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No. 23 • 2015

Municipal Employee Pension Plans in Canada: An Overview

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UNIVERSITY OF
TORONTO

IMFG Papers on Municipal Finance and Governance

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Series Editors: Dina Graser and Selena Zhang

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ISBN 978-0-7727-0947-9
ISSN 1927-1921

About IMFG

The Institute on Municipal Finance and Governance (IMFG) is an academic research hub and non-partisan think tank based in the Munk School of Global Affairs at the University of Toronto.

IMFG focuses on the fiscal health and governance challenges facing large cities and city-regions. Its objective is to spark and inform public debate and to engage the academic and policy communities around important issues of municipal finance and governance. The Institute conducts original research on issues facing cities in Canada and around the world; promotes high-level discussion among Canada's government, academic, corporate, and community leaders through conferences and roundtables; and supports graduate and post-graduate students to build Canada's cadre of municipal finance and governance experts. It is the only institute in Canada that focuses solely on municipal finance issues in large cities and city-regions.

IMFG is funded by the Province of Ontario, the City of Toronto, Avana Capital Corporation, and TD Bank Group.

Author

Bob Baldwin is an Ottawa-based consultant who has worked on pension issues for more than 30 years. He worked for the Canadian Labour Congress for all but three years from 1976 to 2005 – the last 10 as the Director of Social and Economic Policy. He was a member of the expert panel that advised the Ontario Expert Commission on Pensions and he prepared a research report for the Government of Ontario on the retirement income prospects of Canadians as part of the federal, provincial, and territorial dialogue among ministers of finance on this issue.

Bob is a director of Addenda Capital, chairs the board of trustees of the Canada Wide Industrial Pension Plan, and is a member of the Actuarial Standards Oversight Council and the Pension Policy Council of the C.D. Howe Institute. He has served as a member of the board of directors of PSP Investments, as a member and chair of the Canada Pension Plan Advisory Board, and as a member of the Committee on Professional Conduct of the Canadian Institute of Actuaries. The author of many research papers on pensions, Bob is a frequent conference speaker and is asked for advice on pension issues by governments and pension plans.

Acknowledgements

I am very grateful to the Institute on Municipal Finance and Governance (IMFG) for giving me the opportunity to undertake this study. I have been aware for some time of a pair of excellent overview studies of state and municipal pension plans in the United States and the absence of anything like them in Canada. I hope this paper represents a small step in closing this information gap. Particular thanks to Enid Slack and Dina Graser who have overseen this work and have also provided very helpful guidance on structuring the paper.

I am also grateful to Cynthia Crysler of the Ontario Municipal Employees Retirement System (OMERS) for helping bring me together with the Institute, and to André Côté,

formerly of the IMFG, for getting me started. Cynthia Crysler and Bruce Kennedy of the B.C. Pension Corporation provided very helpful comments on an earlier draft. The paper is much stronger thanks to their efforts.

Members of the Pension and Wealth group at Statistics Canada deserve special thanks for their cooperation in producing special tabulations of municipal employee pension plan data. Despite the problems encountered in getting data on specific municipal employee pension plans, there were officials of pension plans, city officials, and city information officers from across the country who went beyond the call of duty in responding to requests for information. Thank you.

Guy Miscampbell of the IMFG provided a great deal of help in gathering data on pensions and municipal finances. Cynthia Crysler also provided ongoing help in getting data on the OMERS plan. Nathalie Joncas, an actuary with the Confédération des syndicats nationaux, and Charles St-Aubin, an actuary for the Firefighters' Pension Plan in Montreal, helped get information on the municipal employee pension plans in Montreal. I am particularly grateful to Charles for steering me away from misinterpreting some of the data on the Montreal plans.

Finally, thanks to Ian Markham of Towers Watson and Deborah Allen of the Ontario Teachers' Pension Plan for arranging access to charts produced by the two organizations. Also thanks to Jacquie McNish for her efforts to get me information on the pension plan in Saint John, New Brunswick.

Selena Zhang of the IMFG and Jacqueline Larson did excellent editing of this paper. Its shortcomings are my responsibility.

Municipal Employee Pension Plans in Canada: An Overview

Bob Baldwin

Abstract

This paper provides an overview of municipal employee pension plans in Canada by drawing on Statistics Canada data, municipal employee pension plan publications, and municipalities' financial statements. It provides information on the organizational structure, governance, and administration of plans; the benefits they provide; contributions to the plans; their funded status; and their impact on municipal finances. Although largely descriptive, the findings suggest that while municipal employee pension plans' financial situation is satisfactory overall, these plans involve significant financial risks and in some cases have experienced financial difficulties that have caused problems for municipal finances. The paper also identifies a number of data limitations that can be overcome through coordinated action by municipalities and their pension plans.

Keywords: municipal employee pensions, municipal finance, public employee pensions, Canadian pension data

JEL Codes: H75, J26, J32

Municipal Employee Pension Plans in Canada: An Overview

I. Introduction

A number of municipal employee pension plans in Canada have recently attracted media attention because of financial difficulties of sufficient magnitude that they were perceived to damage municipal finances. In some cases, changes to the plans to limit financial damage gave rise to conflicts with plan members. Municipal employee pension plans have been amended in the cities of St. John's, Newfoundland, and Saskatoon, Saskatchewan. The City of Saint John in New Brunswick shared common financial problems with other plans in that province (mainly in the public and near public sector)¹ that were addressed through a combination of provincial legislation and local bargaining.² Quebec adopted legislation to address financing problems in all municipal employee pension plans in the province, and Alberta introduced legislation to address financing problems in its province-wide plan for municipal employees but later withdrew the legislation.

These episodes are important. But are these experiences typical of municipal employee pension plans in general? There are no overview studies or databases of municipal employee pension plans in Canada to turn to for answers. This paper attempts to fill the knowledge gap by providing an overview of municipal employee pension plans in Canada according to the following dimensions:

- organizational structure, governance, and administration;
- size and make-up of the plans' memberships;
- benefits provided;
- contributions to plans;
- the plans' funded status; and
- the role of pension plans in municipal expenditures.

The paper also compares Canadian municipal employee pension plans with state and municipal plans in the U.S. (see Appendix 1). This discussion provides some insight into a question that Canadian media stories asked about the City

1. Near public sector refers to sectors of the economy that receive much of their funding from government budgets but that operate at arm's length. Examples include hospitals and other health care institutions, universities, and colleges.

2. The situation in the City of Saint John received attention in Leech and McNish (2013).

of Detroit's bankruptcy and the related cuts to retirees' pension benefits as part of the bankruptcy settlement: Can Detroit happen in Canada?³

The specific pension plans included in this study are (listed alphabetically by jurisdiction):

Alberta Local Authorities Pension Plan (LAPP)
British Columbia Municipal Pension Plan (BCMPP)
Halifax Regional Municipality Pension Plan (HRMPP)
Manitoba Municipal Employees Pension Plan (MMEPP)
City of Montreal Blue Collar Pension Plan
City of Montreal Firefighters' Pension Plan
City of Montreal White Collar Pension Plan
Ontario Municipal Employees Retirement System (OMERS)
City of Saint John Pension Plan
The Retirement Benefit Plan for the Employees of the
City of St. John's
Saskatchewan Municipal Employees Pension Plan
Saskatoon General Superannuation Plan
Winnipeg Civic Employees' Pension Plan

In considering the role of municipal pension plans in municipal finances, the cities of Calgary, Toronto, and Vancouver provide points of observation for the LAPP, OMERS, and BCMPP respectively. The municipalities that operate plans solely for their employees will naturally provide reference points for the impact of municipal employee pension plans on the finances of those cities.

1.1 Data Sources and Limitations

The study relies on several sources of data:

- Aggregate data from Statistics Canada were used to compare municipal employee pension plans in Canada and pension

3. There has been significant Canadian interest in the financial difficulties of the City of Detroit and the cuts made to employee pension benefits as a result of the city's bankruptcy. The funded status of many state and local pension plans in the U.S. has sunk to levels below what we have seen in Canada's lowest funded municipal employee plans. This situation is a result of the combination of very high discount rates used by the U.S. plans, poor investment returns, and the failure of state and local governments to make required contributions to plans. The use of lower discount rates and the greater discipline of Canadian municipal governments in making required pension contributions means that Detroit-type situations are less likely to occur in Canada. That said, the U.S. experience is very diverse with many well-funded state and local plans. Details are available in Appendix 1.

plans in other sectors with respect to plan size, benefits, and contributions. Many of these data are drawn from the Pension Plans in Canada (PPIC) database.

- Data on a number of large municipal employee pension plans in Canada allowed for a more fine-grained look at the membership and finances of these plans and their governance and organizational structures.
- Data from the government finance section of Statistics Canada and from municipal financial statements were used to understand the role of pension plans in the annual expenditures of municipalities.

The data in the public domain related to specific plans are varied. Most of the municipal employee pension plans produce informative annual reports that include information on the plans' organizational and governance structures, along with basic financial details. Unfortunately, the available financial information does not include everything desired for this study. Some information is available only in actuarial valuation reports and public access to such reports is varied. Plans that do not make their actuarial reports public were asked to provide answers to specific financial and membership questions. Responses to these requests were spotty.

Along with Statistics Canada data, municipalities' annual financial statements were used to establish the pension plans' impact on annual municipal expenditures. The information needed for this study was not always available in a usable form.

Data were also not always available for the same years for all municipal employee pension plans. Therefore, in the tables comparing data from earlier and later periods, readers should note the years observed for each plan.

Statistics Canada data were used to establish a general perspective on the benefits, contributions, and funded status of municipal employee pension plans. These data also provide comparative insight into municipal plans versus plans in other sectors. For many of the Statistics Canada data sets, data for specific provinces are suppressed to avoid confidentiality problems. Thus a number of data sets are grouped "east of Ontario" and "west of Quebec." This grouping of data overcame the suppression/confidentiality problem in most cases. Moreover, this geographic distinction corresponds to other differences in municipal employee pension plans in Canada.

The data issues are one of several reasons this paper needs to be treated as a preliminary overview of municipal employee pension plans. First, and most obviously, the municipal employee pension plans reviewed here are a small non-random sample of such plans in Canada. Second, the plans discussed do not

include all of the plans that exist in the cities examined.⁴ Finally, since the 1970s, the plans have undergone important changes in organizational structure and governance, benefits provided, and contributions.⁵

It is beyond the scope of this study to document in detail the changes made to municipal employee pension plans in Canada and there is much to learn from their evolution. References in this paper specific to benefits and contribution rates refer to the most recent information available in late 2014. In a number of cases, the reality of evolution will be captured in tables by comparative data.⁶

This report presents over two dozen tables, many of which use short forms and symbols that will need some explanation for the reader. These abbreviations and features are explained below.

Pension Plans in Canada (PPIC) Short Forms and Symbols

Tables that make use of PPIC data use these short forms and symbols:

- All Mun – all municipal employee pension plans
- Mun East – municipal employee pension plans east of Ontario
- Mun West – municipal employee pension plans west of Quebec
- All WPP – all workplace pension plans in Canada
- Public WPP – all public sector pension plans in Canada (municipal, provincial, and federal)
- Private WPP – all private sector workplace pension plans in Canada
- X – data suppressed
- r – calculated by the author as a residual
- blank cells in a table are the equivalent of 0.0%

PPIC data that are identified as sources for many of the tables are generally available to the public through Statistics Canada's CANSIM series and can be accessed on the Statistics Canada website. Special tabulations prepared for the author that are identified as sources for some tables are not generally available.

4. In all cases, those plans with the most members were reviewed. In some cases (e.g., Vancouver), the reviewed plan is the only one that exists for city employees. However, there are other cases where a number of smaller plans exist in addition to the ones discussed here. In most cases, the existence of separate plans reflects a view that particular groups of employees are not appropriately served by the main plan for municipal employees. Such special arrangements are in place for police officers and firefighters, employees whose salaries exceed the upper limit on tax-deductible contributions, and municipal councillors.

5. Since 2000, municipal employee pension plans have shared the same financial difficulties as all defined benefit plans thanks to changes in financial markets (low interest rates and unpredictable stock market returns) and plan maturing. Many municipal employee plans have therefore made changes to contribution rates (generally increased them), changes to benefits (generally reduced them), and in some cases changes to the basic nature of the benefits promised.

6. City of Montreal pension plans changed in 2014 through provincial legislation. Due to data availability, the descriptive information included here is based on the plans as they existed prior to the reforms.

2. Pension Basics

Workplace pension plans (WPP) in Canada are designed to allow their long-service members to maintain the same standard of living in retirement that they had before retirement.⁷ This objective is often associated with a target level of retirement income expressed as a percentage of pre-retirement earnings.⁸

Workplace pension plans are one component of a fairly complex retirement income system in Canada. Generally speaking, retirees will have more diverse sources of income than prior to retirement. Retired members of WPPs have access to benefits under the Old Age Security (OAS) program and members with low incomes receive benefits from the Guaranteed Income Supplement (GIS).⁹ These plans are paid for by federal general revenues. The benefit level is not based on prior contributions or involvement in paid labour. Together, these plans provide a minimum income floor for all Canadians age 65 and older who satisfy residence requirements.¹⁰ Retirees are also entitled to benefits from the Canada and Quebec Pension Plans (CPP/QPP). These plans provide benefits that are linked to a person's level and continuity of earnings prior to retirement. They also require contributions prior to retirement that are a portion of pre-retirement earnings.¹¹

These publicly administered programs (OAS, GIS, and CPP/QPP) have an impact on the design of workplace pension plans and their role in replacing pre-retirement earnings. The public programs replace higher percentages of low earnings. In other words, a worker who makes \$50,000 per year will have more of their earnings replaced at retirement than someone who makes \$85,000. Thus,

7. Workplace pension plans are often referred to as Registered Pension Plans (RPPs) because they have to be registered with the Canada Revenue Agency to take advantage of tax measures that benefit them.

8. The replacement rate is retirement income expressed as a percent of pre-retirement earnings. Traditionally, a 70 percent replacement rate has been cited as a reasonable target, although in recent years, analysts have argued that this is too high. A straightforward comparison of retirement income with pre-retirement earnings is known as a gross replacement rate. Comparisons that factor in such things as the decreased spending on goods and services in the pre-retirement period that arise from saving for retirement and the favourable tax provisions after retirement are known as net replacement rates. A net replacement rate of 100 percent may be the equivalent of a gross replacement rate of 70 percent or less. See Wolfson (2011) for a detailed comparison of gross and net replacement rates.

9. For most retirees, the OAS will be a uniform flat rate benefit indexed to inflation. For retirees with annual incomes up to about \$72,000 in 2015, the OAS pays about \$6,800. Single retirees with incomes up to about \$25,000 and retired couples with incomes up to about \$38,000 receive the GIS.

10. The age of eligibility will be incrementally increased from age 65 to 67 from 2023 to 2029.

11. At the normal retirement age of 65, payable retirement benefits amount to 25 percent of pre-retirement earnings but only on earnings up to the Year's Maximum Pensionable Earnings (YMPE), which is roughly equivalent to average wages and salaries earned over a full year. In 2015, the YMPE is \$53,600.

the importance of workplace pension plans as a source of income in retirement increases with an employee's level of pre-retirement earnings.

The CPP/QPP shares an important common feature with workplace pension plans: its level of retirement benefits is linked to the amount of contributions made before retirement. The contributors' consumption of goods and services before retirement is reduced because they make pension contributions in exchange for the ability to purchase goods and services after retirement. Ideally, the pre-retirement sacrifice is balanced with the post-retirement benefit so that living standards remain roughly the same in both periods.

2.1 Uncertainties in the Provision of Retirement Income

Whether a person is saving for retirement on their own or participating in a workplace pension plan, it is common to have a retirement income target in mind, framed as a percentage of pre-retirement earnings. However, there are uncertainties that individuals and pension plans face in achieving these targets:

- future employment paths and earnings;
- the actual age of retirement;
- the end date of the retirement period;
- the rate of return on money set aside to provide a retirement income; and
- the future rate of inflation.

How these uncertainties are dealt with is a key consideration in the design and financing of WPPs.

2.2 Benefit Design

The design of workplace pension plans typically distinguishes between defined benefit (DB) and defined contribution (DC) plans. DB plans include a formula by which benefits will be paid at normal retirement age and other ages specified in the plan.¹² The level of contributions is reviewed at least every three years. A DC plan specifies a rate of contribution. The contributions are invested and, at retirement age, an annual income stream is established based on the assets accumulated on behalf of the members. The size of the income stream is not specified in advance.

In a pure DB plan, all of the uncertainties noted earlier are reflected in uncertain or variable contributions. In a pure DC plan, all of the uncertainties are reflected in uncertain or variable benefits.¹³

12. A typical formula would prescribe benefit payments as a multiple of years of service, times some measure of pre-retirement earnings, times a rate of annual benefit accrual (e.g., years of service \times 3 years highest average earnings \times 2.0 percent per year).

13. Variable benefits may involve a variable age of retirement and a variable amount of pension payment.

In their “pure” forms, DB and DC plans allocate uncertainties in their entirety to the contribution rate or the benefits respectively. In practice, there are many Canadian examples of largely DB plans that allocate some portion of their uncertainties to benefits. There are also examples, mostly outside of Canada, of DC plans that incorporate varying degrees of benefit certainty. Elements of DB and DC can be combined in a single plan.

2.3 Financing Defined Benefit Plans

The financing of DB plans is subject to regulations intended to ensure that pension plans have the resources they need to pay their promised benefits. In the private sector, there is the more specific objective of wanting to be reasonably confident that if the sponsoring employer goes bankrupt, the promised benefits can still be paid from the pension fund’s assets.

At least once every three years, Canadian workplace pension plans are required to prepare balance sheets that are filed with the regulators.¹⁴ Like all balance sheets, DB pension balance sheets identify and report a plan’s assets and liabilities as of a specific date.¹⁵

Canadian regulatory law requires most Canadian DB pension plans to prepare balance sheets on both a going-concern basis and on a solvency basis. The going-concern balance sheet is prepared on the assumption that the pension plan will last forever. It is therefore allowed to use assumptions that reflect long-term expected experience. The solvency balance sheet assumes that the DB plan will be terminated on the effective date of the valuation. It therefore uses more market-sensitive assumptions about investment returns. The solvency calculation produces more volatile results than the going-concern valuation and, in the current low-interest-rate environment, it also produces a higher liability amount. Actuaries preparing valuation reports have more discretion with respect to the assumptions used in a going-concern valuation than in a solvency valuation.

14. These calculations are embodied in actuarial valuation reports that have to conform to both regulatory law and actuarial standards. These reports also include the level of required contributions for the coming period between valuation reports and an account of how the actual experience of the plan compares with the last valuation report’s assumptions about the future.

15. The assets are overwhelmingly the investments the pension fund holds. The liabilities are a current estimate of the value of benefits promised to plan members. Calculating liabilities requires making assumptions about all future uncertainties. The assumption with the biggest impact on the size of the liability is the future returns on investment, or the discount rate.

Regulatory law also requires that contributions to a DB plan equal the cost of newly accruing benefits and include special payments to amortize any actuarial deficit (that is, a situation where actuarial liabilities exceed assets).¹⁶ Solvency deficits have to be amortized over five years and going-concern deficits over fifteen.¹⁷ The shorter amortization period for solvency deficits adds to the relatively greater volatility of contributions calculated on a solvency basis. Both the current service cost and the estimated liability are sensitive to the discount rate: a one percentage point change in the discount rate is likely to change the current service cost and the estimated liability by 15 to 25 percent.¹⁸ A higher discount rate will lower the current service cost and estimated liability but will increase the probability that actual investment returns will fall short of the discount rate and trigger the need for special payments to the pension plan to amortize an actuarial deficit.

DB plans are financed through a recurring cycle of estimating future experience, comparing estimated experience with actual experience, and making adjustments. The actual cost of a DB plan is not known until the last benefit payment is made to the last beneficiary.

Whether a DB plan is in surplus or deficit (i.e., its funded status) matters for several reasons. An actuarial deficit will give rise to the need for special payments that can be difficult for plan sponsors. Actuarial deficits often trigger benefit reductions so that underfunding can put benefits at risk. The shortfall in assets

16. The cost of newly accruing benefits is referred to as the current service or future service cost. Most Canadian WPPs calculate current service costs using a unit credit method. This method produces current service costs that will increase as the age of the active plan members increases. A minority of plans, including the B.C. Municipal Plan, use an entry age normal method, under the assumption that the age of new plan participants will remain constant over time. This produces more stable current service costs as the active members get older.

17. Cases where assets exceed liabilities are known as surpluses. They might be used to reduce contributions, pay for benefit improvements, or they might be saved as a reserve against adverse experience in the future. However, the ability to use them as a reserve is constrained by rules under the *Income Tax Act* that prohibit employer contributions to a DB plan when assets exceed liabilities by more than a fixed percentage, which was recently increased from 10 to 25 percent.

18. Seven valuation reports prepared in the recent past and reviewed in the preparation of this paper include sensitivity tests prescribed by the Canadian Institute of Actuaries in which current service costs and liabilities are calculated using a discount rate that is one percentage point lower than the one used in the base case. The liabilities are 13 to 18 percent higher in the alternative case and the current service costs are 17 to 29 percent higher. The OCA (2012b) established similar results for the federal Public Service Superannuation Plan. Based mainly on U.S. experience, McGill and colleagues (2005) argue that a one percentage point change in the discount rate will change current service costs by about 25 percent.

compared to liabilities also represents a lost opportunity for those missing assets to improve the funded status of the plan by earning a rate of return that is greater than the discount rate.¹⁹

2.4 Legal Responsibility and the Economic Burden of Pension Contributions

The legal responsibility for making pension plan contributions is reasonably clear. In the case of DC plans, the plan itself spells out the amount that employers and employees have to contribute. Traditionally, a DB plan specifies that the employer is responsible for making current service contributions minus any required employee contributions plus any special payments required to amortize actuarial deficits. This approach to employers' contribution-making responsibilities is known as the balance-of-cost approach.

What is less clear is where the economic burden of employer contributions falls. To the extent that required employer contributions are clearly foreseen, one would expect them to be accounted for in decisions about salaries and benefits. In other words, salaries and other benefits are lower than they otherwise would be since employer contributions are paid for through the reduction in other components of the employees' compensation. But DB plans can involve unexpected actuarial deficits that result in special payments. To the extent that special payments trigger adjustments to other components of the employees' compensation, the cost is shifted to the employees. But one can imagine situations where labour market conditions and/or contractual obligations might limit an employer's ability to change other parts of the employees' compensation – at least in the short run. For example, if bad actuarial news was received during the term of a collective agreement, it might not be possible to change other elements of employee compensation to account for increased pension contributions. In this context, the allocation of legal responsibilities for making contributions will also indicate where the economic burden falls.²⁰ Although the level of contributions to a workplace pension plan is important, the more important question for employers who sponsor such plans is the impact on total compensation. If the pension plan costs are fully accounted for by changes in other components of the compensation package, then the level of pension contributions is of little consequence. If the pension contributions are not accounted for in this way, then the opposite will be true.

The level of pension contributions is usually thought of as an employer's issue because of their legal responsibilities for making them. But to the extent that the pension contributions reduce salaries and other benefits, it is possible

19. There is a rate of return equal to the discount rate embedded in the amortization payments.

20. Pesando (2008) provides a good review of this issue.

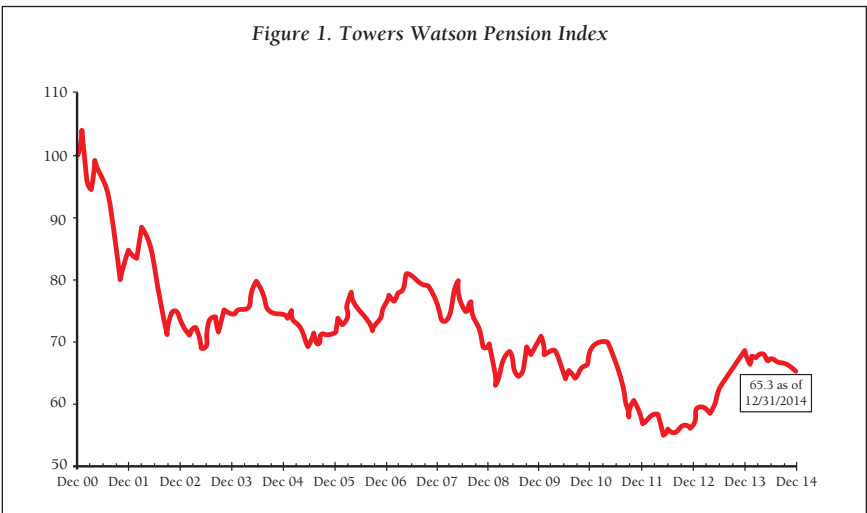
that contributions are depressing pre-retirement living standards below post-retirement levels.²¹

2.5 Level and Volatility of Pension Contributions

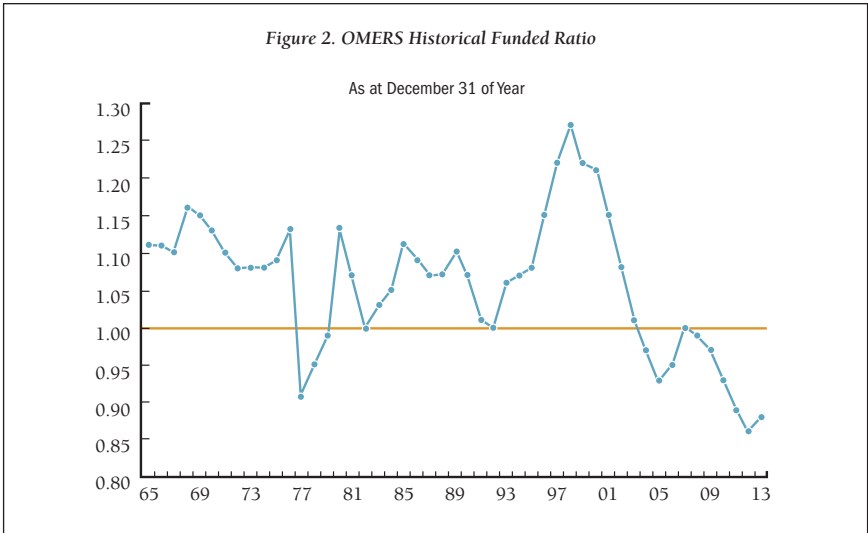
Because of its potentially unexpected impact, the volatility of pension contributions can be linked to the level of contributions. In the early part of the 21st century, investment returns have been volatile and declining interest rates have lowered solvency discount rates directly and going-concern rates indirectly. Figures 1 through 3 illustrate these difficulties.

Figure 1 was produced by the Towers Watson actuarial consulting firm. The funded status is measured on the vertical axis with 100 reflecting a situation where assets equal liabilities. The figure shows how the funded status of a DB pension plan would change since December 2000 based on changes in financial markets. Demographic and other factors are held constant in the index. The liabilities are based on corporate bond yields and are more market sensitive than the going-concern liabilities of municipal employee pension plans, but they still convey a reasonable sense of how changes in financial markets have affected funded status.

The financial difficulties facing defined benefit pension plans in general and municipal employee pension plans since 2000 are also captured in Figures 2 and 3 from the OMERS Sponsors Corporation 2013 annual report. Figure 2 shows the plan’s funded ratio from 1965 through 2013 and Figure 3 shows the OMERS contribution rate over that period. In both figures, the horizontal axis represents



21. Baldwin (2012) argues that some Canadian public sector pension plans may be approaching this level of contributions.



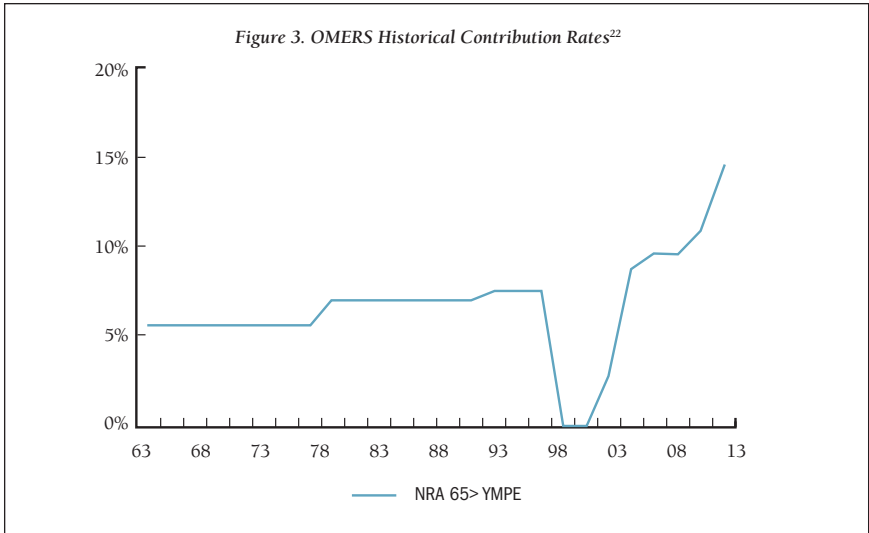
years from 1965 through 2013. In Figure 3, the vertical axis is the level of employer and employee contributions. The data in these charts are for December 31 of the year identified on the horizontal axis.

The rapid deterioration of the plan’s funded status and the rapid increase in the contribution rate since 2000 is striking. Figures 2 and 3 convey an experience unique to OMERS but they also show two general truths: the financial situation of DB plans can change quickly, and the early 2000s have not been a comfortable time for DB pension finances.

2.6 Plan Maturity

As DB pension plans mature, they become harder to manage financially in a number of ways. First, early on, a DB plan’s revenues come primarily from relatively predictable employer and employee contributions. Over time, the balance in revenue sources tends to shift to less predictable investment returns. Second, benefit payouts tend to be minimal in the early years but grow over time. Liquidity needs are relatively low in the early years and can be satisfied with contribution inflows. Thus, long-term and relatively illiquid investments are viable investment choices for young plans, but this advantage of youth diminishes with time. Third, over time, pension liabilities grow in relation to pension payroll, as does each percentage point of actuarial deficit and related amortization payments.

In its 2012 annual report, the Ontario Teachers’ Pension Plan (OTPP 2012) illustrated the problems that can arise when a plan matures by noting the impact on required contributions arising from a 10 percent drop in the value of plan assets at different points in its history. Specifically, in 1970, 1990, and 2012, a 10 percent



drop in asset values would have triggered increases in contributions of 0.6 percent, 1.9 percent, and 4.7 percent respectively.

2.7 Key Lessons

Several key points emerge from this review of pension basics:

- 1) There is a high degree of uncertainty in the provision of pension benefits.
- 2) The more certainty that is established with respect to the benefits in a DB plan, the more uncertainty there will be with respect to the contributions and vice versa.
- 3) The financial situation of pension plans is subject to rapid change.
- 4) Although DB plans are properly thought of in terms of their benefit design, they have a history of being associated with balance-of-cost financing and governance under the control of the plan sponsor.

3. Organizational Structure, Governance, and Administration

Within Canada, municipal employee pension plans have three distinct organizational structures. In provinces east of Ontario, pension plans for

22. This figure shows the employee contribution rate on earnings above the CPP year's maximum pensionable earnings for OMERS members with a normal retirement age of 65. It is adapted from the OMERS 2013 Sponsors Corporation annual report (OMERS 2013). The original figure showed contribution rates above and below the YMPE for members with normal retirement ages of 60 and 65.

municipal employees are organized municipality by municipality. In Alberta, British Columbia (B.C.), and Ontario, single province-wide plans provide pensions to all municipal employees. In Manitoba and Saskatchewan, province-wide plans provide pensions to employees of small municipalities and rural districts, while larger cities operate their own plans.

There are three layers to the governance structure and administration of these pension plans.²³ There is a body that is responsible for:

- 1) establishing key parameters: benefits, contributions, and the age of eligibility for benefits;
- 2) strategic management: establishing funding and investment policies; dealing with pension regulators; contracting for external professional services such as actuaries, investment managers, and lawyers; establishing communications policies; and adjudicating disputes over plan rules; and
- 3) daily administration.

The first of the three layers of governance and administration typically involves agreement between governments and plan members.²⁴ In some cases, a decision-making body with an ongoing presence is created to resolve issues (e.g., OMERS Sponsors' Corporation). In other cases, the basic plan parameters are established through arrangements such as collective bargaining that do not involve a permanent organizational structure.

Even in cases where the plans appear to give unilateral authority to a single party to amend a plan, changing the plan might not be that simple. For instance, Alberta's Local Authorities Pension Plan (LAPP) is embedded in regulations and the Minister of Finance and Cabinet appear to have a great deal of scope to change the regulations. But the LAPP's "Mandate and Roles" document requires that many important changes can be made only on the recommendation of, or after consultation with, the board of the LAPP. The City of Saskatoon pension plan provides another example: it is embodied in a municipal bylaw that would seem to make it subject to the City's control. However, the City has entered into collective agreements with some, but not all, of its unionized employees requiring that the plan not be changed except through the parties' agreement.²⁵ The City of Winnipeg can reduce pension benefits only if city council adopts resolutions supported by a two-thirds vote of council members.

23. Because there are no aggregate data on these governance and administration functions, any generalizations will rely on information gathered from the individual plans. Table 1 summarizes how these issues are addressed in the plans under observation.

24. In province-wide plans, the provincial government is the relevant government; in municipal plans, it is the municipal government.

25. Saskatoon's collective agreements with the Canadian Union of Public Employees (CUPE) require CUPE's agreement to change the CUPE members' pension plan. That is not the case with the Amalgamated Transit Union (ATU) collective agreement.

The second layer of governance and administration has less variability. As Table 1 shows, virtually all of the plans have created a board of equal numbers of employer and plan member representatives to handle strategic management issues. Here, the major variability is in how many of the plan member representatives are appointed by unions. In Table 1, the number of union appointees and all board members is noted in parentheses.

Specialized pension administration organizations make up the third layer of governance and administration. They typically handle the daily administration of municipal employee pension plans. In the case of Alberta, B.C., and Saskatchewan, these specialized organizations serve a number of different pension plans for employees in the public sector. In the case of Halifax, Montreal, and Winnipeg, the specialized bodies operate at the municipal level, and in the case of Montreal, the body provides services to the city's six different plans. The city of St. John's outsources its daily administration.

In addition to these three governance and administrative functions, there is also a fund management function. OMERS stands out for having large in-house investment capacity. In Alberta and B.C., the municipal employee pension plans invest their funds through provincial investment management organizations that also provide fund-management services to other pension plans in the provincial public and near-public sectors (e.g., universities and colleges) and other provincial government funds (e.g., the Alberta Heritage Fund and the WorkSafe BC Accident Fund). For the other plans, the body responsible for strategic management usually hires external fund managers on contract.

These general features of governance and administration reflect the situation in the plans under observation. But it is important to remember that these plans are not a random sample of municipal employee pension plans in Canada or of workplace pension plans in general. As Tables 3 and 4 indicate, their relatively large sizes make it more reasonable to develop specialized governance and administrative capacity.²⁶

The discretion of decision makers in these different structures is constrained because constitutionally, municipalities are creatures of provincial governments and because of several bodies of legislation. The constitutional reality has facilitated the development of province-wide pension organizations. But there have also been occasions in the recent past where provincial initiatives have been designed to resolve financial issues with municipal plans in Alberta, New Brunswick, and Quebec.

With respect to constraints arising from legislation, there can be important interactions between pension plans and collective bargaining legislation. The non-managerial employees of municipalities who belong to the pension plans

26. The positive role of size on investment returns is discussed in Ambachtsheer (2007); Dyck and Pomorski (2011); McFarland (2013); and Morneau (2012).

Table 1. Governance, plan parameters, strategic management, daily administration, and investment management

	Plan parameters	Strategic management	Daily administration	Investment management
B.C. Municipal	Partners' Agreement	Joint board of trustees (7 of 16 union)	B.C. Pension Corporation	B.C. Investment Management Corporation
LAPP	Government of Alberta	Board of directors/ trustees (4 of 14 union) ^a	Alberta Pension Services Corporation	Alberta Investment Management Corp
Saskatchewan Municipal	Government of Saskatchewan	Municipal Employees Pension Commission (2 of 10 union)	Public Employees Benefits Agency (PEBA)	Outsourced
Saskatoon	City council	Board of trustees (4 of 9 union)	City administration	Outsourced
Manitoba Municipal	Board of trustees	Board of trustees (1 of 8 union + 2 elected by members)	Municipal Employees Benefit Program	Outsourced
Winnipeg	City council	Board of trustees (5 of 12 union)	WCEBP ^b management and staff	Outsourced
OMERS	OMERS Sponsors Corporation (SC) (7 of 15 union) ^c	OMERS Administration Corporation (named by SC)	OMERS Administration Corporation	In house
Montreal Blue Collar	City of Montreal/ Province	Commission (3 of 12 union)	Bureau des régimes de retraite de Montreal	La Commission de la Caisse Commune ^d Outsourced
Montreal White Collar	City of Montreal/ Province	Commission (3 of 12 union)	Bureau des régimes de retraite de Montreal	La Commission de la Caisse Commune Outsourced
Montreal Firefighters ^e	City of Montreal/ Province	Commission (3 of 12 union)	Bureau des régimes de retraite de Montreal	La Commission de la Caisse Commune Outsourced
Saint John	Board of trustees (4 of 8 union) ^e	Board of trustees (4 of 8 union)	Under the supervision of the board of trustees ^f	Outsourced
Halifax	Pension Committee with the approval of bargaining agents and municipality	Pension Committee (5 of 12 union)	HRM Pension Office	Outsourced
St. John's	City of St. John's	City of St. John's	Outsourced	Outsourced

a There are six employee representatives including non-union management employees. **b** Winnipeg Civic Employees Benefit Program. **c** There is an independent chair. **d** The full name of this entity is La Commission de la Caisse Commune Régime des Rétraite des Employés de la Ville de Montréal. **e** There are two important limitations on the trustees' decision-making authority. They cannot amend the board's composition or make decisions on benefits and contributions outside the framework of the funding policy. These decisions can be made only through agreement between the city and the relevant unions. **f** Some specific functions are purchased from the city on a fee-for-service basis.

are typically represented by unions. But two other bodies of law also bear on the operation of municipal employee pension plans: pension benefits legislation and the *Income Tax Act*. All municipal employee pension plans in Canada are subject to both types of legislation.

Each province (except for Prince Edward Island) has pension benefits legislation that applies to pension plans for provincially regulated industries and municipalities. Federal legislation applies to municipal employee plans in the territories. The legislation touches on many aspects of pension plan operation. Details of the legislation vary from province to province. For the purposes of this study, it is reasonable to focus on funding requirements – an aspect of the pension benefits legislation that is reasonably similar in all jurisdictions. Municipal employee pension plans in all jurisdictions are exempt from solvency requirements. In most jurisdictions, this exemption has only been offered in recent years.

Similar to the pension benefits legislation, the *Income Tax Act* impacts many aspects of workplace pension plans. Most important are the limits imposed on the generosity of DB benefits. Annual rates of benefit accrual are limited to 2 percent of a plan member's best three consecutive years of earnings and eligibility for unreduced early retirement benefits is limited to age 60, 30 years of service, or age plus service equals 80. With respect to the latter, employees in public safety occupations such as police officers and firefighters can become eligible five years earlier.

Other bodies of law (e.g., family property law) also affect the operation of workplace pension plans in Canada but have less of an impact.

3.1 Key Lessons

Several key points emerge from examining structure and organization:

- 1) The organizational base of municipally based plans east of Ontario differs from the organizational base of primarily provincially based plans west of Quebec.
- 2) The parameters and strategic direction of the plans vary in their detail but typically engage employer representatives and plan members.
- 3) Aside from St. John's, the studied plans have specialized bodies handling daily administration, which is common for larger pension plans.
- 4) West of Quebec, it is common to find either large in-house investment organizations or large provincial investment organizations, but this is not common east of Ontario.
- 5) The discretion of pension plan decision makers is constrained by regulatory, tax, and other bodies of law.

4. Plan Membership

One would expect the direct employees of municipal governments to belong to municipal employee pension plans. But do all classes of employees belong to these plans? Do employees of other organizations belong to them? Are they big plans? Are they growing? What is their gender makeup?

Several dimensions of plan membership are examined here:

- how plan membership is defined and who participates;
- the size of the plan (that is, the number of members);
- how the membership is broken down among active (still employed) members, pensioners and survivors, and others; and
- the gender composition of the active membership.²⁷

4.1 Definition of Plan Membership

Most of the plans in this study define membership as an employee whose employer participates in the plan.²⁸ Participation is typically compulsory for full-time employees and voluntary for employees who have the right to participate under provincial regulatory law.²⁹ Some plans make the participation of part-time employees compulsory. Municipal employee pension plans invariably make specific provision for public safety employees – particularly police officers and firefighters – either through special provisions in a plan designed for all employees or by establishing a separate plan.

There are variations on these general definitions. For example, there are plans that define membership in terms of specific employee groups. The City of Montreal has six pension plans for its employees that are administered by the Bureau des régimes de retraites de Montréal, three of which are defined specifically in terms of collective bargaining participants. This is the case for the three plans included in this study. Their memberships are Montreal outdoor workers (blue collar), indoor workers (white collar), and firefighters.

Table 2 summarizes membership characteristics of the plans addressed in this study.

27. Questions about plan size and gender composition can be answered in both the aggregate with Statistics Canada data and with individual plan data. Questions of membership definition and composition (items 1 and 3) can be addressed only through individual plan data.

28. When definitions of this sort are used, direct employees of participating municipalities are inevitably included. But in many municipal employee pension plans – especially in the province-wide plans – participating employers might also include: library boards, school boards for nonteaching staff, local health boards and agencies, province-wide municipal agencies, and so on.

29. Typically, regulatory law establishes the part-time employee's right to join a plan after two years of employment with earnings (or hours) above a threshold level.

Table 2. Characteristics of plan memberships

	Definition of participants	Compulsory/voluntary participation	Provision for police and firefighters
B.C. Municipal	Employment by participating employer	Compulsory for full-time employees and others designated by employers. Voluntary for part-time employees with earnings above a threshold.	Special provisions
LAPP	Employment by participating employer	Compulsory for full-time employees and part-time employees who are employed beyond a minimum hours threshold	Special provisions
Saskatchewan Municipal Plan	Employment by participating employer	Compulsory for permanent employees and voluntary for non-permanent employees	Special provisions
Saskatoon	Employment by participating employer	Compulsory for full-time employees ^a	Separate plans
Manitoba Municipal	Employment by participating employer	Compulsory for full-time employees; voluntary for others	Not mentioned in documentation
Winnipeg	Employment by participating employer	Compulsory for all earning more than 25% of YMPE	Separate plan for police
OMERS	Employment by participating employer	Compulsory for full-time employees and others designated by employers; otherwise voluntary for non-full-time employees	Special provisions
Montreal Blue Collar	By occupational group	Compulsory for full-time employees and part-time employees who meet minimum standard requirements ^b	Police are not covered by the six plans managed by the Bureau.
Montreal White Collar	By occupational group	Compulsory for full-time employees and part-time employees who meet minimum standard requirements	Police are not covered by the six plans managed by the Bureau.
Montreal Firefighters'	By occupational group	Compulsory for full-time employees and part-time employees who meet minimum standard requirements	Police are not covered by the six plans managed by the Bureau.
Saint John	Employment by City of Saint John	Compulsory for full time and part time employees	Special provisions
Halifax	Employment by participating employer	Compulsory for full-time employees; voluntary for others	Special provisions
St. John's	Employment by St. John's and neighbouring communities	Compulsory	Special provisions

^a There is a separate plan for seasonal and part-time employees. ^b The Quebec *Supplemental Pension Plans Act* requires pension plans to permit part-time employees to join a workplace pension plan if in any year their earnings exceed 35 percent of the YMPE or they are employed for more than 700 hours. Similar provisions are found in the regulatory law of other Canadian jurisdictions.

Table 3. Percentage distribution of active plan members by plan size

Number of active plan members	All Mun	Mun East	Mun West	All WPP	Public WPP	Private WPP
<50	0.7	2.9	0.2	1.8	0.9	3.3
50–99	0.7	4.9	0.1	1.6	0.5	2.9
100–499	2.9	19.1	0.5	7.6	1.7	13.7
500–999	2.4	12.4	0.8	5.1	1.2	9.2
1000+	93.3r	60.7r	98.4r	83.9r	95.7r	70.9r

Source: All WPPP CANSIM 280-0010 2013. All Mun PPIC special tabulation prepared for the author.

4.2 Membership Size

Large membership size has important advantages. Table 3 provides data on membership in municipal employee pension plans of different sizes in 2013. Membership in municipal employee pension plans is more concentrated in plans with 1,000 or more active members than is true of all WPPs or of private sector WPPs. However, this concentration is accounted for by plans west of Quebec, which are slightly larger than public sector pension plans as a whole. The membership in municipal employee pension plans east of Ontario is less concentrated in plans of 1,000 or more than in workplace pension plans as a whole. Indeed, there are many plans east of Ontario with less than 50 members.

The plans in this study are larger than both municipal pension plans and workplace pension plans as a whole. Only the plan in Saint John, New Brunswick, has less than 1,000 active members. Three of the plans have more than 100,000 active members.

Table 4 identifies the total size of the observed plans' membership and breaks down total membership into three components: actively employed plan members; beneficiaries (retirees and survivors); and others. The relative size of the beneficiary population is quite important. Generally speaking, as the size of that population grows, pension plans with defined benefit components become harder to manage as the funded ratio grows more volatile.

Table 4 provides insight into changes in the portion of the total membership made up of beneficiaries. In this table, the numbers of plan members based on a recent observation are identified in bold while the non-bold numbers are based on an earlier observation.

In most plans, the portion of the total membership accounted for by active members (i.e., currently employed members) declined even though the numbers of active members grew – in some cases quite strongly. The plans in the City of Montreal grew as a result of municipal amalgamations rather than net new hiring.

The only city where the active membership declined in absolute numbers was Saint John, New Brunswick.

In reading Table 4, it is important to keep in mind that:

- The years the observations were made are identified in the second column from the left.
- The percentage in round brackets immediately beside or below the numbers of each type of plan member is the percentage of the total membership in each category.
- The stand-alone multiples in square brackets in the active category express the size of the active membership in the recent observation as a multiple of the earlier observation.

4.3 Gender Composition

Patterns of adult working life differ between women and men. Female members of pension plans often accumulate fewer years of service than males even if they have the same start and end dates to their working lives because women with children may choose to take a temporary leave from the workplace. In addition, women generally have longer life expectancies at any given age, although the gap in life expectancies has narrowed somewhat in recent years and is expected to continue to narrow in the future (see OCA 2012a). The cost difference associated with longer life expectancy is attenuated somewhat in many of the municipal employee pension plans, thanks to the presence of survivor benefits that are paid in addition to unreduced retirement benefits.

The membership of municipal employee pension plans across Canada has a 58:42 ratio of females to males. The predominantly female membership is accounted for by the plans west of Quebec which have a female-to-male ratio of 60:40. The plans east of Ontario are smaller and have a 36:64 ratio of females to males. The ratio of women to men in the municipal employee pension plans east of Ontario is more similar to private sector pension plans in Canada than to public sector plans. Across the country, the ratio of females to males is slightly less than in the public sector plans as a whole.

The data available from individual plans are very limited. They are consistent with the east-west difference noted in the aggregate data but suggest some variability in the West. The plans in Saint John and St. John's are striking in terms of their predominantly male membership. The B.C. municipal plan is predominantly female. In the few cases where data are available for two points in time, the female portion of the membership has grown.

An interesting question that cannot be answered with the existing data is whether there are major differences in the gender composition of specific occupational groups within municipal plans. Or do the observed differences in gender composition reflect that the plans' participants have different occupations?

Table 4. Membership composition: Actives and others

	Year	Actives (%)	Beneficiaries (%)	Others %	Total
B.C. Municipal	2013	182,053 (63%)	75,284 (26%)	33,630 (11%)	290,967
	2003	128,267 (68%) [1.42]	41,681 (22%)	18,648 (10%)	188,596
LAPP	2012	145,933 (66%)	48,866 (22%)	27,400 (12%)	222,199
	2003	100,318 (68%) [1.45]	30,883 (21%)	15,907 (11%)	147,108
Saskatchewan Municipal	2013	14,858 (63%)	4,814 (21%)	3,783 (16%)	23,455
	2004	11,851 (66%) [1.25]	3,367 (19%)	2,792 (16%)	18,010
Saskatoon	2013	2,534 (61%)	1,249 (30%)	348 (8%)	4,131
Manitoba Municipal	2013	3,488 (61%)	1,882 (33%)	374 (7%)	5,744
	2002	2,755 (67%) [1.27]	1,133 (27%)	254 (6%)	4,142
Winnipeg	2013	8,864 (42%)	7,103 (53%)	803 (5%)	16,709
	2004	8,231 (55%) [1.08]	5,837 (39%)	849 (6%)	14,917
OMERS	2013	263,808 (60%)	127,463 (29%)	39,557 (9%) deferred	439,528
	2003	217,593 (63.6%) [1.21]	93,072 (27.2%)	31,440 deferred and inactive (9.0%)	342,105
Montreal Blue Collar	2013	5,699 (52%)	5,058 (46%)	131 (1%)	10,888
	2007	3,887 (43%) [1.47]	5,072 (56%)	71 (1%)	9,030
Montreal White Collar	2013	7,635 (59%)	4,872 (38%)	325 (3%)	12,832
	2007	4,776 (42%) [1.60]	4,396 (47%)	175 (2%)	9,347
Montreal Firefighters'	2013	2,370 (50%)	2,345 (50%)	13 (0%)	4,728
	2007	2,241(50%) [1.06]	2,297 (51%)	9 (0%)	4,472
Saint John	2014	852 (49%)	800 (46%)	72 (4%)	1,724
	2004 ^a	858 [0.99]	728		
Halifax	2012	5,627 (60%)	3,288 (35%)	435 (5%)	9,350
	2006	5,123 (63%) [1.10]	2,537 (32%)	381 (5%)	8,041
St. John's	2013	1,118 (66%)	391 (24%)	123 (8%)	1,632
	2003	924 (72%) [1.21]	205 (16%)	143 (11%)	1,272

a The 2004 Saint John annual pension report gives data on only active members and beneficiaries.

Table 5. Gender composition of municipal employee pension plans

	Mun All	Mun West	Mun East	WPP All	WPP Pub	WPP Pri
Female #	442,696	303,980	34,730	3,092,511	1,996,266	1,096,245
Male #	320,944	205,099	60,997	3,092,479	1,183,046	1,909,433
Total	763,640	509,079	95,727	6,184,990	3,179,312	3,005,678
Female %	58%	60%	36%	50%	63%	36%
Male %	42%	40%	64%	50%	37%	64%

Table 6. Gender composition of active members in the plans studied

	Year	Males	Females
B.C. Municipal	2013	27%	73%
	2003	30%	70%
Saskatchewan Municipal	2004	39%	61%
Saskatoon	2012	60%	40%
Manitoba Municipal	2013	65%	35%
OMERS	2013	44%	56%
	2003	48%	52%
Saint John	2013	81%	19%
Halifax	2013	53%	47%
St. John's	2013	75%	25%
	2003	78%	22%

4.4 Key Lessons

The membership of municipal employee pension plans has several distinguishing features:

- 1) Compared to most workplace pension plans in Canada, the plans in this study are large and there are advantages to size.
- 2) Most plans are experiencing growth in their active membership that is substantial in some cases. This growth helps the plans' financial situation.
- 3) There are exceptions to the general picture. There are plans in which half of the membership is retired and there are plans experiencing slow or negative growth in their active membership.
- 4) The gender composition of the plans varies widely. Plans east of Ontario tend to be predominantly male whereas the opposite is true west of Quebec.

5. Benefits Provided by Municipal Employee Pension Plans

We now look at the portion of municipal employee pension plan members who are in DB plans versus DC plans and compare this with the situation in other sectors. We also look at the basic type of benefit in the plans under observation.³⁰

Beyond the basic benefit design, pension plans – especially DB plans – include a number of detailed benefit provisions. Three benefit provisions that are central to the generosity of benefits are:

- the rate at which benefits accrue each year;
- the indexation of benefits payments; and
- access to early retirement benefits.³¹

5.1 Basic Benefit Type: Defined Benefit Versus Defined Contribution

Members of municipal employee pension plans in Canada are more likely to belong to a DB plan than are members of private sector workplace pension plans, members of all public sector pension plans, and members of all workplace pension plans in Canada (see Table 7). However, this generalization holds more strongly for plans west of Quebec than it does for plans east of Ontario.³² In the private sector, a number of plans are transitioning from DB to DC.³³ The row in Table 7 marked DB/DC identifies the portion of the plans' memberships that are in this type of transitioning process.

The distinction between DB and DC has become less clear in recent years because plans that were “purely DB” have shifted some of the financial risk from the contribution rate to the benefits.³⁴ This shift from pure DB has typically been prompted by financial difficulties experienced since the turn of the 21st century.

Among the plans under observation, all but two (Saint John and Winnipeg) can reasonably be described as DB plans.³⁵ Many of the DB plans have some degree of contingency attached to the provision of benefits, summarized in Table 8.

30. Because pension plans can and do have elements of both types of plans, Table 8 also identifies aspects of DB plans where benefits are contingent on the plan's financial situation.

31. This paper focuses on early retirement benefits that do not involve full actuarial reduction.

32. The Statistics Canada data cited here come from the PPIC database, which only includes data from registered pension plans. It excludes data on group RRSPs, which are by their nature DC. As Baldwin (2015) notes, there are about three times as many participants in group RRSPs as in registered DC plans – largely in the private sector.

33. These plans have historically been DB plans but new entrants are covered by a DC component.

34. This shift is often made by limited degree. For example, a number of pension plans in the provincial near-public sector have made the indexation of benefits contingent on the funded status of the plans.

35. Some DB plans permit voluntary contributions on a DC basis.

Table 7. Percentage of pension plan members who participate in plans of different types, 2013

	All Mun	Mun East	Mun West	All WPP	Public WPP	Private WPP
DB	97.5	88.3	99.2	71.5	94.2	47.5
DC	2.0	7.5	0.8	16.7	4.6	29.4
DB/DC	X	X		9.4	0.4	18.9
Other	X	X		2.4r	1.0r	4.2r

Sources: CANSIM 280-0016 and custom tabulations of PPIC data prepared for the author. See the box on page 5 for abbreviations, Xs, and blank cells.

In both Saint John and Winnipeg, the contingent element applies to both accrued and future benefits. As a result, it is more appropriate to describe these plans as “target benefit” (TB) plans.³⁶ They establish a target level of benefits, which will be delivered only if the plan’s financial circumstances permit. In the case of Saint John, the shift to this type of benefit was part of a highly publicized response to serious financial difficulties in a number of New Brunswick pension plans, mainly in the public and near-public sectors.

In the future, the plans for City of Montreal employees will also become target benefit plans as a result of changes established through provincial legislation. The pension plan for the City of St. John’s was DB until 2015 when new entrants were required to participate in a DC component of the plan.³⁷

Indexation in six of the plans is based on their funded status. Inflation protection in the B.C. Municipal Plan is limited to what can be provided from the Inflation Adjustment Account. Starting in 2016, there will be a cap on annual adjustments that is set initially at 1.95 percent. The size of the cap will be reviewed regularly. Four more (the three Montreal plans and St. John’s) provide fixed annual percentage adjustments – meaning that the plan members bear the risk of inflation above the fixed adjustment level.³⁸ OMERS remains formally a DB plan but, at the time of writing, has a temporary benefit reduction in place and is considering alternative benefit reductions for the future. According to the 2013 annual report of the OMERS Sponsors’ Corporation, contributions to that plan have risen to a level that approaches the outer limit of what is acceptable.

36. To date, most of the target benefit plans in Canada have been introduced in the public and near-public sectors. See Steele, Mazerolle, and Bartlett (2014) for a discussion of their applicability to the private sector.

37. The City of Saskatoon has a DC plan for part-time employees.

38. Indexation arrangements are discussed further on page 30.

Table 8. Basic type of pension in plans being studied

	Basic benefit type	Contingent elements
B.C. Municipal	DB	Indexation
LAPP	DB	Indexation above 60% of Alberta CPI
Saskatchewan Municipal	DB	Indexation contingent on solvency surpluses
Saskatoon	DB	Indexation is provided by surplus
Manitoba Municipal	DB	Indexation is linked to funded status
Winnipeg	TB	All benefits are subject to a possible reduction. See indexing comment.
OMERS	DB	None
Montreal Blue Collar	DB*	Formally none but members bear inflation risk
Montreal White Collar	DB*	Formally none but members bear inflation risk
Montreal Firefighters'	DB*	Formally none but members bear inflation risk
Saint John	TB	All benefits
Halifax	DB	Indexation
St. John's	DB and DC ^a	Formally none but members bear i nflation risk

*This descriptor of the Montreal plans applies to the period prior to the legislated changes to the plans. **a** Effective January 1, 2015, new hires will be required to participate in a DC plan.

5.2 Annual Rates of Benefit Accrual/Benefit Formulae

As Table 9 indicates, nearly all members of municipal employee pension plans (98.2%) belong to plans with a 2 percent annual rate of benefit accrual, which is consistent with ITA rules governing maximum allowable defined benefits.³⁹ By comparison, this is true of barely half of all workplace pension plan members and 13 percent of private sector plan members. Part of the reason is that members of private and all pension plans are less likely to belong to DB plans. But even if our view is restricted to private sector DB plans with benefits based on earnings, only about 65 percent of plan members would have a 2 percent rate of benefit accrual – still well below the level found in municipal employee pension plans.

39. Members of plans west of Quebec are more likely to have a 2 percent annual rate of benefit accrual.

Table 9. Annual rate of benefit accrual % of members⁴⁰

	All Mun	Mun East	Mun West	All WPP	Public WPP	Private WPP
< 1.5%				1.6%		X
1.5–1.74%	0.8%	X	X	2.4%	2.7%	X
1.74–1.99%	0.2%	X	X	1.5%	1.2%	2.2%
2.00%	98.2%	89.9%	98.6%	51.2%	87.2%	13.2%
>2.0%	0.4%	X	X	0.1%	0.2%	

Source: All WPPP CANSIM 280-0022 2013. All Municipal PPIC special tabulation prepared for the author. See the box on page 5 for abbreviations, Xs, and blank cells.

Of the specific plans observed, all but three are integrated with the CPP/QPP and have annual rates of benefit accrual on earnings above the YMPE of 2 percent per year (see Table 10).⁴¹

There is somewhat greater variability in terms of the rate of benefit accrual up to the YMPE. A 1.3 percent annual rate of benefit accrual times 35 years of service will produce a benefit of almost exactly 45 percent which, when added to a CPP/QPP benefit of 25 percent of pre-retirement earnings, will produce a combined benefit of 70 percent. The 70 percent benefit from the CPP and WPP on earnings up to the YMPE is the same benefit as will be generated by the workplace pension plan on earnings above the YMPE after 35 years of service. Several of the plans have annual rates of benefit accrual that are above the 1.3 percent level. These higher rates of benefit accrual on lower earnings affect the benefits that all plan members receive, but at the margin, have their biggest impact on plan members with lower earnings. There are also differences among the plans in terms of the period over which earnings are averaged for benefit calculations. Some plans use the highest three consecutive years of earnings, while others use a five-year averaging period. In plans that use relatively short periods for averaging earnings, plan members whose earnings rise rapidly just before retirement will get relatively high benefits for what they contributed to the plan.

40. Many WPPs that provide earnings-related benefits will have a dual-benefit rate structure. A lower benefit rate will be provided on earnings up to the CPP/QPP YMPE, and a higher benefit rate will apply to higher levels of earnings (e.g., 1.3 percent per year on earnings up to the YMPE and 2 percent on earnings above that level). Plans with this dual structure are said to be integrated with the CPP/QPP. In Table 9, integrated plans are grouped based on their higher rate of benefit accrual.

41. The exceptions are the Halifax Regional Municipality plan, the Montreal Firefighters' Plan, and the City of Saint John. Until the new risk-sharing plan was adopted in Saint John, it had provided for a 2 percent annual rate of benefit accrual.

Table 10. Annual rates of benefit accrual and formulae in plans being studied

B.C. Municipal	$1.3/2.0\% \times \text{yrs to } 35 \text{ yrs} \times 5 \text{ yrs BAE}^a + \text{bridge}^b$
LAPP	$1.4/2 \times \text{yrs} \times 5\text{yrs BAE}$
Saskatchewan Municipal	Greater of $1.3/2\%$ or $1.7\% \times \text{yrs} \times 3 \text{ yrs BAE}$
Saskatoon	$1.4/2\% \times \text{yrs} \times 5 \text{ yrs highest earnings for general and fire, police have } 2\% \times \text{all earnings}$
Manitoba Municipal	$1.5/2\% \times \text{yrs} \times 5 \text{ yrs BAE}$
Winnipeg	$1.5/2\% \times \text{yrs} \times \text{best } 5 \text{ of last } 10 \text{ yrs earnings}$
OMERS	$1.325/2\% \times \text{yrs to } 35 \times 5 \text{ yrs BAE}$
Montreal Blue Collar	Approx $1.5/2\% \times \text{yrs of service} \times 3 \text{ yrs BAE}^c$
Montreal White Collar	$1.5/2\% \times \text{yrs of service} \times 3 \text{ yrs BAE}$
Montreal Firefighters'	$1.95\% \times \text{yrs of service} \times 3 \text{ yrs BAE}$
Saint John	$1.8\% \times \text{yrs of service} \times 3 \text{ yrs BAE}$
Halifax	$2\% \times \text{yrs of service} \times 3 \text{ yrs BAE}$
St. John's	$1.4/2\% \times \text{yrs of service} \times 3 \text{ yrs BAE}$

a BAE stands for Best Average Earnings. b Some firefighters and police are entitled to an annual benefit accrual rate of 1.63/2.33 percent. c The actual formula is quite complex but amounts to approximately this.

Some plans cap the accumulation of service for accruing benefits to 35 years.⁴² As Schirle (2008) notes, this cap adds to the incentive to retire early.

5.3 Access to Special Early Retirement

Special early retirement refers to provisions that allow plan members to retire with unreduced benefits prior to normal retirement age or with a reduction that is less than the actuarial equivalent of what would have been paid at normal retirement age.

As Table 11 shows, almost all members of municipal employee pension plans have some access to special early retirement provisions. Table 12 shows similar results for the plans in this study. It also demonstrates that police officers and firefighters typically have earlier access to retirement benefits than others.

Although it is not indicated in Table 13, most plans provide enriched (bridging) benefits from the date of early retirement to age 65. The bridge is typically designed to account for the fact that “full” CPP and QPP retirement benefits are not available until age 65. In plans with a dual benefit rate, the bridge

42. Prior to the early 1990s, the maximum annual rate of benefit accrual in DB plans could only be accumulated for 35 years.

often takes a common form. The higher benefit rate is applied to all earnings up until age 65 and only at that point is the dual rate applied.

Table 11. Special retirement % of members

	All Municipal	All WPP	Public WPP	Private WPP
No special retirement	4.8%	33.2%	12.1%	55.5%
Age only	2.2%	5.0%	2.0%	8.2%
Years of service only	2.6%	9.4%	X	X
Age plus years equals	36.1%	7.6%	12.6%	3.1%
Age and years of service	1.2%	14.1%	19.3%	16.1%
Age or years of service	1.7%	1.6%	2.4%	1.6%
Age + age plus years equals	43.3%	9.3%	16.8%	2.7%
Age or age + years equals	0.2%	0.5%	0.4%	1.4%
Years + age + years equals	X		X	X
Years or age + years equals	X	3.6%	6.3%	1.9%
Combination of 3 conditions	4.1%	6.6%	3.0%	12.5%
Other	X	4.7%	6.6%	8.0%

See the box on page 5 for abbreviations, Xs, and blank cells.

In pension plans that provide reduced benefits (see Table 12), a benefit entitlement is established according to the basic benefit formula in the plan. A reduction is then applied with a specific percentage per month or year prior to the date when a plan member would become eligible for unreduced benefits. A reduction of 6 percent per year or 0.5 percent per month would approximate an actuarially equivalent reduction. Recently, the adjustment factor for the early receipt of CPP retirement benefits increased from 0.5 percent per month to 0.6 percent per month in graduated steps from 2012 to 2016, in order to have the early retirement adjustments more closely reflect an actuarial equivalent.⁴³ The early retirement reduction in most of the plans reviewed is far less than an actuarial equivalent reduction. The plans are clearly designed to facilitate early retirement.

See OCA (2006).

Table 12. Access to special early retirement benefits in plans being studied⁴⁴

	Unreduced conditions	Reduced less than/up to actuarial equivalent
B.C. Municipal	Age 65 or age + service = 90 Police and fire: Age 60 or age + service = 80	Age 55 or 50 for police and fire with benefits reduced by 3% per year
LAPP	Age 65 or age 55 & age + service = 85	Age 55 with benefits reduced by 3% per year
Saskatchewan Municipal	Age 65 or age + service = 80 Police and fire: 60 or 55 or 25 years or age + service = 75	Age 55 and 15 years benefits reduced by 3% per year Age 45 or age + service = 70
Saskatoon	Age 60, 35 years of service or age + service = 80 Police: age 55 or 25 years Fire: age 55 or 30	Reduction factor of 3.6% per year
Manitoba Municipal	Age 65 or age 60 + 5 years service or age + service = 80	Age 55 + 5 years service, reduced by 3% per year If less than 5 years service, actuarial reduction
Winnipeg	Age 65 or age 60 or age 55 and age + service = 80	Age 55 or age 50 and age + service = 80 or 30 years of service pensions reduced by 4% per year prior to threshold for unreduced pensions
OMERS	Age 65 or age + service = 90 or service = 30. Police and fire, age 60 or age + service = 85 or service = 30	Within 10 years of NRA ^c with a reduction of 5% per year
Montreal Blue Collar	Age 65 or age 60 + 30 years of service	Age 55 and 28 years of service, reduced by 3% per year; with less than 28 years, actuarial reduction
Montreal White Collar	Age 65 or 30 years of service or age 62 + 15 years of service	Age 55 if age + service = 80 reduced by 3% per year; with less than 80 factor, actuarial reduction
Montreal Firefighters'	Age 60 or age 50 or 25 years of service	Age 50 with less than 25 years reduced by 3% per year
Saint John	Age 65 ^a	Age 55 reduced by 6% per year.
Halifax	Age 65 or 60 or age + service = 80; Police and fire: age 60 or age + service = 75	Within 10 years of NRA, reduced by 0.5% per month.
St. John's	Age 65 or 60, ^b bridging to age 65; Police and fire: age 60	Age 55, reduction of 0.5% per month prior to 60

^a Prior to the conversion to the shared-risk plan, unreduced benefits were available when a member's age plus service equalled 85. Benefits earned prior to the conversion are still payable on that basis. ^b Some additional provisions exist for CUPE and NAPE members. ^c NRA refers to normal age at retirement.

44. The eligibility rules as summarized here are simplifications of complex sets of qualifying conditions. With respect to reduced benefits, higher reduction rates usually apply to plan members who don't satisfy the qualifying requirements identified in the table.

In municipal plans that include police officers and firefighters, it is common for employees to qualify for pensions at lower ages and with less service than is true of other employees. This is reflected in Table 12 in the column “Unreduced Conditions.” The first entry for each plan in this column identifies conditions that apply to employees who are not police officers and firefighters. The entry following the words “police and fire” are the conditions that apply to those employees.

5.4 Indexation

A majority of municipal employee pension plan members enjoy some degree of formal indexation of their pensions (see Table 13). Just over one in five members have indexation that fully matches movements in the Consumer Price Index (CPI). Indexation is provided to a higher portion of members of plans east of Ontario than west of Quebec.

Members of municipal employee pension plans are more likely to have some form of automatic adjustment to their benefits than members of private sector workplace pension plans, but less likely than the members of all public sector pension plans in Canada.

Table 14 shows the variety of arrangements in the plans observed with respect to inflation protection. Only one plan – OMERS, which is the largest – provides an open-ended commitment to index benefits to the full amount of increases in the CPI. Even in the OMERS case, the cap on annual adjustments means there can be a lag between the onset of a period of inflation and the date when benefits are adjusted. Most of the plans include a formal commitment to provide inflation protection but limit the degree of inflation based on their funded status. The plans in Montreal and St. John’s provide automatic adjustments of a fixed percent each year.⁴⁵ Their plan members therefore face the risk of inflation exceeding the annual adjustment amount.

5.5 Key Lessons

Several points emerge from examining municipal employee pension benefits:

- 1) Municipal employee pension plans in Canada are more likely to be DB than workplace pensions in the private sector.
- 2) For most long-service municipal employees, the benefits will allow them to maintain their standard of living in retirement. That said, there is some shifting away from pure DB designs and indexation is certainly not complete in most plans.
- 3) The design of the municipal employee plans has a strong emphasis on facilitating early retirement.

45. ITA rules require that the cumulative adjustment for an individual plan member not exceed the cumulative increase in the CPI over a plan member’s retirement period or fixed annual adjustments in excess of 4 percent per year.

Table 13. Indexation in municipal employee pension plans

	All Mun	Mun East	Mun West	All WPP (DB)	Public WPP (DB)	Private WPP (DB)
No automatic adjustment	44.2%	31.9%	59.6%	44.7%	25.7%	84.7%
Some automatic adjustment	55.8%	68.1%	40.5%	55.3%	74.3%	15.3%
Full CPI	22.0%	X	X	20.3	28.8%	2.4%

Source: All WPPP CANSIM 280-0025 2013. All Mun PPIC special tabulation prepared for the author. See the box on page 5 for abbreviations, Xs, and blank cells.

Table 14. Indexation in plans being studied

B.C. Municipal	What can be provided by the Inflation Adjustment Account to an annual cap
LAPP	60% of Alberta CPI guaranteed and more if funding permits
Saskatchewan Municipal	No formal provision; commission can grant adjustments based on solvency surpluses
Saskatoon	Provided from surplus
Manitoba Municipal	Up to 2/3 CPI increase or 5% if going-concern and solvency deficits can be avoided; partial adjustments can be made if solvency ratio is more than 90%
Winnipeg	Limit by the capacity of a Supplementary Benefits Account; payments likely to drop from 80% to 50% of CPI
OMERS	100% of CPI capped at 6% for a single year with carry forward
Montreal Blue Collar	1% per year
Montreal White Collar	1% per year
Montreal Firefighters'	1% per year
Saint John	Contingent on plan funding
Halifax	On an excess-earnings basis with the approval of the HRM Pension Committee
St. John's	1.25% per year

6. Contributions to Municipal Employee Pension Plans

6.1 Employee Contribution Rates

Employee contributions are the most visible sign of plan members giving up opportunities to consume goods and services during their working life to enjoy pension benefits later in life. They are also the least debatable in terms of where the economic burden falls.

Table 15. Percentage of plan members with different levels of contribution, 2013

Employee contribution rate	Mun All	Mun East	Mun West	WPP All	WPP Public	WPP Private
No contribution				15.4	0.2	31.5
<5%	0.7	X	X	7.7	2.8	12.7
5.0–5.9%	3.7	14.0	0.9	5.2	3.3	7.2
6.0–6.9%	5.8	19.6	4.2	4.9	6.1	3.7
7.0–9.9%	53.4	62.2	88.5	39.3	75	1.6
10.0 +	36.5	X	X			
Other				27.5		

Source: All WPPP CANSIM 280-0018 2013. All Mun PPIC special tabulation prepared for the author. See the box on page 5 for abbreviations, Xs, and blank cells.

Table 16. Employee contributions to plans under observation

B.C. Municipal	8.50/10.00% + 1.00% for indexation higher rate for some police and fire (9.02/10.52) + 1.42% for indexation 35-year maximum for all groups
LAPP	10.39/14.84% to maximum 35 years
Saskatchewan Municipal	8.15% and for uniformed 11.35% to decline to 9% in 2015
Saskatoon	7.8/9.4% rising to 8.4/10% in 2016; police: 9% + 50% of contributions over 17.5%; fire: 7.7% + 50% of additional contributions needed to meet funding requirements
Manitoba Municipal	8.4/9.6%
Winnipeg	9.0/11.2% averaging 9.5% in 2013 rising to 10% in 2014
OMERS	9/14.6% and for police and fire 9.3/15.9% ^a
Montreal Blue Collar	6.3/8.3%
Montreal White Collar	4.85/6.85%
Montreal Firefighters'	5.73/7.13%
Saint John	9% (12% for public safety occupations).
Halifax	12.31%
St. John's	8.1% for most; 6.95% and 7.5% for firefighters and some non-union members who have different benefit options ^b

^a Additional contributions are required of police and fire members for supplemental benefits. ^b The contributions to the DC plan are 6 percent of earnings for the first three years of employment, increasing to 7 percent thereafter. The employer matches the employee contributions..

The data in Table 15 indicate that members of municipal employee pension plans have larger deductions made from their wages and salaries than in other sectors. A greater portion of membership in municipal plans is concentrated in the very high contribution rate categories than in the public sector as a whole or in the private sector. Indeed, nearly one in three members of private sector RPPs belongs to plans in which there are no employee contributions. Within the municipal sector, there is also a larger concentration of plan members with very high contribution rates west of Quebec than east of Ontario.

Employee contribution rates in the plans studied appear in Table 16. Not surprisingly, all of the plans have rates that would be in the top categories in Table 15, with the Montreal plans at the low end. The integration of employee contributions with CPP/QPP contributions is evident in most plans, as is a higher rate of contributions for firefighters and police.

6.2 Employer and Employee Contributions Combined

Table 17 provides aggregate data on employer and employee contributions to workplace pensions by sector, at a single point in time. Despite data limitations, the story they tell is consistent with other known developments in Canadian workplace pensions.⁴⁶

Total municipal contributions per active plan member are higher than contributions per active plan member in the private sector by about \$2,000 per year but are on par with the rest of the public sector. Total contributions are much higher east of Ontario than they are west of Quebec. Employee contributions are much higher than in the private sector and slightly above the public sector. They are lower east of Ontario than west of Quebec. Total employer contributions vary widely. While there is some variation in current service costs, ranging from \$3,979 in the private sector to \$6,250 in municipal plans east of Ontario, there is more variation in special payments by employers. The high levels of employer special contributions in the municipal east and the private sector are striking – \$5,379 and \$3,410 per active plan member per year respectively.⁴⁷

An earlier publication documented the rapid growth in special payments to private sector WPPs from 2000 to 2010.⁴⁸ Special payments grew in both absolute amounts and as a portion of total employer contributions.

46. It would have been preferable to have data expressed as a percentage of pension payroll but these data are not available. Nor is it possible to standardize the denominator to reflect differences in the ratio of active to all members.

47. The issue is discussed further in relation to Table 18.

48. See Baldwin (2012).

Table 17. Employee and employer contribution to pension plans, dollar amounts per active member in 2013, by sector and type of contribution

	Mun All	Mun East	Mun West	All WPP	Pub WPP	Pri WPP
Employee required	4,784 (43%)	3,876 (25%)	4,621 (48%)	2,932 (29%)	4,510 (40%)	1,262 (14%)
Employer current service	4,989 (45%)	6,250 (40%)	4,285 (44%)	4,936 (49%)	5,841 (52%)	3,979 (45%)
Employer special	1,318 (12%)	5,379 (35%)	783 (8%)	2,089 (21%)	840 (7%)	3,410 (39%)
Employer total	6,307 (57%)	11,630 (75%)	5,069 (52%)	7,025 (70%)	6,681 (59%)	7,389 (84%)
Total both parties	11,091	15,506	9,690	10,048	11,250	8,778

Source: All WPPP CANSIM 280-0026 2013. All Mun PPIC special tabulation prepared for the author.

Table 18 provides data on employer and employee contributions to the plans being studied. Several things stand out:

- responsibilities for contributions;
- developments in current service and special contributions;
- increases in contributions; and
- high levels of combined contributions.

Employers are traditionally responsible for contributing what is required to maintain the funded status of a plan, minus what employees contribute. However, as Table 18 shows, there has been a significant move away from this method of allocating contribution responsibilities. There are circumstances in which this shift in formal responsibilities will also shift the economic burden of contributions. This change has been coupled with changes in benefit design and governance. Some financial uncertainty has been shifted to the plan benefits (that is, they are no longer purely DB).

The current service costs (i.e., the cost of newly accruing benefits) in all cases are more than sufficient to provide strong earnings replacement at age 65. To put this in perspective, Dodge, Busby, and Laurin (2010) estimated that earnings in the fifth and sixth deciles of the earning distribution (roughly \$40,000 to \$50,000) require a savings rate of 11 to 15 percent to provide a pension that is fully indexed to price changes at age 65 after 35 years of saving. The current service contributions of all plans exceed this level, and some by a good margin.⁴⁹

49. In context, it is important to remember the earlier finding that municipal employee pension plans usually start benefit payments well before 65 but generally do not provide fully indexed benefits.

In recent years, many DB plans have had to make special contributions due to actuarial deficits (that is, when actuarial assets are less than the plans' liabilities).⁵⁰ Tables 17 and 18 show that this is true of municipal employee pension plans. As a result, special payments and total employer contributions to municipal employee plans are more varied than with respect to current service contributions. It is worth remembering that the plans examined have been relieved of the need to satisfy solvency funding requirements and only have to meet a going-concern requirement. In the current economic environment, their deficits are smaller than if they had to satisfy a solvency requirement, and they have a longer time frame over which to amortize it (fifteen years versus five years).

There are limited instances where it is possible to compare recent levels of required contributions with the more distant past. But there is a clear pattern: required contributions have been increasing.⁵¹ There is a wide range in the size of the increase – from less than 2 percentage points of pension payroll to more than 15.

The total contributions to the plans under observation are high and rising, compared to the retirement saving benchmark established by Dodge, Busby and Laurin (2010). The same is generally true of employer contributions. This is typically noted as an employer/taxpayer issue. The concern is that governments as employers are paying too much into employee pension plans. Looking ahead, there are some predictable sources of upward pressure on current service costs: the age of the active plan members is likely to keep increasing; the length of the retirement period is likely to keep growing in relation to the pre-retirement employment period; and compared to the late 20th century, the gap between investment returns and salary growth is likely to shrink. Moreover, while the move away from pure DB has reduced contribution rate risk, the overall risk of volatility in the financial situation of the plans will increase with their continued maturing.

Table 19 shows both aggregate contributions and contributions per active plan member in the Montreal plans.⁵² The data per active plan member are presented in the first three rows of data and the aggregate data appear in rows 4 through 6, in thousands of dollars. The changes in contributions per plan member are real dollar changes.⁵³ The numbers in parentheses express the 2013 contributions per member as a multiple of the 2007 contributions. Numbers in square brackets indicate the portion of total contributions accounted for by each component.

50. Deficits can also arise from benefit improvements that apply to service prior to those improvements. Deficits of this kind were common in the 1980s and 1990s but less so in recent years. In the past, the cost of applying improvements to earlier periods of service was often paid for with actuarial surpluses (i.e., excesses of assets over liabilities).

51. The City of Winnipeg is a notable exception. Even in that case, the decline in total contributions reflects a decrease in the extent to which reserves were drawn down as opposed to a decrease in new contributions.

52. It was not possible to get contributions to the Montreal plans as a percent of pension payroll.

53. The 2007 figures have been grossed up by the CPI increase between 2007 and 2013.

Table 18. Employer and employee contributions in the recent past and earlier

	Principle for division	Year	Employee required	Employer current service	Special ^a	Employer total	Total both parties
B.C. Municipal	Equal sharing	2012	7.01%	8.36%	4.06%/2	10.40% ^b	19.45%
		2003	6.87%	7.87%	1.34/2	8.49%	15.98%
LAPP ^c	Equal sharing at the margin ^d	2012	14.84%	11.29%	4.55%	15.84%	30.68% (24.16%)
		2003	7.425%	Total CSC 12.03%	Total amortization 3.82%	8.425%	15.85%
Saskatchewan Municipal	Equal sharing	2013	8.3%	NA	NA	8.3%	16.6%
		2004	5.3%			5.3%	10.6%
Saskatoon ^e	Matching employee contributions + balance of cost by employer	2013	8.2% rising to 8.8%	5.4% dropping to 4.8%	2.8% rising to 4.0%	8.2% rising to 8.8%	16.4% rising to 17.6%
		2003	4.8/6.4%			4.8/6.4%	9.6/12.4%
Manitoba Municipal ^f	Matching + balance of costs	2013	8.4/9.6%			8.4/9.6%	16.8/19.2%
		2002	4.9/6.1%			4.9/6.1%	9.8/12.2%
Winnipeg	Equal sharing	2013	9.45%	NA	NA	9.45%	21.31% ^g
		2004	6.71%			6.71%	23.8%
OMERS	Equal sharing	2013	9.0%/14.6%			9.0%/14.6%	18.0/29.2%
		2003	9.3/15.9% for police and fire 6.0/8.8% and 7.3/9.8%			9.3/15.9% for police and fire 6/8.8% and 7.3/9.8%	12.0/17.6% and 14.6/19.6%
Saint John	Equal sharing	2014	10.3%	13.1%	17.0%	30.1%	40.4%
		2006	8.5%	8.1%	8.6%	16.7%	25.2%
Halifax	Equal sharing	2012	11.95%	NA	NA	11.95%	23.9% ^h
		2005	10.36%			10.36%	20.72%
St. John's	Balance of costs	2013	7.0%	10.0%	11.8% ⁱ	21.8%	28.8%
		2003	7.0%	6.5%	2.9%	8.4%	15.4%

a These special payments are shared by employers and employees in equal cost-sharing plans and are the sole responsibility of employers in the balance of cost and matching contribution plans. b A portion of the employer contribution to the Inflation Adjustment Account is used to pay for group benefits. c The LAPP contribution rates apply to earnings in excess of the CPP maximum pensionable earnings. The number in parentheses in the right-hand column is the combined contribution rate expressed as a percentage of all earnings. d Employer contributions = employee contributions + 1%. e The information for 2013 comes from the actuarial valuation report dated December 31, 2013 and expresses contributions as a percent of earnings without reference to how the rates apply above and below the YMPE. The valuation report identifies required contributions for the period from 2014 through 2016. The data for 2003 come from an annual report and express rates above and below the YMPE. f The contribution rates for 2013 come from the audited financial statements for that year and are one percentage point higher than the previous year. g 2.4 percent is contributed from the application of surplus. h The current service cost is 17.3 percent. The required contributions for public protection occupations is 24.62 percent, divided equally between employers and employees. i Author's calculation based on data in the actuarial valuation report of 2013.

Table 19. Contributions to City of Montreal pension plans, total and by type, aggregate (\$000) and per active plan member, 2007 and 2013

	Principle for division	Year	Employee required	Employer current service	Employer special	Employer total	Total both parties
Montreal Blue Collar Per active member	Balance of cost	2013	\$3,899 [28%]	\$4,683 [33%]	\$5,491 [39%]	\$10,174 [72%]	\$14,072
		2007	\$2,955 (1.32)	\$3,292 (1.42)	\$5,224 (1.05)	\$8,731 (1.17)	\$11,686 (1.2)
Montreal White Collar Per active member	Balance of cost	2013	\$2,018 [18%]	\$4,963 [45%]	\$4,088 [37%]	\$9,051 [82%]	\$11,069
		2007	\$2,076 (0.97)	\$4,695 (1.06)	\$2,289 (1.79)	\$6,984 (1.3)	\$9,060 (1.22)
Montreal Firefighters' Per active member	Balance of cost	2013	\$4,935 [14%]	\$14,430 [41%]	\$15,995 [45%]	\$30,424 [86%]	\$35,359
		2007	\$5,254 (0.94)	\$12,465 (1.16)	\$5,131 (3.12)	\$17,596 (1.73)	\$22,850 (1.55)
Montreal Blue Collar Aggregate	Balance of cost	2013	\$22,218 (\$3,295)	\$26,688	\$31,292	\$57,980	\$80,198
		2007	\$9,616 (\$718)	\$10,711	\$16,998	\$28,409	\$38,025
Montreal White Collar Aggregate	Balance of cost	2013	\$15,411 (\$734)	\$37,890	\$31,212	\$69,102	\$84,513
		2007	\$8,301 (\$641)	\$18,771	\$9,151	\$27,922	\$36,223
Montreal Firefighters' Per active member Aggregate	Balance of cost	2013	\$11,695 (\$692) ^a	\$34,199	\$37,907	\$72,106	\$83,801
		2007	\$9,857 (\$1,364)	\$23,385	\$9,625	\$33,010	\$42,867

a \$692 is the employee's past service cost and is included in the \$11,695.

Changes in the aggregate are driven in part by the changes in contributions per plan member and also by the increase in the size of the plan membership. The membership growth was driven by municipal amalgamations and was much greater in the blue collar and white collar plans than in the firefighters' plan. The increase in the contributions per member is substantial and, in the case of the white collar and firefighter plans, the growth in special payments is a significant contributor to the increase in total contributions. In thinking about the increased cost of the Montreal plans compared to the plans for which contributions are measured as a percentage of pension payrolls, it is important to remember that a change of two or three percentage points of payroll on a base of 10 to 15 percent is a change of 20 percent or more.

The City of Montreal was required by Quebec's Bill 3 to provide certain information to the Quebec legislature about the financial situation of Montreal's pension plans. That information included an estimate of the required employer pension contributions and total salaries for all of the city's pension plans for 2014, including the three

reviewed here.⁵⁴ The estimated contributions as a percent of salaries were: blue collar, 27 percent; white collar, 17 percent; and firefighters, 26 percent.

6.3 Key Lessons

After examining plan contributions, we see that:

- 1) Municipal employees have more deducted from their take-home pay in pension contributions than is true of most workplace pension plan members in Canada.
- 2) The combined employer and employee contributions are also high and have increased in recent years.
- 3) The increase arises in part from rising current service costs, and in part from the need to make special payments to amortize actuarial deficits. The latter has been more significant east of Ontario.

7. Funded Status of Municipal Employee Pension Plans

Table 20 offers general insight into the likelihood that municipal employee pension plans might be underfunded. Specifically, the data in Table 20 are designed to answer three related questions: How likely is it that a municipal employee pension plan will be less than 90 percent funded?⁵⁵ Are municipal employee pension plans more or less likely than a broad sample of pension plans to be less than 90 percent funded? And how have these measures changed in recent years? Data from the Financial Services Commission of Ontario (FSCO) are used to provide a broadly based point of comparison with the municipal data.

Several things are striking about the data in Table 20:

- On both a solvency and a going-concern basis, the percentage of municipal employee pension plans that fall short of the 90 percent funding target increased significantly from 2007–2009 to 2010–2013.
- Municipal employee pension plans were somewhat more likely than all plans to be less than 90 percent funded.
- Not having to satisfy solvency funding requirements provided financial relief to a large number of municipal employee pension plans.
- The percentage of plans that were less than 90 percent funded increased rapidly in a short period of time.⁵⁶

54. It is not clear whether the salary base was limited to pensionable salary.

55. The 90 percent threshold was chosen to eliminate cases where very small degrees of underfunding might be eliminated by favourable investment or other experience. In other words, some degree of corrective action is likely required to address the underfunding.

56. Because it was not possible to construct a more complete time series of data, a word of caution is appropriate about 2013 and earlier year comparisons. It is possible that even if the funded status of a plan is worse in 2013, it may have been improving compared to immediately preceding years. Figure 2 suggests this was the case for OMERS.

Table 20. Percentage of municipal pension plans less than 90 percent funded

	Mun 2007–2009	FSCO 2006–2009	Mun 2010–2012	FSCO 2010–2013
Going-concern	29%	18%	61%	22%
Solvency	61%	52%	89%	76%

Sources: Municipal funding data come from special tabulations of Statistics Canada PPIC data prepared for the author and the comparative data come from the Financial Services Commission of Ontario (FSCO), 2009 and 2013.

Table 21 summarizes the funded status of the plans under review. Going-concern funded ratios are available for all plans in both a recent and earlier period. This is not the case with solvency funding ratios. The absence of solvency funding data is not surprising given that all of the municipal plans are exempt from solvency funding requirements. It was not possible to present ratios of going-concern liabilities to payroll as an indicator of financial vulnerability.

Both the funded ratio and its change through time varied substantially. In the recent year, half of the plans (7 of 14) had funded ratios of less than 90 percent. At the same time, three plans in Manitoba and Saskatchewan had funded ratios in excess of 105 percent. Between observations, 6 of the 14 had declines in the funded ratio of 10 percentage points or more. That includes two of the three Montreal plans where the time between observations was only six years. There were three other plans where the decline was five percentage points or more but less than ten. A general deterioration in funded status is evident in these data but so is the reality of different experiences.

Key going-concern assumptions appear in Table 21. In most plans, the discount rate is the expected rate of return on plan assets. However, there are a few plans that establish an expected rate of return and then apply a decrement to it that reflects various risk factors. Table 22 presents FSCO data on going-concern discount rates to provide a point of comparison for the discount rates used by the plans whose discount rates appear in Table 21.

Looking first at the nominal discount rates, it is noteworthy that the rates used in the earlier period cover a relatively narrow band from 6.25 to 8 percent. In the more recent period, the nominal discount rates tend to be lower (with only one increasing) and cover a slightly wider range from 4.5 to 7 percent. This general pattern of decreasing nominal discount rates with a somewhat wider dispersion is consistent with the FSCO data. However, it appears that in the earlier period, the discount rates in the plans being studied were somewhat lower than the FSCO norm. In the more recent period, they were somewhat higher.

With the exception of two Montreal plans, the real discount rates remained the same or decreased slightly. The range increased slightly from 3.5 to 4.75

Table 21. Funded status of studied plans

	Recent GC	Older GC	Recent solvency/ windup	Older solvency/ windup
B.C. Municipal	96.5% (2012)	96.3% (2003)		
LAPP	80.9% (2012)	86.4% (2003)		80.2% (2003)
Saskatchewan Municipal	107.3% (2013)	101% (2004)		114% (2004)
Saskatoon	109% (2013)	110% (2003)		
Manitoba Municipal	93.3% (2013)	108% (2002)		106% (2002)
Winnipeg	103.1% (2013)	115.6% (2004) ^a	82.3% (2013)	
OMERS	88% (2013) ^b	94% (2004)	67% ^c (2013)	79% (2013)
Montreal Blue Collar	77% (2013)	97% (2007)		
Montreal White Collar	86% (2013)	106% (2007)		
Montreal Firefighters ^g	91% (2013)	98% (2007)		
Saint John	81% (2014) ^d	86% (2003)		74.3% (2003)
Halifax	85% (2012) ^e	102% (2003) ^f	61% (2012)	
St. John's	75% (2013)	89% (2003)	79.4% (2013) ^g	114% (2003)

a This amount includes the application of employer and employee reserves without which the funding ratio would be 108.9 percent. **b** Source: 2013 Annual report for 2013 and 2004. **c** Because of the peculiarities of Ontario's solvency funding rules, the OMERS data in this column and the one to the right are windup funded ratios. **d** The data for 2003 are cited in a report to the Saint John City Council submitted by the pension plan. The report cites data from an actuarial valuation report with an effective date of December 31, 2003. **e** On an open-group basis, the plans had a funded ratio of 114 percent. **f** Source: Financial Statements of Halifax Regional Municipality, year ended March 31, 2004. Valuation data effective January 1, 2003 have been extrapolated to December 31, 2003. **g** This is a hypothetical wind-up balance.

percent in the earlier period to 2.25 to 4.4 percent in the more recent period. The real discount rate of 2.25 percent is the only real discount rate that might not require a strong equity holding by the pension fund to generate a comparable rate of return over the long run. In today's environment it is well above the yield on long-term bonds.

All of the assumptions are of interest, but the one that will attract comment is the mortality assumption. All but three of the plans for which the mortality assumption is known rely on a standardized mortality table that is based on U.S. data: the Group Annuity Mortality (GAM) table and the Uninsured Population (UP) mortality table. Recently, the Canadian Institute of Actuaries sponsored a Canadian pensioner mortality (CPM) study. Compared to the most commonly used standard table, the study's mortality table is estimated to increase annuity factors from 4 to 10 percent depending on the age and gender of the annuitant.⁵⁷ Two plans have adopted versions of the new CPM mortality tables. In addition, OMERS is undertaking a study of its own mortality experience and the BCMPP conducts a study every three years. This is rare for Canadian pension plans.⁵⁸

7.1 Key Lessons

Several things about the funded status of municipal employee pension plans stand out:

- 1) Municipal employee pension plans are more likely than other plans to be less than 90 percent funded. The funded status of these and other plans declined in the 2000s.
- 2) The going-concern funded status of the plans in this study varied widely in the recent past, from 77 to 109 percent.
- 3) The discount rates used by municipal employee pension plans to value going-concern liabilities and determine contribution rates have been declining in recent years, but the discount rates used in other sectors have decreased by more.
- 4) The discount rates require plans to hold equities in their investment portfolios if a rate of return equal to or greater than the discount rate is to be achieved.
- 5) As plans adopt the Canadian pensioner mortality tables in the near future, liabilities and current service costs will increase.

57. The annuity factor is the lump sum dollar amount required to purchase a dollar of annual income.

58. Undertaking a study of this sort is a much more reasonable financial proposition for a large plan like OMERS and the BCMPP than for a smaller plan.

Table 22. Key going-concern assumptions

	Year	Investment returns	Discount rate	Salary increase	Inflation	Discount	Mortality rate
B.C. Municipal	2012		6.5%	3.75%	3.0%	3.5%	70% of GAM 1994 for male actives and 75% for female actives 85% of GAM 1994
	2003		7.0%	4.5%	3.5%	3.5%	
LAPP	2012 ^a 2005	6.4%	5.75% 6.7%	3.75% 3.5% + age and promotion scale	2.5% 2.75%	3.25% 3.95%	UP 94 + AA UP 94 + AA for 25 years
Saskatchewan Municipal	2013 2005		6.5% 6.5%	3.5% 3.5%	2.5% 2.5%	4.0% 4.0%	UP 94 + AA UP 94 updated for 15 years
Saskatoon	2012		7.0%	3.5% + merit	2.5%	4.5%	
	2003		6.5%	3.5 %			
Manitoba Municipal	2013		6.0%	3.5% + promotional and merit increases	2.5%	3.5%	CPM Public sector
	2002		6.5%	3.5%	2.5%	4.0%	UP 94 + AA
Winnipeg	2013		6.0%	3.5%	2.0%	4.0%	? ^b
	2003		6.25%	3.75%	2.25%	4.0%	
OMERS	2013		6.5%	1.6 % real (1.9% for police and fire)	2.25%	4.25%	
Montreal Blue Collar	2013		6.0%	3.0%	2.0%	4.0%	
	2007		6.5%	2.75%	2.50%	4.0%	
Montreal White Collar	2013		6.0%	3.0%	2.0%	4.0%	
	2007		6.75%	3.75%	3.0%	3.75%	
Montreal Firefighters ^c	2013		6.0%	3.0%	2.0%	4.0%	
	2007		6.75%	4.55%	3.0%	3.75%	
Saint John	2014	6.0%	4.5%	3.0%	2.25%	2.25%	CPM Public Private blend
	2004		8.0%	4.5%	4.0%	4.0%	
Halifax	2013		6.25%	3.00%	2.25%	4.0%	UP 94 + AA
St. John's	2013		5.75%	3.25%	2.5%	3.25%	CPM 2014 GAM 94
	2004		7.0%	4.0%	2.25%	4.75%	

a The difference between the investment return and the discount rate is explained by a provision for adverse deviation. Salary and inflation are the long-term assumptions. They are scaled up from near-term assumptions of 2.0 percent and 1.5 percent respectively. The mortality assumptions are the 1994 uninsured person assumptions with annual improvements incorporated based on the AA scale. Until recently, this was the mortality assumption most widely used by Canadian pension plans. b The plan's 2013 annual report suggests that a change in mortality assumptions added \$134 million to the plan's liabilities, but the new and old assumptions were not identified. A reasonable guess would be that the CPM tables replaced either a UP or GAM table.

Table 23. Going-concern nominal discount rates in FSCO data, various years 2000 to 2012

	2000	2003	2006	2009	2012
<4.0	Nr	Nr	Nr	0.2%	3.2%
4.0–4.5%	Nr	Nr	Nr	0.4%	4.6%
4.5–5.0%	Nr	Nr	Nr	2.4%	10.7%
5.0–5.5%	0.2% ^a	0.3%	5.5%	8.0%	21.6%
5.5–6.0%	1.5%	1.8%	13.2%	21.1%	36.8%
6.0–6.5%	10.0%	18.7%	31.5%	39.2%	19.3%
6.5–7.0%	15.4%	36.3%	40.3%	27.9%	3.8%
7.0–7.5%	47.4%	40.2%	9.5%	0.8%	0.0%
> 7.5	25.5%	2.7%	0.0%	Nr	Nr

FSCO 2004, 2009, and 2013. ^a This category is actually defined as equal to or less than 5.5 percent. Nr indicates that data are not recorded in the relevant year and discount rate range.

Table 24. Composition of going-concern liabilities (recent)

	Year	Actives	Beneficiaries	Deferred and inactive	Others
B.C. Municipal	2012	65%	29%	5%	1%
	2003	70%	24%	3%	3%
LAPP	2012	63%	33%	4%	NA
	2005	61%	31%	5%	
Saskatchewan Municipal	2013	57%	36%	3%	4%
	2004	59%	39%	5%	
Saskatoon	2012	61%	36%	1%	
Manitoba Municipal	2013	53%	42%	3%	2%
	2002	59%	33%	4%	4%
OMERS	2013	57%	41%	2%	0%
	2004	52%	45%	2%	1%
Saint John	2014	38%	61%	0%	1%
	2003	42%	58%	0%	0%
Halifax	2012	51%	47%	1%	0%
St. John's	2013	64%	32%	0%	3%
	2003	66%	32%	0%	2%

No data were available for Montreal or Winnipeg.

Table 25. Employee compensation as a percent of total expenditures by level of government, 2003 to 2013

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Federal	13%	14%	13%	14%	14%	15%	14%	14%	14%	14%	15%
Provincial/ territorial	28%	28%	27%	27%	28%	27%	27%	26%	27%	27%	27%
Municipal	54%	53%	52%	52%	51%	50%	50%	48%	50%	51%	51%

Author's calculations based in CANSIM 385-0032

8. Pension Plans and City Finances

Table 25 presents the compensation of employees at different levels of government as a percentage of total operating expenditures. Two things stand out. First, and most prominently, the compensation of municipal employees is a much larger share of total expenditures than for other levels of government.⁵⁹ Second, the percentage of total expenditures accounted for by employee compensation is stable through time for each of the three levels of government.

Unfortunately, the compensation component of these data cannot be broken down. But given what is known about required employer contributions through Tables 17 and 18, an educated guess is that the pension contributions of municipalities are typically in the range of 5 to 10 percent of compensation and 2.5 to 5 percent of municipal operating budgets. Table 18 also demonstrates that pension contributions can be wide-ranging and can pose significant financial risks.

Table 26 adds a finer grain to this general picture by examining municipal expenditure budgets as opposed to the pension plans themselves.⁶⁰ Three measures help identify the role of pension plans in municipal budgets: wages, salaries, and benefits as a percentage of municipal operating expenditures; actual pension contributions as a percentage of wages, salaries, and benefits; and actual pension contributions as a percentage of operating expenditures.

There are a variety of reasons that the data in Table 26 do not match up directly with the data presented earlier on required contributions to pension plans.

59. Roughly 60 percent of federal government spending and half that portion of provincial government spending are accounted for by grants, social spending, and interest payments. In contrast, these account for only 5 percent of local government spending. The data on spending by level of government are available from CANSIM 385-0032 and are summarized in an excel format in Department of Finance, 2014.

60. The data for this analysis were drawn from the annual financial statements of municipalities.

Table 26. Municipal expenditures in selected cities: wages, salaries, and benefits in relation to operating expenses; pension contributions in relation to both wages, salaries, and benefits and operating expenses, 2013 and 2003

	Year	Wages, salaries, and benefits/operating expenses	Pension contributions/wages, salaries, and benefits	Pension contributions/operating expenses
Vancouver	2013	62%	8%	5%
	2003	67%	6%	4%
Calgary	2013	65%	9%	6%
	2003	71%	5%	3%
Saskatoon	2013	43%	7%	3%
	2003	42%	10%	4%
Winnipeg	2013	51%	6%	3%
	2003	52%	3%	2%
Toronto	2013	53%	6%	3%
	2003	52%	2%	1%
Montreal	2013	46%	34%	15%
	2003	51%	21%	11%
Saint John	2013	48%	17%	6%
	2003			4%
Halifax	2013	40%	8%	3%
	2003			
St. John's	2013	46%	14%	6%
	2003			2%

Primarily, some cities make contributions to a number of different pension plans – not just the ones discussed in previous sections.⁶¹

As mentioned earlier, data collection has been challenging because of inconsistencies in how financial data are presented.⁶² In cases where cities participate in province-wide plans, the actual pension contributions are used to represent the pension expense in the cities' financial statements, as opposed to the accounting expense figure.⁶³ Actual pension contributions were used for all municipalities in Table 26. The use of the actual contributions data creates a conceptual disjuncture between the basis for the pension contribution calculation

61. For instance, in the City of Calgary, the LAPP is only one of more than a half-dozen municipal pension plans. A full list of all the pension plans that cities contribute to appears in Appendix 2.

62. Dachis and Robson (2011) provide a general assessment and critique of municipal accounting practices.

63. This affects a number of the largest cities, including Vancouver, Calgary, and Toronto.

and the expense for most of the pension plans that is incorporated into wages, salaries, and benefits and total expenditures. For some municipalities it has also not been possible to get data on wages, salaries, and benefits for the earlier period.⁶⁴

A number of things stand out in Table 26:

- The portion of operating expenditures accounted for by wages, salaries, and benefits varies significantly among the municipalities for which data are available, with the Canadian average representing a mid-point among those observed.
- There is variation in the change over time of the share of expenditures accounted for by wages, salaries, and benefits.
- In most municipalities, the share of expenditures accounted for by wages, salaries, and benefits declined. In three municipalities, the decline was five percentage points or more.

Required pension contributions are within the expected range for most municipalities when assessed in relation to wages, salaries, and benefits. Increases from small bases are common. St. John's, Saint John, and Montreal stand out as cities where pension contributions are very large in relation to wages, salaries, and benefits. Montreal is the only one of these cities for which earlier and later measures of pension expenditure are available. According to pension plan information provided to the Quebec legislature, required contributions increased from roughly \$100 million to nearly six times that level between 2002 and 2014. Nearly two-thirds of that increase occurred from 2008 to 2011. This is a substantial multiple of what could reasonably be attributed to the increase of membership size. This experience, like the OMERS charts, indicates how rapidly key financial measures can change.

Data on the portion of operating expenditures accounted for by pension contributions follow a pattern consistent with the contributions as a portion of wages, salaries, and benefits. For most municipalities, the size of the pension contributions in 2013 ranges from 2.5 to 5 percent. Pension contributions in Calgary, Saint John, and St. John's are slightly out of range and Montreal is well out of range. Most of the municipalities have experienced an increase in the share of total expenditures accounted for by pension contributions. These increments are small in terms of the number of percentage points involved. But at the margin, they are often significant in relation to the 2003 measure (e.g., 300 percent in St. John's and 100 percent in Calgary). Moreover, municipal budgets are large enough that even a 1 percent change involves a nontrivial amount of money (more than \$90 million in Toronto and \$2 million in Saint John).

64. Despite the reporting issues, the data are developed using methods that are accepted within the accounting profession. It is best to treat them as orders of expenditure magnitude on pensions. Readers should resist the temptation to add or subtract data from different municipalities.

8.1 Key Lessons

A number of conclusions can be drawn from this survey of data:

- 1) The contributions that municipalities make to their employee pension plans generally fall within the range of 2.5 to 5 percent of operating expenditures and about twice that percentage of wages and salaries. This is a non-trivial level of expenditures but not a matter of great concern on its own.
- 2) There is significant risk of rapidly increasing pension contributions in DB plans. In some municipalities, those risks have materialized in ways that create problems for municipal finance.

9. Discussion

Although this paper is primarily descriptive, there are some substantive findings to note – especially when read in conjunction with the wider pension literature.

9.1 Are There Advantages to Size and Scale?

One of the distinctive features of municipal employee pension plans in Canada is the difference between province-wide plans west of Quebec and municipally based plans east of Ontario. The evidence shows that small municipalities east of Ontario are not good organizational platforms for the delivery of a WPP because they cannot achieve adequate scale and lack internal pension expertise.⁶⁵ In many cases, their finances are also vulnerable to financial shocks.

On the other hand, the findings in this paper suggest that it is possible to lower costs and expand investment opportunities east of Ontario without complete plan mergers by centralizing certain pension functions. For example, the centralized investment function in a number of plans in Alberta and B.C. has enabled them to lower costs and expand investment opportunities. The same can be said of the centralized administration of plans in Montreal and Saskatchewan.

9.2 Are Municipal Pension Plans Too Generous and Expensive?

Contributions to municipal employee pension plans are a material but not a dominant element of municipal operating expenditures. However, they have risen to high levels, in many cases due to special payments needed to eliminate actuarial deficits. In large part, this reflects uncertainties that are an inevitable

65. Noted Canadian pension expert Keith Ambachtsheer has argued that a minimum efficient plan size is 50,000 members and \$10 billion in assets (Ambachtsheer 2007 and private conversations with the author). Only three of the plans studied would satisfy this standard.

part of defined benefit pension plans.⁶⁶ At the same time, it also reflects risks associated with municipalities' ability to pay.⁶⁷

A number of plans have responded to these uncertainties by changing the plan design so that some of the financial risk now shows up in variable benefits.⁶⁸ Lower discount rates also limit the need for special payments in the future. Yet many plans still have current service costs that are higher than in the private sector and some suggest that pensions are thus too generous and expensive. Furthermore, from the perspective of the plan member, it is possible that pension contributions may reach a level whereby pre-retirement living standards are depressed below post-retirement levels. This outcome is not desirable. It is possible to have too much pension.

When assessing the pension expense, the most important question is whether the total compensation package is reasonable, rather than each of its component parts. In this regard, governments at all levels have neither articulated clear compensation objectives nor provided data on the compensation of their employees compared to others who do similar work. The consequence is that the debate on this issue has little empirical foundation and invites poorly informed hyperbole.

9.3 How Should Plans Respond to Changing Demographics?

The changing demographic context in Canada is likely to affect municipalities and their employees in two ways. First, decelerating population and labour force growth as well as an aging active workforce are likely to put upward pressure on compensation for all employers and make it more difficult to fill skilled positions with new labour force entrants.⁶⁹ In this context, pension plan designs that retain some DB element will be helpful in promoting employee retention and mid-career recruitment.

The age of entry into municipal employee pension plans also bears scrutiny. The general trend in recent decades has been for entry into the labour force to begin at later ages, reflecting longer periods spent in school.⁷⁰ Municipal

66. Of the three measures of fiscal conditions identified in Slack, Tassonyi, and Grad (2015), fiscal flexibility is likely the most important in providing protection against contribution rate uncertainty.

67. For example, in periods of economic stagnation or decline, the municipal tax base will be adversely affected and the combination of an aging workforce and the low probability of net hiring will put upward pressure on pension contributions. This source of uncertainty is more limited in province-wide plans.

68. In some contexts, the shift in responsibilities for making contributions will shift the economic burden of contributions from employers to employees.

69. For some large cities this effect will be offset by internal migration from small communities and rural areas.

70. See Carrière and Galarneau (2011).

employee plans need to be assessed to see if this means that fewer future retirees will qualify for early retirement when these benefits first become available under current rules.⁷¹

9.4 What Comes Next?

There is a good deal that municipalities and their employee pension plans can learn from each other about managing financial risk. A collaborative effort could go a long way toward enhancing knowledge of municipal employee pension plans and helping municipalities understand and manage financial risks.

As noted at various points in this paper, one barrier to analytical work in Canada is the absence of accessible plan-level data. This is important not only for municipalities and their pension plans, but also for plan members, their unions, and other stakeholders. While it is important to protect personal information about individual plan members, information about the plans is a matter of legitimate public interest. In addition to being significant items of public expenditure, many plans are important financial institutions. The limited nature of accessible information is regrettable. However, if city administrators and pension plan stakeholders conclude that a coordinated data-gathering and disseminating effort is worthwhile, the situation can be corrected. The Public Plans Database (PPD) housed on the website of the Center for Retirement Research at Boston College provides a model for data dissemination that is worth exploring for Canada. The PPD provides information on more than 150 state and local pension plans on plan membership, benefits provided, contributions, assets, actuarial assumptions, and funded status. In fact, data for most of the issues addressed in this paper would have been available for state and local plans in the PPD.

It is hoped that the data gaps noted in this paper will inspire leadership in creating an accessible database on municipal employee pension plans in Canada.

71. In the case of the Public Service Superannuation Plan, fewer new entrants will become eligible for unreduced early retirement under the age and service conditions when those benefits are first available (age 55 and age plus service equals 85).

Appendix I. Local Pension Plans in Canada and the U.S.

Canadian interest in municipal employee pension plans has been provoked in part by reports of problems with municipal employee pension plans in the U.S. This commentary relies on two overview studies of state and municipal employee pension plans in the U.S. (Peng 2009; Munnell 2012).⁷²

Organizational Structure, Governance, and Administration

As in Canada, the organizational base of U.S. municipal employee pension plans varies. Two states have a single state-wide plan for both state and municipal employees. Another 35 states have common state-wide plans and sometimes also additional plans for particular classes of employees at the state and municipal level. Another 12 states have state-wide plans for municipal employees but once again, additional plans may also be operating. Only one state has no state-wide plan for municipal employees.

The municipal plans' strategic management is commonly handled by a board of trustees with plan member and employer representatives, while an employee retirement system handles daily administration. The median size of the boards is nine members, but the size varies. The state comptroller, an elected official, is the sole trustee of state-wide plans in New York.

There are several noteworthy differences between the governance of U.S. state and municipal plans and Canadian municipal plans:

- The U.S. plans operate outside the framework of the regulatory law that applies to workplace pension plans in the private sector.
- Sponsoring governments play a more active role in the management of plans than is common in Canada – especially with respect to how much will be contributed to the pension plans each year.
- Some state constitutions legislate that pension benefits in place when an employee is hired cannot be reduced during the employee's term of employment. Similar provisions are also found in other states in normal statutes rather than state constitutions.⁷³

The state and municipal plans are not subject to regulatory legislation. Most plans operate on an actuarial basis and follow the standards of the Government Accounting Standards Board with respect to the measurement and reporting of the pension plans' financial situation. Occasionally, state and municipal governments that are sponsoring pension plans decide to contribute less than the actuarially determined annual required contributions (ARCs), typically when the sponsoring

72. A word of caution is necessary: general comments about the U.S. plans are not specific to municipal plans as distinct from plans for state employees.

73. There have been court cases that concluded this restriction on plan amendments does not apply to the indexing of benefits.

governments' budgets are being squeezed. Episodes of this sort have given rise to conflicts between sponsoring governments and boards of trustees that have needed judicial resolution.

Plan Membership

There are two important features of plan membership in the U.S. that differ from the Canadian municipal experience. First, there are instances where municipal and state employees belong to the same pension plan, and it is common to have separate plans for police and firefighters, rather than specific provisions in a common plan. As Peng (2009) points out, pension plans for uniformed employees were among the earliest workplace pension plans for public employees in the U.S.

Second, while there are many state and municipal employee pension plans in the U.S., membership is heavily concentrated in the state-wide plans. Munnell (2012) estimates that only 6 percent of the 3,418 state and municipal plans in the U.S. are state-wide plans, but 88 percent of active plan members belong to them.

Benefits Provided

As is the case in Canada, state and municipal employee pension plans in the U.S. are still largely DB. Two states have moved to mandate participation in DC plans and several others have provided a DC option to employees. Participation in the optional plans has been limited. Nebraska introduced a DC plan and converted it to a cash balance plan in response to members' poor investment choices.⁷⁴ The private sector in the U.S. has moved more strongly to DC plans than in Canada, so the state and municipal plans in the U.S. are more dissimilar to private sector workplace plans than in Canada.

The benefits provided by state and municipal plans are similar to Canadian municipal employee benefits in that they are largely DB and more fulsome than what is found in the private sector. They also provide unreduced early retirement options and reduced early retirement benefits with less than a full actuarial reduction. However, on closer inspection, there are some differences.

The annual rates of benefit accrual differ from the Canadian pattern in two respects. First, a minority of plans have annual rates of benefit accrual above 2 percent. Peng (2009) identifies 66 plans with a single annual rate of benefit accrual. Of the 66 plans, 26 have an annual benefit accrual rate of between 2 and 2.49 percent and another 15 are in excess of 2.5 percent. Second, a number of plans have annual rates of benefit accrual that increase with years of service.

As is the case in Canada, most of the state and local pension plans provide some sort of regular adjustment of benefits to take account of inflation. Only 20 of 81 plans that Peng observed take account of inflation on an ad hoc basis. What is

74. A cash balance plan provides a guaranteed rate of return on DC-like contributions. The plan sponsor is the guarantor of the rate of return. In this respect, they have a DB-like characteristic.

distinctive about the state and local plans compared to the Canadian plans is the wider use of fixed adjustment rates that are not linked directly to movements in the CPI. Of the plans Peng observed, 20 use this method of adjustment with a 3 percent adjustment being the most common degree of adjustment.

Contributions and Funded Status

There are some a priori reasons to expect broad similarities between the funding situation of U.S. state and municipal pension plans and Canadian municipal plans. The economic and financial developments that created pension financing problems in Canada in the 2000s have been part of the U.S. environment as well. The benefits provided are broadly similar, but some differences affect both the level of required contributions to U.S. plans and their funded status.

Most state and municipal plans follow an actuarial funding method. Guidance from the Government Accounting Standards Board (GASB) has encouraged the use of an 8 percent discount rate. As indicated in Tables 22 and 23, this is a very high discount rate by Canadian standards. The high rate lowers both the normal cost of a plan and its measured liability. But it also increases the likelihood that actual investment returns will fall below the discount rate. Some sponsors of state and municipal plans do not make the full required contributions to the plans. As a result, plans have assets that are smaller than would otherwise be the case and negatively contribute to their funded status. Finally, the amortization periods permitted by the GASB are much longer than even Canada's going-concern rules (30 years versus 15 years). Moreover, the amortization periods can be rolled forward each year so that an amortization period of 30 years that begins in year 1 will still be a 30-year period in year 2, after one amortization payment has been made.

Munnell (2012) found that in 2010, the average normal cost of state and municipal plans in the Public Plans Database was 13.6 percent. This is lower than the normal costs in Canadian municipal plans, for which data are presented in Table 22. No doubt much of this difference can be attributed to the higher discount rate used in the U.S. plans; however, there was also a wide range of normal costs in the state and municipal plans. Munnell identified 10 plans with normal costs in excess of 20 percent and one – the New York Teachers' Plan – with a normal cost of 32.8 percent.

Annual required contributions by the employer rose significantly in the 2000s from 6.4 percent in 2001 to 13.4 percent in 2010. Although there is no time series that separates normal costs from special payments over this period, point-in-time data on normal employer costs in 2010 put them at 8.1 percent, which is only 60 percent of the total. The circumstantial evidence suggests that much of the growth in the ARC since 2000 has been in special payments, as is the case in Canada.

The funded status of the state and municipal plans has deteriorated since 2000. The aggregate funding status of the state and municipal plans fell from 102 percent in 2001 to 76 percent in 2010. The range of funded status was wide. More than 60 percent of the plans in the public pensions database (PPD) had a funding ratio

of less than 80 percent and just over 10 percent were less than 60 percent funded. Only 5 percent of the plans were more than 100 percent funded. The deterioration of the plans' funded status was no doubt driven by poor investment returns in the wake of the bursting dot-com bubble in 2000 and the 2008 financial crisis interacting with high discount rates and prolonged amortization periods. Failure to make full ARC payments also contributed to the falling funding ratios. The percentage of annual ARC payments that were actually made declined throughout the period from 2001 to 2010. Between 2005 and 2009, only 45 percent of plans in the PPD made full ARC payments.

Based on a special survey of municipally administered pension plans and the PPD, Munnell (2012) compared several dimensions of the financial situation of municipally administered plans with state-wide plans. She found that the funded status of the two groups of plans was virtually identical and that the locally administered plans were making a higher percentage of their ARC payments. However, she also found that the ARC requirements were higher for the locally administered plans – a fact that she attributes to their relatively greater responsibility for uniformed employees' pensions.

Pension Plans and the Finances of Cities and States

The information Munnell provides lets us compare the impact of pension contributions on the financing of Canadian and U.S. cities. She provides data on ARC as a percentage of state and local operating expenditures and concludes that in 2010, the ARC amounted to 3.6 percent of state and local budgets. Munnell also employs an alternative methodology that links required pension contributions to state and local revenues. She finds the current ARC is estimated at 4.6 percent of revenues and is predicted to increase between 5.1 percent and 14.5 percent in relation to future revenues between 2009 and 2014, assuming the rate of return on assets varies between 4 percent and 8 percent.

Munnell also reports on the outcome of a special survey of municipal administrations that was designed to establish whether pension costs represented a greater share of municipal versus state budgets. It is worth remembering that local municipalities and school boards in the U.S. contribute to both locally administered and state-wide plans. The survey suggested that while state and local plans combined accounted for 3.6 percent of state and local budgets, they accounted for 8 percent of local budgets. Only 17 percent of the responding entities had ARCs less than 4 percent of local revenues and another 37 percent were in the 5 to 8 percent range. Fully 26 percent had ARCs at or above 13 percent, with the ARC to local revenue reaching a high of 28 percent (See Munnell, Aubry, Hurwitz, and Cafarelli 2013).

The current level of demand on the budgets of states and municipalities arising from employee pension plans is high by Canadian standards and varies substantially. However, the risk facing some U.S. plans is more striking. Some face funding levels that are very low by Canadian standards. The risk of further funding

shortfalls is relatively high, given their use of high discount rates. And some plans have a history of not making required pension contributions.⁷⁵

Correcting financial imbalances in state and local plans through benefit adjustments is more tightly constrained in the U.S. than in Canada where only accrued benefits are protected by pension benefits legislation. That said, in the U.S. there seems to be less experimentation with benefit designs that incrementally shift financial risks from contributions to benefits than in Canada. In the state and local plans, conversions to DC or ad hoc changes bred of crisis seem to be more common than the incremental shifts that have been part of the Canadian landscape for some years.

Appendix 2. Municipal Employee Pension Plans

Most of the cities whose main pension plans are included in this study also operate other pension plans for some of their employees. Contributions to these other plans are reflected in the data on pages 45-48. The plans are listed here.

Calgary

- Calgary Firefighters Supplementary Pension Plan
- Calgary Overcap Pension Plan
- City of Calgary Elected Official Supplementary Pension Plan
- City of Calgary Supplementary Pension Plan
- Local Authorities Pension Plan (LAPP)
- Pension Plan for Elected Officials of the City of Calgary
- Special Forces Pension Plan
- Contractual Obligations

Halifax

- Halifax Regional Municipality Pension Plan

Montreal

- Blue Collar Pension Plan
- Firefighters' Pension Plan
- Pension plans for management, foremen, and professionals
- Police Pension Plan
- White Collar Pension Plan

75. Munnell, Aubry, and Cafarelli (2015) explore the extent to which underfunding may be caused by investment returns below the discount rate and by plans failing to make required contributions.

Saint John

- City of Saint John Pension Plan (Predecessor)
- City of Saint John Shared Risk Plan

St. John's

- City Pension Plan
- St. John's Transportation Commission Plans

Saskatoon

- Fire and Protective Services Department Superannuation Plan
- General Superannuation Plan
- Part-Time and Seasonal Employee Superannuation Plan
- Police Superannuation Plan

Toronto

- City Pension Plans⁷⁶
- OMERS
- TTC Pension Plan

Vancouver

- B.C. Municipal Employee Pension Plan

Winnipeg

- Councillors' Pension Plan
- Winnipeg Civic Employees' Benefits Program
- Winnipeg Police Pension Plan

76. These are plans that pre-date OMERS and that were kept open for active members after OMERS was established.

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ISSN 1927-1921