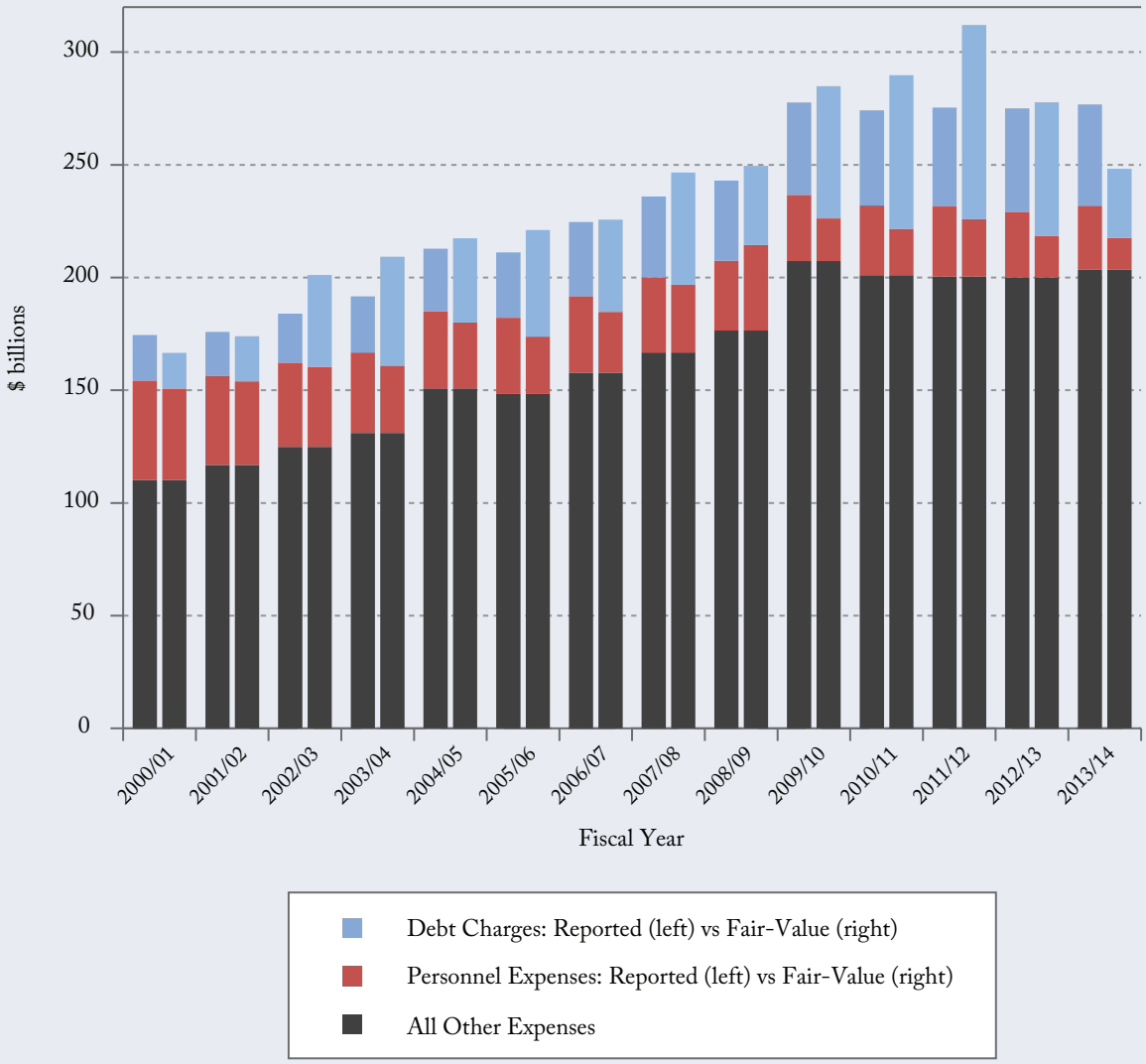
b That is, notional interest expenses on the benefit obligation net of investment income on pension investments.

c Fair-value interest expenses are obtained by multiplying the fair-value pension obligation shown in Table 1 by the RRB rate, net of the actual income on pension investments (reported investment income figures are smoothed over time).

obligations are matched by no assets whatsoever. Without fair-value accounting, the resulting risk will not appear in the sponsor's financial statements, hiding the problem and reducing the incentive to deal with it. The virtue of fair-value accounting is that it reveals the volatile exposure that plan sponsors – in this case, Canadian taxpayers – have through the plan, and can spur action.

The fact that Ottawa's adjusted budget balance was dramatically worse than reported between 2007 and 2012, that it was better than reported in 2013/14, and that (presuming no changes in accounting between now and the publication of the 2014/15 Public Accounts next fall) it will be worse than reported in 2014/15, reveals that Canadian taxpayers have been underwriting different amounts than they were told. Further, those amounts fluctuated in unpredictable ways (because bond yields are unpredictable) from year to year. Perhaps taxpayers

Box 2 Figure: Fair-Value Restatement of Annual Federal Expenditures: Personnel Expenses, Debt Charges and All Other Expenses, Fiscal Years 2000/01–2013/14



Sources: Canada, Receiver General for Canada (various years); authors' calculations as described in the text.

would, if fully informed, have agreed to take on this large and unpredictable obligation. Thanks in part to accounting that did not use fair-value principles, however, they were not informed.

The Auditor General's recent report on federal pension plans noted, among other criticisms, that five years ago Treasury Board Secretariat had begun drafting a funding policy for the plans, including such core issues as financing objectives, funding risks, the risk tolerance of the sponsor, and intergenerational fairness, but had still not completed the work. The Auditor General also noted that Canadians and decisionmakers now must

consult up to eight separate documents to gather pertinent information on these plans, and called for further improvements in reporting to let Canadians get a clearer picture "of the methodology, the assumptions, and the discount rates used to assess the liabilities, as well as the interest charges related to public sector pension plans" (OAG 2014).

At least Canadians should get the key numbers. The federal government could provide the necessary additional information as part of, or as a supplement to, the income statement and the balance sheet in the Public Accounts. If Canadians were better informed, they would likely have reservations about the arrangement.

Recent and Potential Reforms

In the past few years, the federal government has made some changes to its pensions. In particular, the 2012 *Jobs and Growth Act* affected some benefits – notably raising the normal retirement age and other age thresholds from age 60 to 65 for new members joining the Public Service plan on or after January 1, 2013. It also made more far-reaching changes on the contribution side. It initiated increases in the employees' share of contributions to the Public Service plan, such that their share will reach half the reported current service cost of the plan by end of 2017. It also initiated increases in employees' contributions to the Canadian Forces and RCMP plans, which will follow the (lower) path of increases for Public Service plan members who joined the plan before January 1, 2013, and reach about 45 percent of the reported costs of the Canadian Forces and RCMP plans by 2018.

Reflecting the Fair-Value Pension Promise in Federal Employees' Contributions

Unfortunately, as indicated above and detailed in Robson and Laurin (2014), the reported costs of these plans, on which the contribution rates are based, are too low. Even after the increases in employee contributions anticipated by the 2012 reforms, the true share of their contribution to the pension plans, measured by the RRB yields that prevailed at the time and at the time of writing, would be far less than 50 percent. Only if the current service cost is calculated on a fair-value basis will the cost of annual pension accruals be shared equally between participants and taxpayers.[9]

More Equitable Sharing of Risks Related to Past Service

Even genuine 50:50 sharing of the true current-service cost of federal pensions, however, would leave taxpayers exposed. Fluctuations in those annual costs as interest rates, experience and plan provisions changed would constitute one exposure. Far more important, though, is continuing exposure to changes in the value of

9 The fact that the federal *Income Tax Act* prohibits annual contributions to defined-contribution pension plans and registered retirement savings plans greater than 18 percent of pay up to a maximum of about $25,000 prompts us to point out how generous the tax-deferral opportunities for federal employees are relative to those for other Canadians (see Pierlot and Siddiqi 2011 for more on this). Individuals not employed by the federal government who seek to build a similar retirement nest-egg would need to save even more of their pre-tax earnings than these startling current service cost estimates imply, because they would need to do much of that saving with post-tax income – doubly unfair, considering they are also on the hook for the unfunded liability of federal employees' pension plans.

previously earned benefits – which, as just detailed, have swung up and down, but mostly up, by many billions of dollars annually since the early 2000s.

Change the Plans' Benefit Structure

It is possible to imagine protecting taxpayers from this risk by capping employer contributions at a fixed share of pensionable pay.[10] Then, plan participants would be responsible for paying both the balance of each year's current service cost, and also whatever it takes to cover changes in the value of previously earned benefits. The problem, however, is that a large proportion of participants in federal pension plans are already retired, or close to it. The number of active members now and in the future that would see their contributions swing up and down to cover the changes in the value of past benefits is relatively small, so the impact on their take-home pay would be large.

What about the benefit side, then? It makes sense to lessen the pension liability over time by eliminating incentives for early retirement. Also desirable would be calculating benefits on the basis of career-average earnings rather than final salary.[11] To relieve taxpayers of their current sole responsibility for risks in the federal plan, however, Ottawa would need to transition to a shared-risk, target-benefit model that calculates benefits not only with reference to salary and years of service, but also with reference to the funded status of the plan. The broader public-sector plans many provinces established in the 1990s make future benefit accruals contingent on plan funding. New Brunswick's new "shared-risk" pension regime also makes benefits already earned contingent on plan funding – a far more powerful tool in mature plans (Steele et al. 2014).

Meaningful Financial Reporting is a Crucial First Step

As matters stand, the artificially low annual and accumulated costs for federal pensions reported in the Public Accounts are obstacles to reform. More meaningful fair-value numbers would be a better basis for the discussions the federal government as a sponsor, federal employees, and Canadians more generally need to have.

It is possible that public-sector accounting standards will require fair-value estimates before long. The bankruptcy of Detroit last summer generated the first in what could be a series of ugly headlines about state- and municipal-level pension defaults in the United States, which would cast further doubt on the argument that the inviolability of government promises absolves them from reporting and funding their pensions properly. Regardless, Ottawa can move ahead by providing the necessary additional information in the Public Accounts, or simply including fair-value numbers in its principal financial statements.

10 Gros (2013) recommends such a change, noting that New Brunswick has specified 18 percent of covered pay as the maximum combined contribution rate for its public-sector plans in the future.

11 Gearing benefits to a person's purchasing power at the end of her or his career rather than to its average over the career creates opportunities for "spiking," and redistributes wealth inside pension plans away from those with relatively flat career earnings profiles, such as administrative staff, and toward those with steep earnings profiles, such as senior government executives (Young 2012).

Doing so would ensure that legislators, taxpayers and plan participants themselves have a clearer picture of the problem that needs to be addressed. In particular, they would see that Ottawa's unfunded pension liability is in the order of one-quarter of a trillion dollars – at least $90 billion worse than stated. They would see that the annual cost of federal compensation is much higher than it currently appears. And they would see that the size of the pension obligation swings dramatically from year to year, dropping when the yield on similar assets goes up, and rising when the yield on similar assets goes down. That knowledge would prepare the way for reforms that would slow the growth of a burden few taxpayers know they bear, and would mitigate risks that few taxpayers know they run.

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