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## Canadian Public Sector Employee Pension Plans

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## Canadian Public Sector Employee Pension Plans

### Disciplines

Economics

### Comments

The published version of this Working Paper may be found in the 2001 publication: *Pensions in the Public Sector*.

# **Pensions in the Public Sector**

Edited by

Olivia S. Mitchell and Edwin C. Husted

Pension Research Council

The Wharton School of the University of Pennsylvania

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## Chapter 5

# Canadian Public Sector Employee Pension Plans

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Silvana Pozzebon

Pension plans covering public sector employees are major players in the Canadian pension market. Public plans account for over half (56 percent) of the pensions ranked by *Benefits Canada* magazine as being among the 100 largest in terms of assets held (Bak 1998a).<sup>1</sup> Eight of the top ten Canadian pension plans were public sector plans, and they held 47 percent of total market value assets of \$397.4 billion reported by the 100 largest plans, at the end of 1997 (Bak 1998a).<sup>2</sup> Workers covered by public sector plans include those employed by federal, provincial, or municipal governments and enterprises. While a fair number of federal workers are civil servants, provincial public sector employees generally include teachers, hospital workers, and employees of government enterprises such as hydroelectric power facilities. Finally, municipal public sector employees may encompass such varied groups as police, firefighters, and transit and blue collar workers.

Data on pensions sponsored by employers or unions have been collected by Statistics Canada as far back as the late 1950s, and *Benefits Canada* magazine has surveyed and ranked such plans for some twenty years. Yet there has been little systematic study of pension issues, and even less written about them, by those outside the industry. This is particularly true of pensions covering public sector employees, which motivates the present effort to provide an overview of such plans. We begin by describing the relative importance of public and private sector employee pension plans in Canada and compare key plan characteristics across sectors. The financing of public sector employee plans is then examined, followed by a brief conclusion.

### **Relative Importance of Public and Private Sector Plans**

At the beginning of 1997, 42 percent of paid Canadian workers were members of pension plans sponsored by employers or unions (called "registered"

TABLE 1. Public and Private Sector Plans, Canada 1997

	<i>Public (%)</i>	<i>Private (%)</i>
<i>Active members (total: 5.1 million)</i>	47	53
Male	45	66
Sub-sector		
Municipal	20	—
Provincial	63	—
Federal	16	—
Other	1	—
Plan size		
1–99 members	1	9
100–999	3	28
1000–9999	13	34
10,000–29,999	13	15
30000 +	70	15
Members as % of paid labor force	20	22
Type of plans (total: 15,308)	8	92
Plan assets as % of reserves held in all major retirement programs in Canada <sup>1</sup>	44	22

Source: Author's calculations, Statistics Canada (1998a, Tables 2 and 3); Statistics Canada (1998b, Tables 3 for the public and private sectors); Statistics Canada (1998d, Table A).

<sup>1</sup>Based on author's calculations using available data from 1996 (Statistics Canada 1998d, Table A). The public sector numerator was obtained by adding assets held in two subcategories of registered pension plans—trusteed public sector plans and government consolidated revenue funds; the private sector numerator was based on the remaining assets held in registered pension plans. The denominator is the sum of all monies invested in the Canada and Quebec Pension Plans, registered pension plans and registered retirement savings plans.

pension plans in Canada).<sup>3</sup> Historically, pension coverage rates for the paid workforce have varied in the range of 42 to 45 percent since 1983 (Statistics Canada 1996, 1997, 1998a). Pension plan membership was evenly divided between the public and private sectors as indicated in Table 1, with covered public sector employees representing only a slightly smaller proportion of the paid work force and of active pension plan members at the beginning of 1997. Table 1 also shows that close to two thirds (63 percent) of public sector pension plan members are employed by provincial governments or enterprises. And most public sector plan members are probably covered by a collective agreement. In 1998, 76 percent of Canadian public sector employees were covered by a collective agreement; the comparable figure was 24 percent for private sector workers (Akyeampong 1998).<sup>4</sup>

Male employees represent a minority of plan members in the public sector while the opposite is true of private sector pension plans, according to the figures presented in Table 1. Yet these numbers mask gender differences in changing membership patterns over time (Statistics Canada 1996, 1997, 1998a). The overall number of active members in Canadian employer or

union sponsored pensions rose from 1984 to 1992, largely due to the increase in the number of women covered by plans. This is, in turn, a reflection of the growing labor force participation of women and legislation extending pension coverage to part-time employees. Since that time, the increase in female membership has not offset the decline in male membership, so that overall membership fell from 5.3 million in 1992 to 5.1 million in 1997. The decline in male membership occurred primarily in the private sector from 1992 to 1994, but since 1993 the decrease has been more prominent in the public sector as male civil servants and defense employees accepted early retirement packages in the face of large-scale government rationalization programs. As a consequence, public sector plans have experienced a 5 percent fall in membership from 1993 to 1997, while private sector plans have seen little variation in membership levels during this same period.

Despite the relative importance of public sector plans as suggested by the membership figures above, they represent less than one tenth of all Canadian registered pension plans in 1997 (see Table 1). This is better understood if considered concurrently with data on membership distribution by plan size. With the help of Table 1, it can be seen that a majority of public employees are covered by large pension plans, notably those with more than 30,000 members. The pattern is quite different for the private sector, with 71 percent of members in plans with fewer than 10,000 active employees. In 1997, plans with 30,000 members or more numbered 19, and 13 of these covered public sector workers (Statistics Canada 1998a).

Perhaps the most telling statistics testifying to the prominence of public employee pension plans is the relative proportion of assets held by these plans. As indicated in Table 1, public pensions held 44 percent of the aggregate book value of monies held in all major retirement income programs in Canada, which totaled \$804 billion at the end of 1996. Although figures are only indicative, this proportion is twice as big as that held by private sector plans. The relative gap is even wider when one compares the market value of assets invested by the 100 largest Canadian public and private pension plans. At the end of 1997, public sector plans ranking in the top 100 held reserves that were approximately three times as large as those of private sector plans in the same group.<sup>5</sup>

## **Characteristics of Public and Private Sector Pensions**

*General characteristics.* Most workers whose employers offered a pension at the beginning of 1997 were required to participate in the plan. Voluntary participation was an option for only 5 percent of public sector employees and 14 percent of private sector employees covered by a pension plan (see Table 2). On the other hand, a little over half of all public sector employees in Canada are members of plans that impose no eligibility requirements

TABLE 2. General Characteristics of Public and Private Sector Pension Plans, Canada 1997 (percent of members)

	<i>Public</i> (2,419,022 members)	<i>Private</i> (2,696,268 members)
Total members, plans with compulsory participation	50	50
Compulsory participation in sector	95	86
Total members, plans with no eligibility conditions	54	46
No eligibility conditions in sector	54	41
Total members, defined contribution plans	17	83
Defined contribution plans in sector	4	18
Total members, defined benefit plans	52	48
Defined benefit plans in sector	95	80

Source: Author's calculations, Statistics Canada (1998b, Tables 10–12).

and they, in turn, represent a slight majority of members in all pension plans with no eligibility restrictions.

The continued dominance of defined benefit plans in Canada is evident from overall pension membership figures and the relative importance of assets held by these plans. At the beginning of 1997, 87 percent of employer or union sponsored pension plan members belonged to defined benefit plans (Statistics Canada 1998a, Table 7). And according to *Benefits Canada* magazine, 75 of the top 100 pension plans in terms of assets held were classified as defined benefit plans in 1997 (Bak 1998a).<sup>6</sup> These figures appear more telling than the fact that defined benefit plans represented 45 percent of employer or union sponsored pensions. Despite the persistence of defined benefit plans, overall membership in such plans declined five percent from 1993 to 1997, largely due to public sector employee staff cuts (Statistics Canada 1998a). In contrast, membership in defined contribution plans increased 25 percent during the same period.

Defined benefit plans are especially popular in the public sector, accounting for 95 percent of the sector's plan members (see Table 2) but only 3 percent of all employer or union sponsored pension plans in 1997 (Statistics Canada 1998b, Table 12). Yet it is interesting to note that six of the 50 largest defined contribution plans in Canada identified by *Benefits Canada* are public sector plans (listing for the year ending December 31, 1997; Bak 1998b).<sup>7</sup> And four of these six plans rank as the top four defined contribution plans in all of Canada, in terms of assets held. Furthermore, the top three defined contribution plans were large enough to be included in *Benefits Canada's* listing of the 100 largest pension plans, which includes plans of all types.<sup>8</sup>

*Specific characteristics.* On the basis of information presented in Table 3, it is difficult to conclude that the overall generosity of plans is higher in one sector relative to the other. On the one hand, public sector pension members



TABLE 3. Specific Plan Characteristics of Public and Private Pensions, Canada 1997 (percent of members)

	Public	Private
<i>Vesting</i>		
Immediate	2	4
2 years of service	35	24
5 years of service	14	9
10 years of service	6	—
2 years of participation	35	56
<i>Normal retirement</i>		
Age 60	14	2
Age 65	81	91
<i>Special retirement conditions<sup>1</sup></i>		
Age 55	87	46
Age 60	24	6
Age 62	11	32
Age 62	—	13
Service 30 or more	27	17
Age + service 80 or 85	9	14
Age + service 90	18	5
<i>Early retirement permitted<sup>1</sup></i>		
Age 55	99	100
Age 55	80	89
Service < 20	44	38
Age + service 90	21	—
<i>No postponed retirement permitted</i>		
Spousal benefit-death before retirement	24	11
None	0	0.2
Contributions	10	8
60 or 100% of commuted value	26	75
60% or less of accrued pension	34	6
<i>Disability benefit provided</i>		
	65	41

Source: Author's calculations, Statistics Canada (1998b, Tables 24–31, 36).

<sup>1</sup>More than one condition may apply. Special retirement means no reduction in pension.

appear to be subject to slightly more stringent vesting requirements than are private plan employees, and the proportion of members belonging to public sector plans that do not permit postponed retirement is somewhat greater than twice that of private sector plans. Only a very small fraction of the private sector workforce are in plans that do not offer spousal benefits in case of death before retirement, as compared to public sector employees; nevertheless the means of determining benefit amounts differs between the sectors. The provision of early retirement benefits is universal in both sectors.

TABLE 4. Design Features of Public and Private Defined Benefit Pensions, Canada 1997 (percent of members)

	<i>Public</i>	<i>Private</i>
<i>Benefit formula</i>		
Flat benefit	0.1	41
Earnings-based	99.9	59
Final average earnings	4	6
3 years	24	24
5 years	74	69
other	2	7
Average best earnings	93	69
3 years	5	24
5 years	74	74
other	21	2
career	3	26
% Earnings per yr of service	98 <sup>1</sup>	52 <sup>1</sup>
<1.25	1	6
1.25-1.74	1	35
1.75-2.00	98	56
>2.00	—	3
<i>Automatic adjustment of pension to CPI</i>		
Full increase	80	17
Partial increase	37	7
	56	80
<i>Spousal benefit death after retirement</i>		
60% of initial benefit (with reduction)	30	79
50 or 60% of initial benefit (with no reduction)	53	11
<i>Benefit integrated with C/QPP<sup>2</sup></i>	96	82

Source: Author's calculations, Statistics Canada (1998b, Tables 13, 20, 21, 32, 38).

<sup>1</sup>Includes defined benefit/defined contribution combination plans

<sup>2</sup>Defined benefit plans based on percentage of earnings. CPP is the Canada Pension Plan, the government sponsored retirement program for Canadians living outside of Quebec. Quebec has an equivalent program called the Quebec Pension Plan or QPP.

On the other hand, a larger share of employees covered by public sector pensions than private sector plans have a lower normal retirement age. Fourteen percent of public plan members have a normal retirement age of 60; the respective figure for the private sector is only 2 percent. Perhaps the most prominent difference between the two sectors is the much higher proportion of plan members that can benefit from special retirement conditions (i.e., no pension reduction) in the public sector (87 percent) as compared to their counterparts working for private firms offering pensions (46 percent).

*Defined benefit plan features.* More marked differences between public and private sector plan provisions are evident from data presented in Table 4, which focus on defined benefit plan features. The benefit formula used in

public sector pensions is virtually always earnings-based, whereas two-fifths of private sector members are covered by plans that offer flat dollar benefits. A higher proportion of public sector membership (93 percent) is covered by pay-based plans that use the average of best earnings to calculate retirement benefits, as compared to private sector plan membership covered by such plans (69 percent). A little more than a quarter of private sector employees are members of pay-based plans that use career earnings to determine retirement benefits, but only approximately 5 percent of pension members in both sectors are covered by pay-based plans that rely on final average earnings to calculate benefit amounts.

Public and private plan benefit formulas also vary in the percentage of earnings recognized per year of service; this percentage is between 1.75 and 2.00 for the overwhelming majority (98 percent) of public employee plan members. Yet only 56 percent of private sector workers are members of plans that use a similar multiplier in their benefit formula, with most of the remaining private sector employees belonging to plans using lower multipliers.

Fully four-fifths of public sector membership is covered by pensions that include an automatic pension adjustment, and in over a third of these cases retired employees receive post-retirement adjustments equal to the consumer price index (CPI). The situation is quite different in the private sector, where only 17 percent of employees are members of plans providing full or partial inflation protection. However, a larger proportion of private sector workers are covered by plans providing spousal benefits in case of the retiree's death. The percentage of employees in both sectors that are members of pensions offering benefit integration with the Canadian government-sponsored retirement program, the Canadian Pension Plan (CPP), or its Quebec equivalent, the Quebec Pension Plan (QPP), is relatively high, though integration is more prevalent in the public than in the private sector.

In sum, information on defined benefit plans summarized in Table 4 suggests that public sector employees covered by such plans have relatively more generous benefits than their private sector counterparts. One possible explanation for this outcome is that most public sector employees are required to contribute to their pension plans as discussed below.

## **Financing Public and Private Sector Pensions**

*Contributions.* Virtually all public sector employees in Canada are members of contributory pension plans, as is shown in Table 5. The vast majority of these workers is required to pay more than 5 percent of their annual earnings into their pension funds, with some three-quarters of them contributing 7 percent or more. In contrast, only half of all workers employed by private firms offering pensions are required to contribute to their plans and

TABLE 5. Contributions to Public and Private Sector Plans

	<i>Public</i>	<i>Private</i>
<i>Employee contributions required (% of members)</i>	99.6	49
<i>% of earnings</i>		
<5.0	3	27
5.0-6.9	19	47
>6.9	77	1
<i>% of contributions made by employer (total ER contributions 1996: \$12.4 B)</i>	57	75
Current service	88	77
Actuarial deficiencies and unfunded liabilities	12	23

Source: Author's calculations. Data on employer contributions from Statistics Canada (1998a, Table 6 are for 1996); data on employee contributions from Statistics Canada (1998b, Table 14 are for the reference period January 1, 1997).

approximately three quarters of them pay less than 7 percent of annual earnings in contributions.

The actual dollar value of contributions made by both employers and employees in 1996 totaled \$19.6 billion, 63 percent of which was made by employers (Statistics Canada 1998a). Table 5 indicates that public sector employers paid a lower proportion of overall plan contributions relative to their private sector counterparts, a statistic that reflects the fact that all but a few public sector plans require employee contributions.

Employer contributions in both sectors are largely used to fund current service pension obligations, though the proportion of contributions devoted by private sector employers to actuarial deficiencies and unfunded liabilities was almost twice as high as that of private sector employers in 1996. However, data on pension liabilities are not generally available in Canada, so the latter discrepancy is difficult to explain. There have been recent reports of large pension surpluses in some highly visible pension plans in both sectors, but it is not known how general this phenomenon is. As such, one as yet untested explanation for the higher percentage of employer contributions allocated to funding deficiencies in the private sector might be stricter legislative funding requirements for private sector employers.

*Investment strategies.* Data from pension plans that operate according to the terms of a trust agreement provide a good portrait of investment activity by employer or union sponsored registered pension plans (RPP) in both the public and private sectors. Reserves held by trustee pension plans accounted for two-thirds of RPP book value assets in Canada in 1996 (\$3.5 of the \$5.3 billion RPP assets) and 90 percent of RPP monies invested in financial markets (Statistics Canada 1998d, Table A). The share of trustee pension plan reserves deposited with public sector plans was 61 percent

TABLE 6. Asset Allocation of Trusteed Public and Private Sector Plans, Canada 1986-96 (percent of market value)

	Year					
	1986	1988	1990	1992	1994	1996
<i>Public sector</i>						
Bonds	53.9	50.1	52.3	49.0	39.5	30.5
Stocks	24.2	25.2	25.0	30.5	34.3	37.2
Mortgages	5.7	5.5	4.2	3.1	2.4	1.7
Pooled vehicles	2.2	2.0	2.0	4.3	11.1	21.0
Other	14.0	17.2	16.5	13.1	12.7	9.5
<i>Private sector</i>						
Bonds	35.0	34.3	36.4	36.9	33.1	31.6
Stocks	38.2	36.6	34.4	39.0	38.1	39.5
Mortgages	4.0	3.5	3.5	3.3	2.3	1.7
Pooled vehicles	9.1	9.4	9.9	10.5	16.0	18.4
Other	13.6	16.1	15.9	10.3	10.4	8.9

Source: Statistics Canada (1998d, Table G).

(\$2.1 billion, book value) in 1996 (Statistics Canada 1998d, Table A). Almost all of the remaining public sector fund assets (\$1.4 billion), which account for a large share of RPP monies not covered by trust agreements, are held under consolidated revenue arrangements. The latter funds, sponsored by the federal government and some of their provincial counterparts, have no invested assets as such, so that pension plan contributions are included in government revenue and used for general expenditures.

The largest portion of trustee public sector assets is held by provincial governments and enterprises (\$1.5 of \$2.1 billion or 72 percent). The respective shares of the municipal and federal government subsectors are 25 percent and 3 percent (Statistics Canada 1998d, Statistical Table 5).

Trusteed public sector pension fund investment strategy has shifted considerably since 1990, so that by 1996 it resembled that of private sector funds as indicated in Table 6. Until 1990 public sector funds had a stock to bond investment ratio of about 0.5; this ratio reached a value greater than one for the first time in 1996, a figure more closely resembling the traditional stock-to-bond ratio of private sector plans. Data for 1997 (based on book value of assets) and the second quarter of 1998 (based on market value of assets) indicate that the trend in the stock-to-bond investment ratios of public and private sector plans has been maintained; plans in both sectors had a stock-to-bond ratio equal to or greater than one during the period (Statistics Canada 1998c, Table 10; Statistics Canada 1999, Table 6).

Other notable portfolio investment shifts that occurred from 1986 to 1996 in public sector pension plans are also evident for private sector plans, as is

seen in Table 6. These changes include a rise in the proportion of assets invested in pooled vehicles, and a decline in the proportion held in mortgages and other assets. The general trend for the "other asset" category masks a difference in investment strategies between the public and private sectors, however; the former has historically allocated a greater portion of its portfolio to real estate (Statistics Canada 1998c). The respective shares of total assets at market value invested in real estate in 1996 was 3 percent for public sector plans and 1.6 for the private sector (Statistics Canada 1998d, Statistical Table 6). While rising stock prices explain some of the change in the public sector plan investment mix since the early 1990s, portfolio shifts by a few large public sector funds in the provinces of British Columbia (from 1992 to 1994) and Alberta (1994 to 1996) have probably also influenced asset allocation (Statistics Canada 1998d).

A 20 percent foreign investment cap is imposed on Canadian pension funds by legislation. Against this cap, recent trends indicate that pension plan investors have increased their exposure outside Canada to profit from rising stock prices in external markets. According to Statistics Canada (1999), the share of book value assets invested by trustee pension plans has risen steadily from below 6 percent before 1990 to just over 16.7 percent by June 1998; the corresponding market value figure was 19 percent. In contrast to the distribution of domestic holdings, stocks and pooled funds (largely equities) accounted for 93 percent of foreign assets but 41 percent of nonforeign pension fund investments at the end of the second quarter of 1998; the corresponding percentages of foreign and domestic portfolios held in bonds were 6 and 44 for the same period.

Based on 1996 figures, it appears that trustee public and private sector plan investors were behaving similarly with regard to their degree of exposure to foreign markets, with both public and private sector plans holding 16.6 percent of their respective assets (market value) outside Canada (Statistics Canada 1998d, Table G). *Benefits Canada's* survey suggests the top 100 Canadian funds have an average of 20.9 percent of assets allocated to foreign investments for the year ending December 31, 1997 (Bak 1998a). Apparently, funds use derivative products to gain foreign market exposure making the legislated limit an artificial one.

## **Conclusion**

Canadian public sector plan membership represented a slightly smaller portion of overall pension members and the paid work force than private sector members at the beginning of 1997. Yet public employee plan reserves were twice as large as those held by the private sector, as a percentage of assets held in all major retirement programs in Canada. Public sector plan assets represent a larger share of pension reserves than private sector plans even

if monies held by government consolidated revenue funds are ignored; in 1996 public pensions held \$2.1 of the \$3.5 billion (book value) invested by all trustee pension plans. The latter hold most of the pension monies invested in financial markets in Canada. As a consequence, public pension plans must be said to be major players in the Canadian pension market.

Defined benefit pension plans are still the dominant plan type in Canada with 95 percent of public employee pension members belonging to such plans at the beginning of 1997. The more generous benefits offered by public sector plans are probably related to the fact that virtually all members are required to contribute to their pension plans. Finally, the investment strategy of public pension plans shifted dramatically in the early 1990s, so that today it generally resembles that of their private sector counterparts.

## Notes

1. The number of public sector plans (as of December 31, 1997) is based on the author's estimate and differs from the figure of 63 reported by *Benefits Canada*. The discrepancy is probably due to differences in classifying plans whose employees formerly worked for crown corporations that have been privatized in recent years. Similarly, the author identifies fifty-seven public sector plans among the top 100 pension plans as of December 1998, though *Benefits Canada* (Press 1999) continues to report 63 such plans. Note that 1997 data is reported in the paper to enhance comparability across the various data sources used in the text.

2. This share rose slightly to 48 percent of total market value assets of \$432.3 billion, by the end of 1998. Throughout the paper, dollars are reported at the current value for the year indicated and in Canadian dollars.

3. Paid workers exclude the self-employed, unpaid family workers, and the unemployed.

4. Some caution should be exercised in extrapolating unionization levels to public and private sector workers covered by pension plans. An exhaustive comparison of definitions used to identify public and private sector workers by the different Statistics Canada divisions charged with gathering data on pensions and union coverage has not been attempted. Yet, on the surface, it appears that unionization data for the public sector is fairly representative since the universe of public sector workers covered by pensions closely resembles that of public sector employees overall. The same cannot be said of private sector employees.

5. Author's calculations using asset values reported for 1997 in *Benefits Canada* (1998a). Public sector plans held \$293,683 million versus \$103,773 million for private plans.

6. Figure is based on 91 plans reporting their defined benefit/defined contribution status. Data for 1998 suggest that 69 of the 86 top 100 plans reporting their defined benefit/defined contribution status were defined benefit plans (Press 1999).

7. Based on author's estimate since Bak (1998b) does not identify public sector plans in the listing.

8. Among the top 100 plans, the Co-operative Superannuation Society of Saskatchewan and the Saskatchewan Public Employees Superannuation Funds ranked 47th and 48th, while the University of British Columbia Faculty Plan ranked 93rd in terms of asset size for the year ending December 31, 1997.

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