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Financial Challenges for Canadian Defined Benefit Pension Plans

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Raphaëlle Deraspe

Economics, Resources and International Affairs Division
Parliamentary Information and Research Service

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CONTENTS

FINANCIAL CHALLENGES FOR CANADIAN DEFINED BENEFIT PENSION PLANS

1 INTRODUCTION

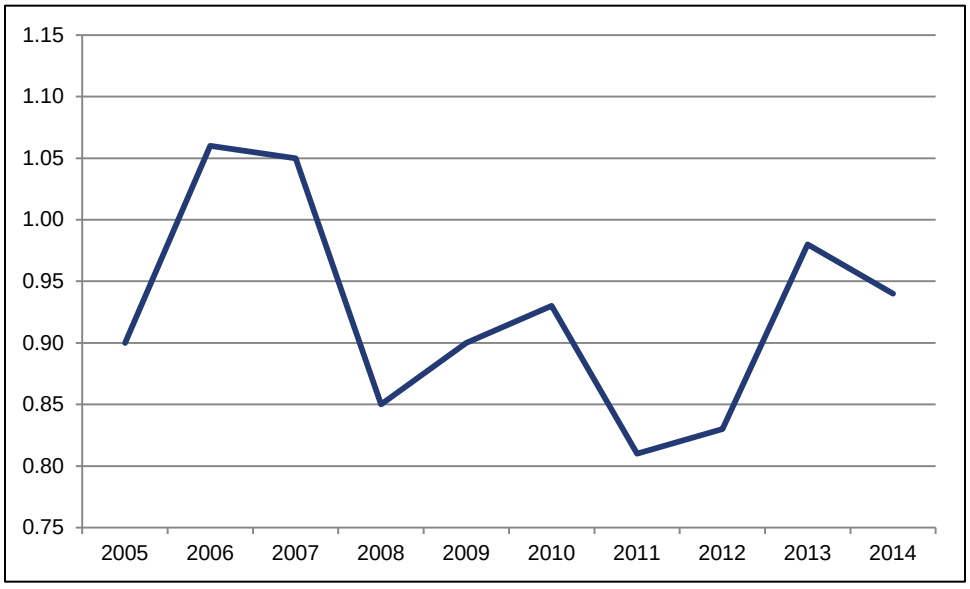
For some years now, pension plans – and particularly defined benefit pension plans (DBPP)[1] – have been facing a number of challenges. These challenges, which affect in particular DBPP solvency ratios, include the return on financial assets, increased longevity and demographic changes, and fair value accounting.

2 SOLVENCY RATIO

Between 2007 and 2014, there was a sharp decline in the average estimated solvency ratio – the ratio of assets to liabilities on plan termination – for some 1,200 private federal DBPPs supervised by the Office of the Superintendent of Financial Institutions Canada (OSFI).[2] A ratio below 1 means that assets will not be sufficient to cover all liabilities.

This solvency ratio fell from 1.06 in June 2007 to 0.85 in December 2008, in the wake of the economic crisis that was still being felt at the time. In June 2012, the ratio was 0.8, its lowest level in recent years. It climbed back to 0.98 in December 2013, and then declined slightly to 0.94 in December 2014.[3]

Figure 1 – Average Estimated Solvency Ratio for Defined Benefit Pension Plans Supervised by the Office of the Superintendent of Financial Institutions, December 2005–December 2014



Source: Figure prepared by the author using data obtained from Office of the Superintendent of Financial Institutions Canada, *Annual Report 2013–2014*, p. 24, and *Annual Report 2014–2015*, p. 22.

In December 2014, nearly 80% of DBPPs supervised by OSFI were underfunded, meaning that their estimated liabilities exceeded their assets. That proportion was 61% one year earlier.[4]

3 RETURN ON FINANCIAL ASSETS

Because of the high returns posted by equity markets during the 1990s, actuaries forecast higher returns for the 2000s than were actually achieved. For example, in 2000, average annual returns for pension funds supervised by the Régie des rentes du Québec were expected to be around 7%. Instead, the median annual return for Canadian pension funds between 2001 and 2011 was 4.8%.[5]

The 2008 economic crisis had a significant impact on performance over this same period. In fact, the total assets of all private pension funds in member countries of the Organisation for Economic Co-operation and Development (OECD) declined by US$3.3 trillion, or nearly 20%, between January and October 2008.[6]

3.1 STOCK MARKET PERFORMANCE

Because equity represents a large share of the assets of DBPPs,[7] annual performance of these plans is closely linked to that of stock markets. The S&P/TSX index, which is the main stock index in Canada, fell by nearly 45% between May 2008 and February 2009.[8] As a result, the value of DBPP assets declined an average of 20% between September 2008 and February 2009.[9]

3.2 INTEREST RATES

Given the weak global economic recovery following the financial crisis of 2008, the Bank of Canada, like several other central banks around the world, lowered interest rates, and subsequently maintained them at historic lows for an unusually long period. In fact, it lowered its policy interest rate[10] to 0.25% in April 2009 and has held it below 2% ever since.[11]

Low interest rates have consequences for pension funds because they affect the return on investments, inflate the value of liabilities (which is particularly true for DBPPs)[12] and reduce solvency ratios.[13] In addition, low interest rates have prompted numerous pension funds to increase their investments in non-traditional sectors, such as real estate, private equity and infrastructure.[14]

4 LONGEVITY AND DEMOGRAPHIC CHANGES

The increased longevity of participants in DBPPs and demographic changes can also have an impact on the financial health of pension funds. For example, with increased longevity, benefits must be paid out over a longer period.

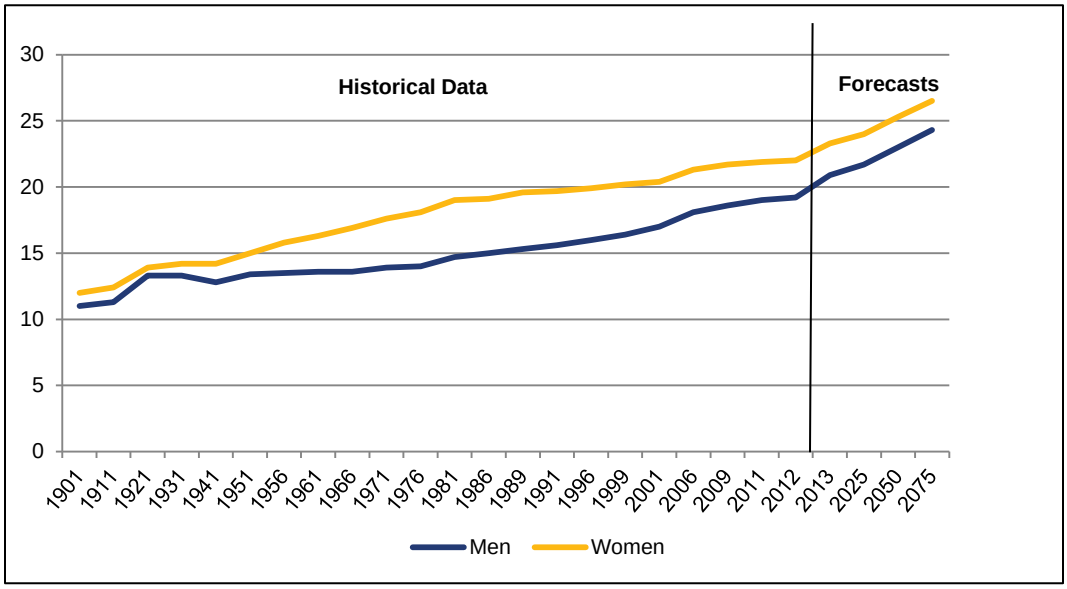
In Canada, as in almost every country in the world, mortality decreased significantly for all age groups in the 20th century, for both men and women.[15] Life expectancy at birth has been constantly increasing since 1901, and is expected to grow at a faster rate until 2075, when it will reach 90 for men and 93 for women.[16]

4.1 Life Expectancy at Age 65

As shown in Figure 2, life expectancy for Canadians aged 65[17] has been constantly increasing since 1941. Furthermore, over the last decade, it increased at a rate of about twice what was observed over each of the previous decades. According to OSFI forecasts, by 2075, life expectancy at age 65 should rise to 24 years for men and 26 years for women.[18]

Women tend to live longer than men, and while employment rates for women are lower than for men,[19] more employed women than men participate in pension plans. In 2012, 41% of employed women aged 25 to 54 were covered by a registered pension plan,[20] and 33% by a DBPP. Among men, these proportions were 36% and 24%, respectively.[21] These data can be explained by the fact that women tend to work in industries where these types of pension plans are offered, such as educational services, health care, social assistance and public administration.[22]

Figure 2 – Life Expectancy at Age 65 in Canada, Data for 1901 to 2012 and Forecasts for 2013 to 2075



Note: The years that are indicated reflect the years when data were reported.

Source: Figure prepared by the author using data obtained from Office of the Superintendent of Financial Institutions Canada, *Mortality Projections for Social Security Programs in Canada*, Actuarial Study No. 12, April 2014, pp. 8 and 26.

4.2 Proportion of the Population Aged 65 or Older

In addition, the proportion of people in Canada aged 65 or older has been increasing for several years now, and experts expect that it will continue to do so, among both men and women, due to the aging of the baby boomers and lower fertility rates.[23] In 1991, there were three workers aged 25–34 for every worker aged 55 or older. Twenty years later, in 2010, that ratio had been cut by more than half, to 1.3.[24]

4.3 Length of Retirement

The observed data indicate that the expected length of retirement has declined in recent years, although it is higher than in 1977, for both men and women. In fact, the expected length of retirement for men rose from 11.2 years in 1977 to 15.4 years in 1994, and then declined to 15 years in 2008. Among women, the expected length of retirement increased from 16.4 to 20.6 years between 1977 and 1996, and then decreased slightly to 19 years in 2008.[25]

5 FAIR VALUE ACCOUNTING

Another challenge that pension funds must overcome is the recent adoption of fair value accounting,[26] which is based on the price that would be agreed upon between a purchaser and a seller acting freely under normal market conditions.[27]

Before these new accounting rules were adopted, the financial statements of pension funds often valued assets based on their purchase price and estimated future value rather than on their market value. Furthermore, in evaluating pension funds, future payments of liabilities were usually reported using discount rates[28] that were higher than those actually available for such investments. This practice made fund liabilities appear lower than they actually were.[29] Fair value accounting therefore has an impact on the solvency ratios of pension funds.[30]

Fair value accounting has thus served to expose the higher costs and risks associated with DBPPs.[31] For example, the C. D. Howe Institute estimated, using this method, that for fiscal year 2008–2009, federal public sector pension plans – the three main ones being those of the public service, the Canadian Forces and the Royal Canadian Mounted Police – had net obligations of $197.7 billion.[32] Meanwhile, the *Public Accounts of Canada 2009* evaluated these obligations at $139.9 billion,[33] which represents a difference of $57.8 billion, or 41%.

Some experts claim that these new rules lead to greater focus on short-term market fluctuations, to the detriment of the long-term investment horizon.[34] This could encourage employers or businesses offering pension funds to decrease their exposure to riskier assets such as equities.[35]

6 CONCLUSION

As mentioned, for the past several years, Canadian pension funds, particularly DBPP funds, have been faced with significant financial challenges, including the decline in the value of financial assets, low interest rates, increased longevity of participants and demographic changes, as well as the implementation of fair value accounting.

To address these difficulties, some experts recommend migrating toward other plan types, as New Brunswick has done with its target benefit pension plan,[36] or adjusting participants' contribution rates and benefit levels,[37] as the federal government recently decided to do.[38] Finally, some pension plans have transferred longevity risk to insurance companies.[39]

NOTES

1. A "defined benefit" plan provides the participant with predetermined lifetime retirement income calculated on years of service and the salary for each year of service. It is often contrasted with a "defined contribution" plan, in which contributions are predetermined and accumulate over the years along with investment income, but in which retirement income can vary, since it also depends on the plan's performance (and market fluctuations).
2. The Office of the Superintendent of Financial Institutions Canada (OSFI) regulates and supervises financial institutions and federally regulated private pension plans. For more information, see OSFI, *Annual Report 2014–2015*, p. 6.
3. Ibid., p. 22.
4. Ibid.
5. Government of Quebec, *Innovating for a Sustainable Retirement System: A Social Contract to Strengthen the Financial Security of All Québec Workers*, 2013, p. 81.
6. Organisation for Economic Co-operation and Development [OECD], *Pension Markets in Focus*, Issue 5, December 2008, p. 3.
7. Jim Armstrong, "What Is the Funding Status of Corporate Defined-Benefit Pension Plans in Canada?," *Financial System Review*, pp. 45–46.
8. Statistics Canada, "Table 176-0047, Toronto Stock Exchange statistics, Bank of Canada," CANSIM (database), accessed 7 December 2015.
9. Certified General Accountants Association of Canada, *Gauging the Path of Private Canadian Pensions: 2010 Update on the State of Defined Benefit and Defined Contribution Pension Plans*, 2010, p. 11.
10. The policy interest rate is the main tool used by the Bank of Canada to maintain inflation close to the target of 2%. For more information, see Bank of Canada, "How Monetary Policy Works: The Transmission of Monetary Policy," *Backgrounders*, April 2012.
11. Bank of Canada, *Canadian Interest Rates and Monetary Policy Variables: 10-Year Lookup*.
12. Government of Quebec (2013), p. 81.
13. Lawrence Schembri, Deputy Governor of the Bank of Canada, "Double Coincidence of Needs: Pension Funds and Financial Stability," Remarks to the Pension Investment Association of Canada, City of Québec, 15 May 2014, p. 5.

14. Ibid.
15. OSFI, *Mortality Projections for Social Security Programs in Canada*, Actuarial Study No. 12, April 2014, p. 6.
16. Ibid., pp. 8 and 26.
17. Life expectancy at age 65 is commonly used by pension fund administrators to predict the period over which retirement benefits will be paid. For more information, see Government of Quebec (2013), p. 73.
18. OSFI (April 2014), p. 26.
19. Statistics Canada, "Table 282-0002, Labour force survey estimates (LFS), by sex and detailed age group," CANSIM (database), accessed 18 March 2016.
20. A registered pension plan is an arrangement by an employer or union that provides pensions to retired employees in the form of periodic payments and that is subject to applicable federal or provincial laws and is registered with the Canada Revenue Agency. For more information, see Canada Revenue Agency, *About Registered Pension Plans (RPPs)*.
21. Marie Drolet and René Morissette, *New facts on pension coverage in Canada*, Statistics Canada, 18 December 2014, p. 4.
22. Ibid., p. 3.
23. OSFI (April 2014), p. 6.
24. Yves Carrière and Diane Galarneau, *Delayed retirement: A new trend?*, Statistics Canada, 26 October 2011, p. 14.
25. Ibid., pp. 11–12.
26. Fair value accounting was adopted in November 2011 by the Canadian Accounting Standards Board for general purpose financial statements for all pension plans. For more information, see Accounting Standards Board, *Activities of the Canadian Accounting Standards Board and Staff*, Special edition, 2012.
27. Chartered Professional Accountants Canada, "Fair Value Accounting," *CGA Magazine*, September–October 2005.
28. In this context, the discount rate means the rate used to determine the current value of future benefits.
29. Alexandre Laurin and William B. P. Robson, "Supersized Superannuation: The Startling Fair-Value Cost of Federal Government Pensions," *Backgrounder*, No. 122, C. D. Howe Institute, December 2009, p. 1.
30. Schembri (2014), pp. 5–6.
31. Laurin and Robson (2009), p. 1.
32. Ibid., p. 5.
33. Receiver General for Canada, *Public Accounts of Canada 2009: Volume I – Summary Report and Financial Statements*, 2009, p. 2.18.
34. Clara Severinson and Juan Yermo, "The Effect of Solvency Regulations and Accounting Standards on Long-Term Investing: Implications for Insurers and Pension Funds," *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 30, OECD Publishing, 2012, p. 4.
35. Ibid., p. 11.

36. See Raphaëlle Deraspe and Lindsay McGlashan, *The Target Benefit Plan: An Emerging Pension Regime*, Publication no. 2016-20-E, Parliamentary Information and Research Service, Library of Parliament, Ottawa, 11 March 2016.

37. A recent OECD report indicates that nearly half of its member countries have taken measures in recent years to improve the financial sustainability of their pension systems. These changes have involved in particular adopting less favourable indexation than had been in place and increasing DBPP contribution rates. For more information, see OECD, *Pensions at a Glance 2015: OECD and G20 indicators*, OECD Publishing, Paris, 2016, p. 13.

38. See André Léonard, *An Introduction to Federal Government Pension Plans*, Publication no. 2015-110-E, Parliamentary Information and Research Service, Library of Parliament, Ottawa, 28 October 2015.

39. Schembri (2014), p. 5.