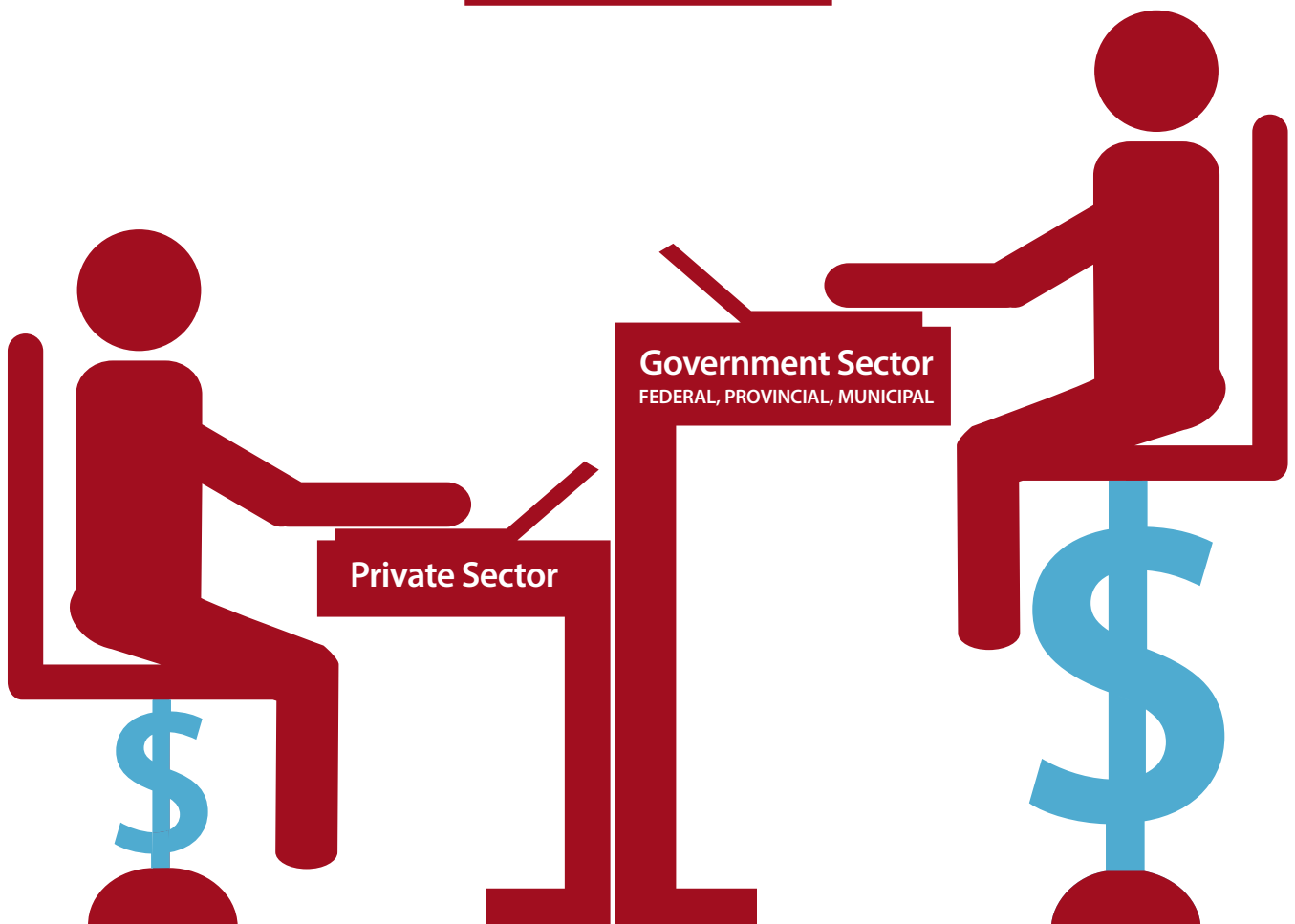




Comparing Government and Private Sector Compensation in Canada

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Executive summary

Against the backdrop of persistent deficits and growing government debt, governments across Canada are currently engaged in collective bargaining negotiations with their respective public sector unions. These negotiations have drawn much attention, as some governments have signaled that managing the compensation of their employees is a key part of their plans to better control spending and eliminate budgetary deficits.

With heightened interest in how wages and non-wage benefits in the government sector compare with those in the private sector, this study builds on previous research by the Fraser Institute, which compared government and private sector compensation in Canada in 2011. Using similar methodology and aggregated data from January to December of 2013, it updates past estimates for government and private sector wage differentials and evaluates four available non-wage benefits in an attempt to quantify compensation differences between the government and private sectors in Canada.

While a lack of non-wage benefits data means that there is insufficient information to make a definitive comparison of total compensation between the two sectors, the data that are available indicate that the government sector enjoys a clear wage premium. There are also strong indications that the government sector has more generous non-wage benefits than the private sector.

Wage comparison

After controlling for such factors as gender, age, marital status, education, tenure, size of firm, province, city, type of job, industry, and occupation, Canada's government workers (from the federal, provincial, and local governments) were found to enjoy a 9.7 percent wage premium, on average, over their private sector counterparts in 2013. When unionization status is factored into the analysis, the wage premium for the government sector declines to 6.2 percent.

Non-wage benefits

But wages are only part of an employee's total compensation. Unfortunately, individual data on non-wage benefits such as pensions, vacation time, and health benefits are not readily available in Canada. The available aggregated data on non-wage benefits nonetheless suggest—similarly to the wage comparison—that government workers fare better than those in the private sector. For example, 87.8 percent of government workers were covered by a registered pension plan compared to 23.9 percent of private sector workers (**figure A**). Of those covered by a registered pension plan, 94.2 percent of government workers enjoyed a defined benefit pension compared to just under half (47.5 percent) of private sector workers.

In addition, government workers retire earlier than their private sector counterparts—about 2.4 years, on average (**figure B**)—and are less likely to lose their jobs (3.6 percent in the private sector versus 0.7 percent in the public sector) (**figure C**). Full-time government sector workers lost more work time in 2013 for personal reasons (12.1 days on average) than their private sector counterparts (8.1 days) (**figure D**).

Overall, government workers in Canada enjoy higher wages and probably higher non-wage benefits than comparable workers in the private sector.

PENSION COVERAGE

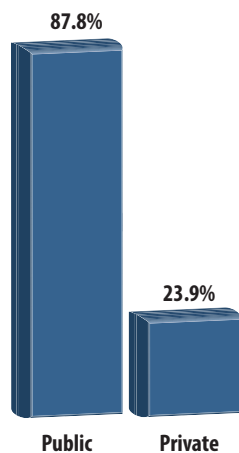


Figure A
Percentage of employees in Canada covered by a registered pension plan, as of January 1, 2013

RETIREMENT AGE

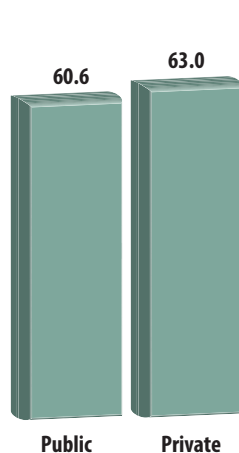


Figure B
Average retirement age in Canada, 2009–2013

JOB LOSS

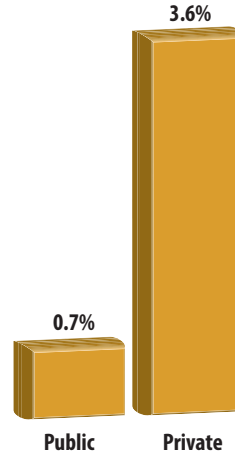


Figure C
Job loss as a percentage of employment, 2013

ABSENTEEISM



Figure D
Total days lost per worker, 2013

To ensure that overall government sector compensation is fair to both taxpayers and government workers, it is clear that a new institutional framework is needed. To this end, the study sets out the following options.

1. Collect better data

The first step to achieving an improved system of wage and benefit setting in the government sector is to get a more accurate assessment of the total government sector compensation premium in Canada. To determine this, Statistics Canada must collect data on wage and non-wage benefits for government and private sectors workers more regularly and more systematically than it now does. The data currently available on these benefits are neither detailed nor comprehensive enough to allow for a regular, empirical analysis of total compensation between the two sectors.

2. Recognize that total compensation is what matters, not wages alone

A second step in the reform process is to ensure that the comparison includes total compensation, not just a narrower comparison of wages or specific benefits such as pensions. The key is that overall compensation levels should be comparable between government and private sector workers.

3. Ensure transparency and routine disclosure

In order for this new framework to function properly, information regarding government sector wages and benefits must be transparent, accessible, and disclosed regularly.

4. Institute a mechanism for setting compensation

A number of mechanisms are available that would better ensure that overall government sector compensation is comparable with the private sector.

a) Formal mechanisms within government

One approach is simply to legislate a specific mechanism within government that regularly calculates and sets total compensation levels for government sector positions based on private sector equivalents.

b) Wage boards: An arms-length approach

Another mechanism is to create a wage board, an independent governmental body that is responsible for collecting, analyzing, and setting government sector wages and benefits based on private sector equivalents.

c) Lump-sum payments

Another, perhaps more radical reform is to empower public sector unions to become more involved in the determination of the composition of compensation for their members. This means providing unions with a lump-sum

amount of money for total compensation, and allowing them to determine the mix of wages and benefits for their members. Given the high unionization rates in the public sector, bringing unions into the solution would be beneficial to the longer term sustainability of government sector compensation.

Introduction

Against the backdrop of persistent deficits and growing government debt, governments across Canada are currently engaged in collective bargaining negotiations with their respective public sector unions. These negotiations have drawn much attention as some governments have signaled that managing the compensation of their employees is a key part of their plans to better control government spending and eliminate budgetary deficits.

With heightened interest in how wages and non-wage benefits in the government sector compare with those in the private sector, this study builds on previous research by the Fraser Institute, which compared government and private sector compensation in Canada in 2011 (Palacios and Clemens, 2013). Using similar methodology and aggregated data from January to December of 2013, it updates past estimates for government and private sector wage differentials and evaluates four available non-wage benefits in an attempt to quantify compensation differences between the government and private sectors in Canada.

At the outset, it is important to emphasize that wages are only one component of overall compensation. Various non-wage benefits such as pensions, health and dental insurance, vacation time, life and disability insurance, and so forth affect overall compensation levels. In this study, we are unable to estimate the overall total compensation premium in the government sector due to a lack of data on non-wage benefits. However, we do present the data that are available on non-wage benefits to shed some light on the differences in these benefits between the government and private sectors.

The study is divided into five sections. The first provides some basic statistics on government and private sector employment in Canada. The second discusses differences in the wage-setting process in the two sectors. It also includes a summary of previous research quantifying public sector wage premiums. The third section presents descriptive statistics and the results of calculations used to determine the wage premium in the government sector. (Appendix A discusses the methodology employed in making these calculations.) The paper's fourth section compares available non-wage benefits to ascertain the likelihood that there is a premium for non-wage benefits in the government compared to the private sector. The final section provides some general recommendations.

Comparing the size of the government and private sectors

Before analyzing and discussing compensation in the government and private sectors, it is useful to compare the two sectors in a more general way.

National overview: composition of total employment

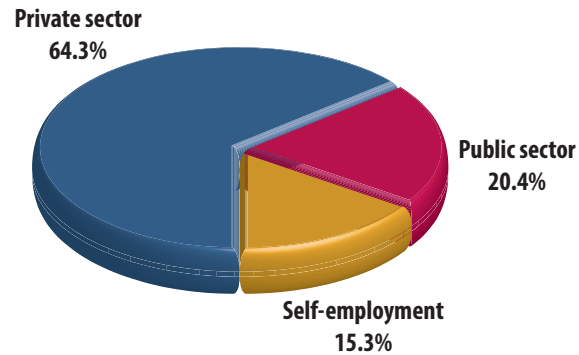
Figure 1 shows the composition of total employment in Canada in 2013. In that year, more than 3.6 million Canadian workers, representing 20.4 percent of total employment, were employed in the public sector. This includes the federal, provincial, and local governments, as well as government agencies, crown corporations, and government-funded establishments such as schools (including universities) and hospitals (Statistics Canada, 2014c).¹

In contrast, there were 11.4 million workers employed in the private sector in 2013, representing 64.3 percent of total employment (Statistics Canada, 2014c). The remaining 15.3 percent were self-employed.

Figure 2 depicts the trend in public sector, private sector, and self-employment as a share of total employment from 1976 to 2013. Public sector employment has increased from 2.3 million workers in 1976 to 3.6 million workers in 2013, an increase of 57.0 percent (Statistics Canada, 2014c). As a share of total employment, public sector employment decreased from 23.7 percent in 1976 to 18.8 percent in 1999 (the lowest point during this period), and has since climbed to 20.4 percent in 2013.

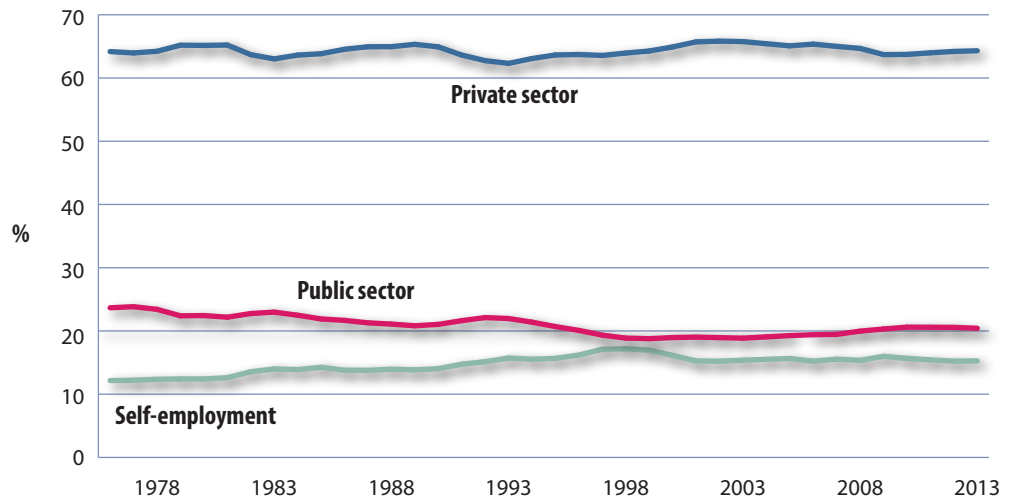
1. Unless otherwise stated, data used in this section come from Statistics Canada's Labour Force Survey (LFS). This is a household survey of a sample of individuals who are representative of the civilian population 15 years of age or older. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Forces, and the institutionalized population (for example, inmates of penal institutions and patients in hospitals or nursing homes who have resided in the institution for more than six months). These groups together represent an exclusion of approximately 2.0 percent of the population aged 15 and over (Statistics Canada, 2014h: 19).

Figure 1
Components of total employment, 2013



Sources: Statistics Canada, 2014c; calculations by the authors.

Figure 2
Public sector, private sector, and self-employment as share of total employment



Sources: Statistics Canada, 2014c; calculations by the authors.

On the other hand, private sector employment as a share of total employment has remained relatively stable: 64.2 percent in 1976 versus 64.3 percent in 2013. The number of private sector workers increased by 82.3 percent, from 6.3 million workers to 11.4 million workers over this period.

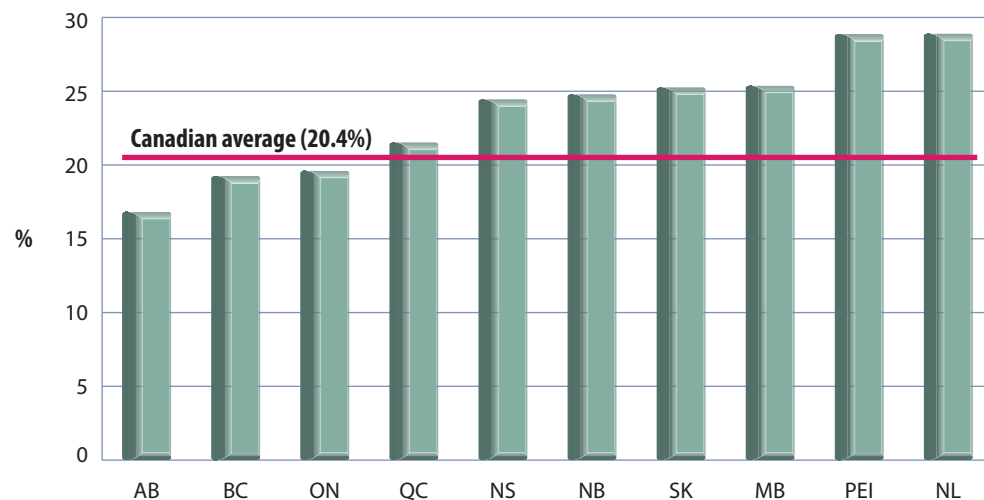
Meanwhile, self-employment more than doubled from 1.2 million people in 1976 to 2.7 million in 2013 (Statistics Canada, 2014c), increasing its share of total employment to 15.3 percent in 2013 from 12.2 percent in 1976 (the share peaked at 17.2 percent in 1998).

Provincial overview: public sector employment

On average, one out of five Canadian workers (20.4 percent of total employment) is employed by the various levels of government in Canada.² This proportion varies from province to province. In 2013, the public sector's share of total provincial employment ranged from 16.8 percent in Alberta to 28.9 percent in Prince Edward Island and Newfoundland & Labrador (**figure 3**). Even in Alberta, nearly one out of six workers was employed in the public sector, indicating that the government sector is a large and important component of total employment across the country. In six provinces—Nova Scotia, New Brunswick, Saskatchewan, Manitoba, Prince Edward Island, and Newfoundland & Labrador—the public sector comprised almost one-quarter or more of total employment.

Figure 3

Public sector employment as a share of total employment, by province, 2013



Note: Total employment includes self-employment

Sources: Statistics Canada, 2014c; calculations by the authors.

2. The Labour Force Survey data breaks down the data by sector (public and private) but it does not provide public sector data for different levels of government. In Palacios and Clemens (2013), data from Statistics Canada's Public Sector Statistics Division (PSSD) was used to present provincial public sector employment by level of government. Unfortunately, this data has been discontinued and the latest year available is 2011. In 2011, the latest year with data available on the breakdown of total public sector workers in Canada by level of government, 12.3 percent were federal employees, 49.4 percent were provincial employees, and 38.3 percent were local government employees (Palacios and Clemens, 2013). Federal employees exclude reservists and full-time military personnel. For the 2011 composition of public sector employment, see Palacios and Clemens (2013: table 1).

Past research comparing wages in the government and private sectors

A number of studies have empirically quantified wage differences between similar occupations in the private and public sectors.³ Nearly all of the studies summarized in this section measure just the wage differences between the public and private sectors; this is due to lack of sufficient data on non-wage benefits.

In a seminal study, University of Toronto Professor Morley Gunderson (1979) examined wage differences between the public and private sectors using data from the 1971 Canadian Census. He found that, after controlling for the effect of other determinants of pay, the pure wage premium in Canada's public sector relative to the private sector was 6.2 percent for males and 8.6 percent for females. Lower-wage workers received the largest premium.

Shapiro and Stelcner (1989) extended Gunderson's analysis using the 1981 Canadian Census data. They found that after accounting for factors such as education, training, and work experience, the public sector wage premium was 4.2 percent for males and 12.2 percent for females in 1980.

In a comprehensive follow-up study, Gunderson and two of his colleagues expanded his original analysis by using Census data from 1971, 1981, 1991, and 1996, as well as data from the 1997 Labour Force Survey (Gunderson et al., 2000).⁴ They found a public sector wage premium of 7.6 percent using the survey data and about 9.0 percent using the 1996 Census data. Overall, Gunderson et al. (2000) found that the findings from the two data sources were quite consistent, suggesting that, on average, those in the public sector

3. Note that male-female wage and union/non-union wage differentials are outside of the scope of this study. For a survey of this literature, see Ehrenberg and Schwarz (1986) and Bender (1998).

4. The major advantage of the Labour Force Survey data is that public sector workers are explicitly identified, whereas they are not in the Census data.

received a wage premium of roughly 9 percent compared to similar workers in the private sector.^{5,6}

Prescott and Wandschneider (1999) examined 1981 and 1990 survey data from Canada's Survey of Consumer Finances and found a higher public sector wage premium: 14.3 percent for males and 25.0 percent for females for 1990.⁷

Mueller (2000) examined differences in public sector wage premiums by the level of government (federal, provincial, and local) using Canadian data from 1988 to 1990 from the Labour Market Activity Survey (LMAS), and found that the premiums were the highest for federal government employees followed by those in local and provincial governments.⁸ Overall, the public sector wage premium was 3.3 percent for males and 11.3 percent for females. At the federal level, the wage premium for public sector workers was 7.8 percent for males and 16.0 percent for females compared to the private sector. At the provincial level, the public sector wage premium was negative 3.5 percent for males and positive 10.9 percent for females. Finally, at the local or municipal level, the public sector wage premium was 5.0 percent for males and 6.6 percent for females over the private sector.

The Canadian Federation of Independent Businesses (CFIB) used 2006 Census data and found that not only were wages higher in the public sector, but non-wage benefits were too. The CFIB found "that government and public sector employees are paid roughly 8 to 17 percent more than similarly employed individuals in the private sector" (Mallett and Wong, 2008: 1). However, after "taking into account significantly higher paid [non-wage] benefits and shorter workweeks, the public sector total compensation advantage balloons past 30 percent" (Mallett and Wong, 2008: 1).⁹

5. The Gunderson et al. (2000) estimate of the public sector wage premium in 1971 is different from that found in Gunderson (1979). This is likely due to slightly different specifications used in the 2000 study to make the wage premium estimates comparable across the three Census years (1971, 1981, and 1991). For example, Gunderson et al. (2000) includes those in the military, since those people could not be excluded from the 1991 Census, whereas people in the military are excluded in Gunderson (1979).

6. While the 1996 Census data are not strictly comparable to those from earlier Censuses due to different industry classifications, the wage premium based on the 1996 data is higher than the wage premium from earlier Censuses (4.6 percent in 1971, 5.5 percent in 1981, and 8.5 percent in 1991), suggesting that the premium has potentially increased over the past few decades.

7. The authors found that from 1981 to 1990, the public sector wage premium for males slightly declined, while for females it increased.

8. Mueller (1998) obtained similar results. The author found that public sector wage premiums tend to be higher for federal government employees, females, and low-wage individuals.

9. Mallett and Wong (2008) found that the public sector wage premium was the highest at the federal level (17.3 percent) followed by the municipal level (11.2 percent) and provincial level (7.9 percent). Once the non-wage benefits are included, the public sector compensation premium increases to 41.7 percent for federal workers, 35.9 percent for municipal workers, and 24.9 percent for provincial workers.

More recently, Tiagi (2010) examined the public sector wage premium for male and female workers in Canada using data from Statistics Canada's September 2008 Labour Force Survey. After controlling for individual differences among workers in the two sectors—such as education, marital status, occupation, job tenure, and unionization—the author found that both male and female public sector workers receive a wage premium: 5.4 percent for men and 19.8 percent for women.

There are a few studies that have surveyed the research on public sector wage premiums in Canada. For instance, Bender (1998) completed a comprehensive review of past research on public sector wage premiums for this country and a select group of developed and developing nations. He found that the public sector wage premium in Canada was between 5 and 15 percent.

In 2006, James Lahey, an associate secretary at the Treasury Board Secretariat, reviewed the literature on the public sector wage premium in Canada and concluded that the “federal public service wage premium was likely well under 10 percent” (Treasury Board of Canada Secretariat, 2006: 73). In an update of his study, in 2011, Lahey concluded that the public sector wage premium at the federal level was likely between 8 and 9 percent (Lahey, 2011). He argued that the total compensation premium for federal employees is roughly 15 to 20 percent once non-wage benefits such as pensions are added.

Studies similar to those completed for Canada have been undertaken in other countries, with similar results: the public sector is consistently observed to maintain higher wages and compensation than the private sector.¹⁰ For example, Biggs and Richwine (2011) found that federal workers in the US enjoyed a wage premium of 14 percent. Critically, however, the authors spent considerable time developing estimates for both non-wage benefits and job security. They calculated that the premium enjoyed by the public sector increased to over 60 percent after non-wage benefits and job security were included.

Most recently, Kopelman and Rosen (2014) used American survey data from 1984 to 2012 to analyze the difference in job loss rates between workers in the public and private sectors over the business cycle. They found that, after controlling for variables such as gender and demography, government workers (at all levels) are substantially less likely to lose their jobs than their counterparts in the private sector. The results hold in different economic conditions. For instance, during the recent recession, federal workers had a

10. See, for example, Smith (1976, 1977), Venti (1985), Moore and Raisian (1991), Choudhury (1994), and Ramoni-Perazzi and Bellante (2007). Gregory and Borland (1999) and Ehrenberg and Schwarz (1986) provide prominent reviews of this literature for the US and/or other countries.

7.3 percent probability of job loss while private sector workers had an average 12.6 percent probability of job loss.¹¹

Explaining the public sector premium

There are a number of potential causes for the compensation premium observed in the public sector. Importantly, two of them yield an understanding of how such a premium might be managed and eliminated over time.

The first consideration is the type of constraint facing private sector wages. University of Toronto Professor Morley Gunderson noted in his seminal study, *Earnings Differentials between the Public and Private Sectors* (1979), that the main difference in the process of determining wages between the public and private sectors was that profits are the main constraint on wages in the private sector. That is, to maximize profits, businesses set wages in line with workers' productivity so they can attract and retain the workers they require to compete.

In the public sector, on the other hand, Gunderson observed that the "profit constraint [on wages] is replaced by an ultimate political constraint" (1979: 230). That is, wages are determined through political bargaining between governments and employee groups (largely unions). Ultimately, public sector wages "depend on their [i.e., employee groups'] ability to compete with other interest groups over the allocation of the public budget" (1979: 230). In addition, Gunderson explained that the government's ability to tax and borrow enables it to increase wages without having to reduce public services or substitute labour for other inputs such as capital. For these reasons, Gunderson concluded that the political constraint in the public sector on wages may be less binding (effective) than the profit constraint in the private sector.

The second consideration is the environment within which the private and public sectors exist. Most of the public sector operates as a monopoly, which means there is no threat from competition. In other words, individuals cannot choose an alternative provider for government services. This monopoly on service provision means that the unions representing public sector workers can demand a wage premium without fear of competitive pressure or responses from other firms.

In contrast, the private sector is rarely in a monopoly situation; when one does exist, it is normally imposed by the state. Competition and the threat of competition characterize non-monopoly markets. Firms, therefore, have

11. Munnell and Fraenkel (2013) came to a similar conclusion: despite the recent recession's negative effect on state and local employment, public sector workers had a greater degree of job security than private sector workers.

to better balance the need to retain and attract workers with their ability to compete against other firms on price, quality, and cost.

These two environments have distinct effects on unions and the threat of strikes. Since the public sector operates in a monopoly with no competitors, workers can threaten and undertake strikes that disrupt service in the public sector with almost no fear of losing customers or a contract.

In stark contrast, in the private sector, both employers and unions have an incentive to settle their differences quickly, especially under the increased competitive pressures from globalization. Unions know that excessive wage demands will make the firm uncompetitive, which will likely result in reduced future employment. Employers, on the other hand, face trade-offs between wage demands and a loss of market share, profitability, etc., that result from a prolonged dispute. Ultimately, the parties usually come up with a compromise acceptable to both.¹²

Summary

The process of determining wages in the public sector is markedly different from that in the private sector. The public sector wage process is largely determined by political factors, while the process in the private sector is largely guided by market forces and profit constraints. These differences are amplified by the monopoly environment in which the public sector operates versus the competitive environment of the private sector.

The Canadian research examining wage differences between the two sectors over the past three decades consistently indicates a premium for public sector workers. The specific wage premiums vary depending on the data source and time period. What is clear, however, is that a premium exists.

12. For an additional discussion about the differences between the public and private sector, see Christensen (1980), Kornai (1992), and Kornai et al. (2003).

Comparing wages in Canada's public and private sectors

Methodology and data sources

This study uses aggregated monthly data from the Labour Force Survey¹³ from January to December of 2013 (Statistics Canada, 2014b). The major advantage of the Labour Force Survey data is that public sector workers are explicitly identified, whereas they are not in the National Household Survey data.¹⁴ The Labour Force Survey sample for Canada consists of 638,375 individuals for whom their hourly wage rate, age, gender, education, province, marital status, type of work, and other characteristics were available. The analysis covers paid government and private sector employees only (persons 15 years of age and over with employment income). It excludes the self-employed, unemployed persons, and persons not in the labour force. The Labour Force Survey breaks down the data by sector (public and private) but does not provide data for different levels of government. Therefore, the public sector wage premium in this section contains workers from the federal, provincial, and local governments in Canada.¹⁵

13. The Labour Force Survey is a monthly survey. However, the data used for the empirical analysis in this report is aggregated data over the 12-month period from January to December 2013.

14. The Labour Force Survey has a “class of worker” variable that designates whether the employer is a government or privately owned enterprise, whereas the National Household Survey does not have such variable to distinguish government from private employers.

15. Specifically, the Labour Force Survey considers the public sector as those working for federal general government (i.e., federal public administration), federal government business enterprises, provincial general government, provincial health and social service institutions, universities, colleges, vocational and trade institutions, provincial government business enterprises, local general government, local school boards, and local government business enterprises. Those in the military armed forces are excluded from the survey.

Descriptive statistics

Table 1 indicates the distribution of public and private sector employment across various labour force characteristics such as gender, age, marital status, level of education, job status, tenure, province of employment, size of firm, occupation, and industry. The distinction in the table between public and private indicates whether the employer is a government or a private sector organization.

Table 1
Distribution of the public and private sector workforce across various groups, 2013

	PUBLIC SECTOR		PRIVATE SECTOR	
	Number	%	Number	%
TOTAL	167,576	26.3	470,799	73.7
Male	60,649	36.2	258,083	54.8
Female	106,927	63.8	212,716	45.2
Age 15-19	2,189	1.3	35,758	7.6
Age 20-24	7,879	4.7	53,609	11.4
Age 25-29	14,374	8.6	50,236	10.7
Age 30-34	17,992	10.7	49,229	10.5
Age 35-39	19,168	11.4	46,791	9.9
Age 40-44	20,718	12.4	48,972	10.4
Age 45-49	23,807	14.2	50,432	10.7
Age 50-54	26,506	15.8	54,669	11.6
Age 55-59	20,419	12.2	42,764	9.1
Age 60-64	10,540	6.3	25,284	5.4
Age 65-69	2,977	1.8	9,425	2.0
Age 70 +	1,007	0.6	3,630	0.8
Married	93,640	55.9	208,172	44.2
Living in common-law	24,066	14.4	70,066	14.9
Widowed	2,127	1.3	5,112	1.1
Separated	5,153	3.1	13,301	2.8
Divorced	10,246	6.1	21,858	4.6
Single, never married	32,344	19.3	152,290	32.3
0 to 8 years	1,058	0.6	10,574	2.2
Some secondary	4,929	2.9	55,274	11.7
Grade 11 to 13, graduate	21,426	12.8	115,606	24.6
Some post secondary	8,194	4.9	39,503	8.4
Post secondary certificate of diploma	64,720	38.6	172,374	36.6
University: bachelors degree	44,618	26.6	58,124	12.3
University: graduate degree	22,631	13.5	19,344	4.1
Full-time (30+ hours)	141,306	84.3	379,537	80.6
Part-time (1 to 29 hours)	26,270	15.7	91,262	19.4
Tenure 1-5 months	9,212	5.5	61,772	13.1
Tenure 6-11 months	7,782	4.6	48,518	10.3
Tenure 1-5 years	39,236	23.4	162,458	34.5
Tenure 6-10 years	34,041	20.3	81,051	17.2
Tenure 11-20 years	77,305	46.1	117,000	24.9

Table 1 continues on page 14

Table 1, continued

	PUBLIC SECTOR		PRIVATE SECTOR	
	Number	%	Number	%
Permanent	140,420	83.8	410,205	87.1
Not permanent, seasonal	3,180	1.9	18,924	4.0
Not permanent, temporary, term or contract (incl temp. help agency)	16,840	10.0	25,781	5.5
Not permanent, casual or other	7,136	4.3	15,889	3.4
Union member	120,492	71.9	78,118	16.6
Not member, covered by collective agreement	5,474	3.3	7,464	1.6
Not member or covered	41,610	24.8	385,217	81.8
Establishment, less than 20 employees	32,258	19.2	192,110	40.8
Establishment, 20-99 employees	56,632	33.8	160,405	34.1
Establishment, 100-500 employees	39,484	23.6	85,789	18.2
Establishment, more than 500	39,202	23.4	32,495	6.9
Newfoundland	6,879	4.1	14,974	3.2
Prince Edward Island	5,740	3.4	10,684	2.3
Nova Scotia	8,975	5.4	22,176	4.7
New Brunswick	8,484	5.1	21,824	4.6
Quebec	29,387	17.5	80,161	17.0
Ontario	45,276	27.0	137,127	29.1
Manitoba	17,418	10.4	42,108	8.9
Saskatchewan	14,523	8.7	32,181	6.8
Alberta	14,414	8.6	57,078	12.1
British Columbia	16,480	9.8	52,486	11.1
Montreal	6,592	3.9	21,850	4.6
Toronto	6,429	3.8	28,427	6.0
Vancouver	5,889	3.5	20,838	4.4
Other CMA or Non-CMA	148,666	88.7	399,684	84.9
Agriculture	22	0.0	7,054	1.5
Forestry, fishing, mining, oil and gas	609	0.4	18,848	4.0
Utilities	5,757	3.4	990	0.2
Construction	1,056	0.6	41,365	8.8
Manufacturing - durables	51	0.0	37,132	7.9
Manufacturing non-durables	97	0.1	30,208	6.4
Wholesale trade	27	0.0	21,299	4.5
Retail trade	1,039	0.6	81,528	17.3
Transportation and warehousing	6,583	3.9	24,373	5.2
Finance, insurance, real estate and leasing	2,465	1.5	28,990	6.2
Professional, scientific and technical services	482	0.3	28,601	6.1
Management, administrative and other support	404	0.2	20,855	4.4
Educational services	50,231	30.0	3,370	0.7
Health care and social assistance	49,931	29.8	38,286	8.1
Information, culture and recreation	5,257	3.1	19,873	4.2
Accommodation and food services	276	0.2	44,777	9.5
Other services	20	0.0	23,250	4.9
Public administration	43,269	25.8	0	0.0
Senior management occupations	899	0.5	1,375	0.3
Other management occupations	8,655	5.2	26,462	5.6

Table 1 continues on page 15

Table 1, continued

	PUBLIC SECTOR		PRIVATE SECTOR	
	Number	%	Number	%
Professional occupations in business and finance	3,699	2.2	11,324	2.4
Financial, secretarial and administrative occupations	11,004	6.6	22,024	4.7
Clerical occupations, including supervisors	19,455	11.6	46,881	10.0
Natural and applied sciences and related occupations	11,141	6.6	30,836	6.5
Professional occupations in health, nurse supervisors and registered nurses	16,041	9.6	3,930	0.8
Technical, assisting and related occupations in health	13,696	8.2	14,060	3.0
Occupations in social science, government service and religion	13,061	7.8	17,476	3.7
Teachers and professors	29,052	17.3	1,869	0.4
Occupations in art, culture, recreation and sport	4,566	2.7	9,062	1.9
Wholesale, technical, insurance, real estate sales specialists, and retail, wholesale and grain buyers	116	0.1	14,347	3.0
Retail salespersons, sales clerks, cashiers, including retail trade supervisors	1,125	0.7	47,207	10.0
Chefs and cooks, and occupations in food and beverage service, including supervisors	1,198	0.7	23,700	5.0
Occupation in protective services	7,177	4.3	3,804	0.8
Childcare and home support workers	5,377	3.2	4,335	0.9
Sales and service occupations n.e.c., including occupations in travel and accommodation, attendants in recreation and sport as well as supervisors	9,548	5.7	51,003	10.8
Contractors and supervisors in trades and transportation	939	0.6	7,011	1.5
Construction trades	478	0.3	12,363	2.6
Other trades occupations	3,360	2.0	35,513	7.5
Transport and equipment operators	3,649	2.2	23,237	4.9
Trades helpers, construction, and transportation labourers and related occupations	1,364	0.8	15,022	3.2
Occupations unique to primary industry	1,128	0.7	16,319	3.5
Machine operators and assemblers in manufacturing, including supervisors	818	0.5	25,365	5.4
Labourer in processing, manufacturing and utilities	30	0.0	6,274	1.3

Note: Self-employment is not included.

Sources: Statistics Canada, 2014b; calculations by the authors.

Approximately 26 percent of Canadian workers are in the public sector, while approximately 74 percent are in the private sector. Unlike the statistics presented in the previous section (figure 1), those shown in table 1 exclude self-employed people.¹⁶

Table 1 shows that there are many ways in which the public and private sector workforces in Canada differ.

Gender

Overall, the workforce in both sectors combined is 49.9 percent male and 50.1 percent female. However, at 63.8 percent, the public sector has disproportionately more female workers than the private sector at 45.2 percent.

Age

Public sector employees are also older, as indicated by the smaller proportion of the sector in younger age brackets.

Marital status

Consistent with these age differences, there are proportionately more married workers in the public than in the private sector.

Education

The public sector is also substantially more educated than the private sector, with a greater proportion of workers in the public sector having undergraduate or graduate degrees.

Part-time workers

Both sectors have a fairly similar proportion of part-time workers, albeit slightly lower in the public sector (15.7 percent versus 19.4 percent).

Tenure

More than 45 percent of public sector workers have more than 10 years of tenure, suggesting a higher level of job security in the public sector.

Permanent positions

The proportion of employees with permanent jobs, however, is slightly lower in the public sector than in the private sector, largely because of the higher proportion of workers on contract work in that sector: 10.0 percent, versus 5.5 percent in the private sector.

16. The self-employed are excluded because they are not categorized as public or private employee in the Labour Force Survey. Additionally, the wages of the self-employed tend to be unstable compared to those of other employees.

Firm size

Public sector workers are disproportionately concentrated in larger organizations.

Union coverage

As well, 75.2 percent of public sector workers are union members or covered by a collective agreement, compared to 18.2 percent in the private sector.

Industry and occupation

Besides public administration,¹⁷ the vast majority of public sector jobs in Canada are in two industries: educational services and health care and social assistance. It is not surprising that almost 30 percent of the public sector workforce works as teachers, doctors, or nurses. Private sector employment, on the other hand, is much more dispersed across industries, with retail trade, accommodation and food services, and manufacturing industry providing the largest percentage of private sector jobs.

To summarize, the public sector workforce is disproportionately female, older, married, unionized, long-tenured, employed in larger organizations, more educated, and concentrated in fewer industries.

The public sector wage premium: results from empirical analysis

The analysis in this section expands on that done by Palacios and Clemens (2013) and follows earlier academic work by Gunderson et al. (2000).¹⁸ For details on the methodology used to compute the public sector wage premium in this section, please see Appendix A.

17. This sector comprises establishments primarily engaged in activities of a governmental nature, that is, the enactment and judicial interpretation of laws and their pursuant regulations, and the administration of programs based on them. Legislative activities, taxation, national defense, public order and safety, immigration services, foreign affairs and international assistance, and the administration of government programs are activities that are purely governmental in nature. Government owned establishments engaged in activities that are not governmental in nature are classified to the same industry as privately owned establishments engaged in similar activities. For more details about the industry classification system, see <<http://www.statcan.gc.ca/subjects-sujets/standard-norme/naics-scian/2012/index-indexe-eng.htm>>.

18. Palacios and Clemens (2013) use Labour Force Survey data for April 2011 and calculate a public sector wage premium of 35.8 percent without controlling for other independent variables and 12.0 percent after accounting for gender, age, marital status, level of education, job status, tenure, province of employment, size of firm, full-time/part-time, city, and industry. When unionization is accounted for, the public sector wage premium was 9.5 percent.

Table 2 presents the results of the analysis of the public and private wage sector comparison in Canada. The table's second column (Model 1) provides the public sector wage premium calculation without controlling for any factors. In other words, Model 1 represents a calculation that does not account for variables like age, experience, education, and so forth, which we know influence wages. The Model 1 estimate indicates that wages in the public sector, including federal, provincial, and local public sector workers in Canada, are 35.1 percent higher, on average, than in the private sector.

A more appropriate way to determine if there is a wage premium in the public sector is to control for different factors such as gender, age, level of education, experience, and other variables that affect individual wage levels. Table 2's third column (Model 2) controls for these personal characteristics. Controlling for these factors reduces the public sector wage premium in Canada to 9.7 percent, on average. When unionization is included in our model, the premium is reduced to 6.2 percent.¹⁹

Table 2 also provides additional details on the differences in wages across various personal and job characteristics. The characteristics shown in boldface in the first column of table 2 are "reference groups" to which other indicators in the same category are compared. For example, "female" is the reference category for gender. This means that, controlling for other wage-determining factors, men, on average, earn 10.7 percent more than women.

As expected, higher education levels lead to higher wages. Those who graduate from high school earn 9.2 percent more than those with elementary education or less. A university graduate earns 18.7 percent more than those with only elementary schooling, on average, whereas those with a graduate degree earn 23.7 percent more.

Moreover, those with full-time, permanent jobs, and longer tenure, earn, on average, higher wages than those with temporary, part-time jobs, and shorter tenure. On average, those with seasonal, contract, and casual work earn between 5 and 10 percent less than those with permanent jobs. Those who work full time earn 6.6 percent more than those with part-time jobs.

19. Since Palacios and Clemens (2013) use the Labour Force Survey data for April 2011 (one month), they do not control for occupation in their model due to small sample sizes. If we replicate their methodology (excluding occupation as a control variable) and use monthly Labour Force Survey data aggregated from January to December 2013, the public sector wage premium is 11.1 percent after controlling for different factors. When unionization is included in our model, the premium is reduced to 8.9 percent. These are similar results as those obtained by Palacios and Clemens (2013).

Table 2
Public sector wage premium in Canada, 2013
Dependent variable = log of hourly wage

	MODEL 1 Coefficient	MODEL 2 Coefficient
(Private)		
Public	35.1 ***	9.7 ***
(Female)		
Male		10.7 ***
(Age 15-19)		
Age 20-24		4.0 ***
Age 25-29		15.6 ***
Age 30-34		19.0 ***
Age 35-39		21.4 ***
Age 40-44		21.9 ***
Age 45-49		22.7 ***
Age 50-54		22.5 ***
Age 55-59		21.5 ***
Age 60-64		18.9 ***
Age 65-69		10.5 ***
Age 70 +		5.5 ***
(Married)		
Living in common-law		-0.4 ***
Widowed		-3.9 ***
Separated		-2.1 ***
Divorced		-1.4 ***
Single, never married		-4.3 ***
(Grade 0-8)		
Some secondary		4.6 ***
11 to 13 years of schooling		7.6 ***
Some post secondary		9.2 ***
Post secondary certificate		12.6 ***
Bachelors degree		18.7 ***
Masters degree		23.7 ***
(Tenure 1-5 months)		
Tenure 6-11 months		0.8 ***
Tenure 1-5 years		4.3 ***
Tenure 6-10 years		11.3 ***
Tenure 11-20 years		18.1 ***
(Permanent Work)		
Seasonal Work		-9.1 ***
Contract Work		-5.3 ***
Casual Work		-5.2 ***
(Full Time)		
Part Time		-6.6 ***
(Establishment, less than 20 employees)		
Establishment, 20-99 employees		6.2 ***
Establishment, 100-500 employees		10.4 ***
Establishment, more than 500		17.0 ***

Table 2 continues on page 20

Table 2, continued

	MODEL 1 Coefficient	MODEL 2 Coefficient
(Newfoundland)		
Prince Edward Island		-10.2 ***
Nova Scotia		-7.2 ***
New Brunswick		-9.7 ***
Quebec		-3.2 ***
Ontario		2.2 ***
Manitoba		-3.6 ***
Saskatchewan		7.7 ***
Alberta		17.2 ***
British Columbia		7.5 ***
(Montreal)		
Toronto		-1.0 ***
Vancouver		-3.2 ***
Other CMA or Non CMA		-0.8 ***
(Agriculture)		
Forestry, fishing, mining, oil and gas		40.3 ***
Utilities		31.6 ***
Construction		29.2 ***
Manufacturing - durables		19.3 ***
Manufacturing non-durables		14.4 ***
Wholesale trade		17.1 ***
Retail trade		1.7 ***
Transportation and warehousing		17.7 ***
Finance, insurance, real estate and leasing		18.4 ***
Professional, scientific and technical services		23.0 ***
Management, administrative and other support		5.8 ***
Educational services		14.8 ***
Health care and social assistance		9.3 ***
Information, culture and recreation		11.6 ***
Accommodation and food services		-0.6
Other services		10.0 ***
Public administration		24.5 ***
(Senior management occupations)		
Other management occupations		-11.5 ***
Professional occupations in business and finance		-21.0 ***
Financial, secretarial and administrative occupations		-46.9 ***
Clerical occupations, including supervisors		-55.8 ***
Natural and applied sciences and related occupations		-26.3 ***
Professional occupations in health, nurse supervisors and registered nurses		-7.5 ***
Technical, assisting and related occupations in health		-39.1 ***
Occupations in social science, government service and religion		-32.5 ***
Teachers and professors		-21.1 ***
Occupations in art, culture, recreation and sport		-39.8 ***
Wholesale, technical, insurance, real estate sales specialists, and retail, wholesale and grain buyers		-40.4 ***
Retail salespersons, sales clerks, cashiers, including retail trade supervisors		-59.5 ***

Table 2 continues on page 21

Table 2, continued

	MODEL 1 Coefficient	MODEL 2 Coefficient
Chefs and cooks, and occupations in food and beverage service, including supervisors		-58.2 ***
Occupation in protective services		-51.2 ***
Childcare and home support workers		-64.8 ***
Sales and service occupations n.e.c., including occupations in travel and accommodation, attendants in recreation and sport as well as supervisors		-64.9 ***
Contractors and supervisors in trades and transportation		-33.6 ***
Construction trades		-43.5 ***
Other trades occupations		-38.7 ***
Transport and equipment operators		-52.3 ***
Trades helpers, construction, and transportation labourers and related occupations		-58.2 ***
Occupations unique to primary industry		-50.4 ***
Machine operators and assemblers in manufacturing, including supervisors		-58.3 ***
Labourer in processing, manufacturing and utilities		-68.4 ***
Constant	2.9 ***	2.8 ***
N	638,375	638,375
Adjusted R Square	0.10	0.57

Notes:

(a) Self-employment is not included.

(b) * = significant at the 90% level; ** = significant at the 95% level; *** = significant at the 99% level; estimates without asterisks are insignificant at those three levels.

Sources: Statistics Canada, 2014b; calculations by the authors.

The public sector wage premium by industry

New to this edition of the study is an analysis of the public sector wage premium in particular industries. **Table 3** summarizes the public sector wage premium for six of 18 industries after accounting for the various factors listed in table 2.²⁰ The wage premium for public sector workers in health care and social assistance is 16.1 percent. In three industries (transportation and warehousing; finance, insurance, real estate, and leasing; and educational services), public sector workers earn, on average, a wage premium of approximately 9 percent. In the information, culture, and recreation industry, workers in the public sector earn, on average, 2.7 percent more than their counterparts in the private sector. In the utilities industry, public sector workers earn, on average, 1.8 percent less than their private sector counterparts, although this finding is not statistically significant.

20. These industries were selected because the percentage of workers employed in them (in either the public or private sector) was 5 percent or more among the sample. Twelve of the 18 industries were excluded because their sample sizes were below the 5 percent threshold.

Table 3
Public sector wage premium in Canada, by industry, 2013
Dependent variable = log of hourly wage

	Coefficient	N	R-squared
Utilities	-1.8	6,747	0.25
Transportation and warehousing	9.2 ***	30,956	0.27
Finance, insurance, real estate and leasing	8.7 ***	31,455	0.33
Educational services	8.6 ***	53,601	0.36
Health care and social assistance	16.1 ***	88,217	0.37
Information, culture and recreation	2.7 ***	25,130	0.47

Notes:

(a) The control variables used in these regressions were similar to the ones used in the earlier regressions. This includes controls for sex, age, marital status, education, experience, type of employment (seasonal, contractual), establishment size, province, city, part-time or full-time work, and tenure.

(b) Only those industries with a sample size of more than 5% are selected.

(c) * = significant at the 90% level; ** = significant at the 95% level; *** = significant at the 99% level; estimates without asterisks are insignificant at those three levels.

(d) The Labour Force Survey uses 12 age groups to categorize the data. Instead of using 12 independent variables for this analysis, the authors use only one variable, "age", which represents the mid age of each age group.

Sources: Statistics Canada, 2014b; calculations by the authors.

The public sector wage premium by occupation

This study also estimates the public sector wage premium within particular occupations. **Table 4** presents the public sector wage premium for 19 of 25 occupations (also after accounting for other factors that drive wages).²¹ Within these occupations, public sector workers generally earn more than their private sector counterparts with the exception of senior management occupations, although this latter result was not statistically significant. For results that are statistically significant, the public sector wage premium ranges from a low of 2.2 percent (occupations unique to primary industry) to a high of 37.2 percent (occupations in protective services).²² Within the childcare and home support worker occupation, public sector workers earn nearly a quarter more than their private sector counterparts. Public sector workers in the teachers and professors occupation earn an average wage premium of 17.0 percent. There is a 15.6 percent public sector wage premium for clerical occupations.

21. These occupations were selected because the percentage of workers in them (in either the public or private sector) was 5 percent or more among the sample. Six of the 25 occupations were excluded because their sample sizes were below the 5 percent threshold.

22. Public sector workers in professional occupations in health, nurse supervisors, and registered nurses earn a wage premium of 1.1 percent, but this result is not statistically significant.

Table 4
Public sector wage premium in Canada, by occupation, 2013
Dependent variable = log of hourly wage

	Coefficient	N	R-squared
Senior management occupations	-3.4	2,274	0.25
Other management occupations	11.4 ***	35,117	0.31
Professional occupations in business and finance	12.4 ***	15,023	0.26
Financial, secretarial and administrative occupations	11.7 ***	33,028	0.25
Clerical occupations, including supervisors	15.6 ***	66,336	0.34
Natural and applied sciences and related occupations	6.3 ***	41,977	0.32
Professional occupations in health, nurse supervisors and registered nurses	1.1	19,971	0.17
Technical, assisting and related occupations in health	10.5 ***	27,756	0.25
Occupations in social science, government service and religion	19.5 ***	30,537	0.43
Teachers and professors	17.0 ***	30,921	0.25
Occupations in art, culture, recreation and sport	6.4 ***	13,628	0.44
Occupation in protective services	37.2 ***	10,981	0.51
Childcare and home support workers	23.8 ***	9,712	0.42
Sales and service occupations n.e.c., including occupations in travel and accommodation, attendants in recreation and sport as well as supervisors	16.7 ***	60,551	0.40
Contractors and supervisors in trades and transportation	3.5 ***	7,950	0.24
Other trades occupations	8.5 ***	38,873	0.36
Transport and equipment operators	6.8 ***	26,886	0.26
Trades helpers, construction, and transportation labourers and related occupations	8.2 ***	16,386	0.34
Occupations unique to primary industry	2.2 **	17,447	0.45

Notes:

(a) The control variables used in these regressions were similar to the ones used in the earlier regressions. This includes controls for sex, age, marital status, education, experience, type of employment (seasonal, contractual), establishment size, province, city, part-time or full-time work, and tenure.

(b) Only those occupations with a sample size of more than 5% are selected.

(c) * = significant at the 90% level; ** = significant at the 95% level; *** = significant at the 99% level; estimates without asterisks are insignificant at those three levels.

(d) The Labour Force Survey uses 12 age groups to categorize the data. Instead of using 12 independent variables for this analysis, the authors use only one variable, "age", which represents the mid age of each age group.

Sources: Statistics Canada, 2014b; calculations by the authors.

Summary

Public sector workers earn a wage premium of 9.7 percent, on average. When unionization is accounted for, the wage premium declines to 6.2 percent. These findings are in line with previous research investigating wage differences between the two sectors. It is important to note that the wage premium varies within particular industries and occupations. That said, wages are only a part of the total compensation package. Previous studies indicate that, once non-wage benefits are considered, the public sector premium increases substantially.

Comparing non-wage benefits in Canada’s public and private sectors

Although public sector workers in Canada enjoy a wage premium, this does not tell us whether their overall compensation is higher than, comparable to, or lower than that of workers in the private sector. That is because wages are only a part of total employee compensation.

Unfortunately, individual data on non-wage benefits, such as pensions, vacation time, and health benefits, are not readily available in Canada, which explains the lack of research on this aspect of employee compensation. It is critical that Canada’s statistical agency, Statistics Canada, augment its current survey in order to begin collecting and analyzing data on non-wage benefits.

Fortunately, there are some aggregated non-wage benefit data that can be examined to roughly surmise whether non-wage benefits are lower, comparable, or higher in Canada’s public sector than in the nation’s private sector. Four specific sources of non-wage benefits data are examined: registered pensions, average age of retirement, job loss (as a proxy of job security), and the absence rate of full-time employees.

Registered Pensions

The pension benefit is the first non-wage benefit to consider. It has two important dimensions. The first is the percentage of workers in both sectors who have a registered pension. **Table 5** summarizes the pension data for Canada.²³

23. The registered pension plan data comes from the annual Pension Plans in Canada Survey (PPIC). Meanwhile, total employment data comes from Statistics Canada’s Labour Force Survey (LFS). Although these two data sets (PPIC and LFS) are comparable, there are some conceptual differences that should be pointed out. First, members of Canadian Registered Pension Plans (RPP) living on Indian reserves (in any province or territory) as well as those working outside Canada (less than 1 percent of total RPP membership) are included in the pension plan membership but these groups are excluded from labour force survey estimates. Second, labour force estimates are annual averages while pension plan

Table 5
Registered pension plan (RPP) members in Canada, by type of plan and sector, January 1, 2013

	TOTAL (public and private sectors)		PRIVATE SECTOR		PUBLIC SECTOR	
	Number	%	Number	%	Number	%
Defined benefit plans	4,422,838	71.5	1,427,067	47.5	2,995,771	94.2
Defined contribution plans	1,030,311	16.7	884,029	29.4	146,282	4.6
Other pension plans	731,833	11.8	694,582	23.1	37,251	1.2
Total number of members	6,184,982		3,005,678		3,179,304	
Total Employment, 2013	16,182,400		12,560,500		3,621,900	
% of employees covered by pension plans		38.2		23.9		87.8

Notes:

(a) Total employment includes workers in the public and private sector as well as self-employed workers in incorporated business (with and without paid help). Self-employed incorporated businesses are included in the private sector because, like their public and private sector counterparts, they are able to have a registered pension plan (RPP).

(b) The registered pension plan data comes from the annual Pension Plans in Canada Survey (PPIC). Meanwhile, total employment data comes from Statistics Canada's Labour Force Survey (LFS). Although these two data sets (PPIC and LFS) are comparable, there are some conceptual differences that should be pointed out:

(i) Members of Canadian Registered Pension Plans (RPP) living on Indian reserves (in any province or territory) as well as those working outside Canada (less than 1% of total RPP membership) are included in the pension plan membership but these groups are excluded from labour force survey estimates;

(ii) Labour force estimates are annual averages while pension plan membership refers to the number of active, employed participants as of January 1, 2013;

(iii) The Labour Force Survey does not cover full-time members of the Armed Forces; however, adjustments are made to the labour force estimates to eliminate that difference.

(c) Due to some conceptual differences between the PPIC and LFS, the percentage of employees covered by a pension plan might be lower than the numbers shown in this table.

(d) Numbers may not add up to the total due to rounding.

Sources: Statistics Canada, 2014c, 2014d; calculations by the authors.

In terms of registered pension coverage, there is a dramatic difference between the public and private sectors. In 2013, the latest data available at the time of writing, 23.9 percent of private sector workers in Canada were covered by a registered pension plan compared to 87.8 percent of public sector workers. Put differently, while a little over two of every 10 private sector workers have a registered pension plan, nearly nine of every 10 public sector workers do. This gap grows when we consider the second dimension—the type of pension plan in each sector.

A defined benefit plan provides workers with a guaranteed benefit in retirement. A defined contribution plan, on the other hand, provides employees with a benefit that is based on their contributions, their employer's contributions, and earnings on the pension savings over time. A defined benefit

membership refers to the number of active, employed participants as of January 1, 2013. Finally, the Labour Force Survey does not cover full-time members of the Armed Forces.

plan is increasingly scarce in the private sector because of its high costs and risks for employers. Specifically, in a defined benefit pension plan, the employer bears all the financial risk since the employee is guaranteed the benefit. If returns on the pension's investment fund do not match expectations, the employer must increase the contributions to the plan to fully fund the guaranteed benefit.

The comparative data presented in table 5 illustrate the increasing scarcity of defined benefit pensions in the private sector versus the prevalence of these pension plans in the public sector. In 2013, of the workers in Canada who were covered by a pension plan, 94.2 percent of those in the public sector enjoyed a defined benefit pension compared to 47.5 percent of those in the private sector. While almost half of private sector workers have a pension with a guaranteed benefit in retirement, a guaranteed benefit is the norm in the public sector. Public sector workers in Canada are much more likely to be in a registered pension plan, and are much more likely to receive a defined benefit pension, than their private sector counterparts.

Average and median age of retirement

Tables 6a and **6b** present data on the average and median ages of retirement for public and private sector workers between 2009 and 2013, both for Canada as a whole and for individual provinces.²⁴ Regardless of whether the average or median age of retirement is used, public sector workers in Canada retire at an earlier age than their private sector counterparts. Specifically, on average, Canada's public sector workers retire 2.4 years earlier than do the country's private sector workers. The gap increases to 2.9 years if the median rather than the average is used.

In terms of the average, the gap is largest in New Brunswick and Nova Scotia, where public sector workers retire 3.3 and 3.1 years earlier, respectively, than their private sector counterparts. At 1.3 years, Alberta has the smallest gap. What is clear from tables 6a and 6b is that, in every province, public sector workers tend to retire earlier than private sector workers.

24. Statistics Canada noted that the data on age of retirement should be used with caution due to small sample sizes, especially for the provinces. Five-year averages were used (2009 to 2013) to try to mitigate the sample size problem.

Table 6a
Average retirement age in years, 2009–2013

	Total	Public sector employees	Private sector employees	Difference (years)
Canada	62.4	60.6	63.0	2.4
Newfoundland & Labrador	60.3	58.7	61.4	2.7
Prince Edward Island	62.4	60.9	62.9	2.0
Nova Scotia	62.2	60.2	63.4	3.1
New Brunswick	62.2	60.2	63.4	3.3
Quebec	61.1	59.1	62.0	2.9
Ontario	62.7	61.4	62.8	1.4
Manitoba	63.2	61.2	63.8	2.5
Saskatchewan	63.3	60.9	63.8	2.9
Alberta	63.4	62.4	63.7	1.3
British Columbia	63.3	61.0	63.8	2.8

Notes:

(a) Total includes workers in the public and private sector, and self-employed individuals (including unpaid family workers).

(b) The difference in years may not equal the difference as displayed by the data because the retirement age years for both the public and private sectors are rounded.

Sources: Statistics Canada, 2014e; calculations by the authors.

Table 6b
Median retirement age in years, 2009–2013

	Total	Public sector employees	Private sector employees	Difference (years)
Canada	62.3	60.3	63.2	2.9
Newfoundland & Labrador	60.2	58.5	62.1	3.6
Prince Edward Island	62.1	61.2	63.3	2.1
Nova Scotia	61.0	59.9	63.5	3.6
New Brunswick	62.3	59.9	64.0	4.1
Quebec	60.3	58.7	61.4	2.7
Ontario	63.0	61.4	63.4	2.0
Manitoba	63.0	61.0	64.0	3.0
Saskatchewan	63.2	61.0	64.2	3.3
Alberta	63.9	63.1	64.3	1.2
British Columbia	63.2	60.3	63.9	3.6

Notes: See table 6a.

Sources: See table 6a.

Job loss as a proxy for job security

Table 7 presents data on job losses in 2013 (excluding those with temporary employment) for Canada as a whole and for the provinces. There are several reasons for job loss, including firms moving location, firms going out of business, changing business conditions, and dismissal. In 2013, 3.6 percent of those employed in the private sector experienced job loss in Canada, compared to only 0.7 percent of those employed in the public sector.

On a provincial basis, the loss of jobs in the public sector ranged from 0.5 percent in Quebec and Manitoba to 1.4 percent in Prince Edward Island. Private sector workers, on the other hand, were much more likely to lose their jobs in the Atlantic Provinces, where job losses ranged from 4.5 percent in Nova Scotia to 6.4 percent in Newfoundland & Labrador. At 1.9 percent, private sector workers in Saskatchewan had the lowest job loss rate.

Table 7
Job loss by class of workers, 2013

	Job losses (thousands)			Job losses (% of employment)			
	Total	Public sector	Private sector	Total	Public sector	Private sector	Difference (percentage points)
Canada	440.8	25.4	415.3	2.9	0.7	3.6	2.9
Newfoundland & Labrador	9.9	0.8	9.1	4.7	1.2	6.4	5.2
Prince Edward Island	2.3	0.3	2.1	3.7	1.4	5.0	3.6
Nova Scotia	13.4	1.0	12.4	3.4	0.9	4.5	3.6
New Brunswick	14.3	0.9	13.4	4.6	1.0	6.0	4.9
Quebec	115.4	4.7	110.7	3.3	0.5	4.2	3.7
Ontario	179.6	10.2	169.4	3.1	0.8	3.8	3.0
Manitoba	10.3	0.8	9.5	1.9	0.5	2.5	2.0
Saskatchewan	6.7	0.8	6.0	1.5	0.6	1.9	1.4
Alberta	37.6	2.4	35.1	2.0	0.6	2.4	1.7
British Columbia	51.3	3.6	47.7	2.7	0.8	3.3	2.5

Notes:

(a) Total employment includes workers in the public and private sector. Self-employment is not included.

(b) Reasons for losing a job include (1) company moved, (2) company went out of business, (3) business conditions and (4) dismissal by employer. Job losses due to the end of a temporary, casual, or seasonal job are not included.

(c) The difference in percentage points may not equal the difference as displayed by the data because the job loss percentages for both the public and private sectors are rounded.

Sources: Statistics Canada, 2014c, 2012g; calculations by the authors.

Absence rate of full-time employees

Table 8 includes three different measures of absence rates: total incidence rate, total inactivity rate, and total days lost per worker. All data are for 2013.

The total incidence rate is the percentage of full-time paid workers that were absent during a reference week. In 2013, 10.2 percent of full-time public sector workers were absent at some point during the reference week, compared to 7.2 percent of their private sector counterparts. Incidence rates differ by province, but the rates in the public sector are generally higher than those in the private sector. The gap is largest in Newfoundland & Labrador, where the percentage of public sector workers reporting some absence was 5.1 percentage points greater than the percentage of private sector workers. At 1.5 percentage points, Nova Scotia has the smallest gap.

Table 8
Absence rates of full-time employees, by public and private sector, 2013

	Total incidence rate, percent				Total inactivity rate, percent				Total days lost per worker			
	Total	Public sector	Private sector	Difference (percentage points)	Total	Public sector	Private sector	Difference (percentage points)	Total	Public sector	Private sector	Difference (no. of days)
Canada	8.0	10.2	7.2	3.0	3.6	4.8	3.2	1.6	9.0	12.1	8.1	4.0
NL	8.0	11.4	6.3	5.1	4.2	6.1	3.3	2.8	10.5	15.1	8.4	6.7
PE	8.4	11.0	6.9	4.1	4.0	5.5	3.3	2.2	10.0	13.7	8.1	5.6
NS	8.8	9.8	8.3	1.5	4.0	5.1	3.6	1.5	10.1	12.8	9.1	3.7
NB	8.7	11.4	7.5	3.9	4.3	6.0	3.7	2.3	10.8	14.9	9.3	5.6
QC	8.7	11.6	7.8	3.8	4.1	5.7	3.6	2.1	10.2	14.2	8.9	5.3
ON	7.4	9.3	6.8	2.5	3.2	4.2	2.9	1.3	7.9	10.4	7.2	3.2
MB	9.2	11.4	8.3	3.1	4.2	5.6	3.6	2.0	10.4	13.9	9.0	4.9
SK	9.0	10.7	8.2	2.5	4.0	4.8	3.7	1.1	10.0	12.1	9.1	3.0
AB	7.4	9.8	6.9	2.9	3.1	4.2	2.9	1.3	7.8	10.5	7.3	3.2
BC	8.0	9.9	7.4	2.5	4.0	5.1	3.7	1.4	10.1	12.7	9.3	3.4

Notes:

(a) Absence data are only for personal reasons—that is, illness or disability, and personal or family responsibility.

(b) The incidence of absence is the percentage of full-time employees reporting some absence in the reference week. In calculating incidence, the length of work absence—whether an hour, a day, or a full week—is irrelevant.

(c) The inactivity rate shows hours lost as a proportion of the usual weekly hours of all full-time employees. It takes into account both the incidence and length of absence.

(d) Days lost per worker are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250). The estimated number of working days in the year (250) is in line with other research in the field. This number assumes that the typical full-time employee works a 5-day week and is entitled to all statutory holidays (around 10 days a year). Thus, the potential annual labour supply of a typical worker would be 52 weeks multiplied by 5, less 10 statutory holidays, or 250 days. This allows the days lost per worker in a year to be calculated.

Sources: Statistics Canada, 2014f; calculations by the authors.

However, the incidence rate does not account for the length of the absence. This is important, as workers may be absent for only a few hours. The inactivity rate is the number of hours lost as a proportion of the usual weekly hours worked by full-time workers. In 2013, 4.8 percent of hours were lost due to absences in a typical week in the public sector. Meanwhile, only 3.2 percent of hours were lost in the private sector. Among the provinces, Newfoundland & Labrador has the highest inactivity rate in the public sector (6.1 percent) and the largest gap between the public and private sector (2.8 percentage points).

The third measure contained in table 8 is the average number of days lost per worker throughout the year.²⁵ In 2013, among full-time employees, an average of 8.1 days was lost in the private sector compared to 12.1 days in the public sector. Public sector workers in Newfoundland & Labrador have the most days of absence in a year (15.1), which is 6.7 days higher than their private sector counterparts. Public sector workers in Ontario have the least days of absence within a year (10.4 days), but this is still 3.2 days higher than workers in the private sector.

Summary

While there is insufficient data to calculate or make a definitive statement about the differences in non-wage benefits between the public and private sectors in Canada, the available data suggest that the public sector enjoys more generous non-wage benefits than the private sector. More specifically, public sector workers in Canada have higher rates of pension coverage, higher rates of defined benefit pensions, earlier ages of retirement, lower rates of job loss, and higher absence rates than private sector workers in the country.

25. This measure is obtained by multiplying the inactivity rate by the number of working days in a year.

Solutions to the disparities in compensation

The previous sections suggest that government workers enjoy a compensation premium compared to private sector workers along a number of dimensions. To be fair, setting public sector wages and non-wage benefits is not an easy task. To attract and retain skilled and talented employees, governments have to offer competitive compensation packages. However, a system that is overly generous (i.e., pays public sector workers a premium) is unfair to taxpayers. This generosity can also have spillover effects, including inflated wage settlements in the private sector as it attempts to remain competitive with the public sector.²⁶

The empirical analysis in this study found that government sector workers in Canada enjoy higher wages, and probably higher non-wage benefits (including pension coverage, early retirement, job security, and days absent), than comparable workers in the private sector. Given the presence of this wage (and likely non-wage) premium in Canada, the country needs a new institutional framework that is fair to both taxpayers and public sector workers.

1. Gather better data

The first step in achieving an improved system of wage and benefit setting in the public sector is to gather data better and more regularly. Statistics Canada needs to collect data on wage and non-wage benefits of public and private sector workers more comprehensively and on a regular basis. While some of the aggregated data on non-wage benefits such as retirement age, job losses, absenteeism, and pension coverage are available, they are neither detailed enough nor comprehensive enough to enable the non-wage benefits of the public and private sector workers to be empirically analyzed. The additional

²⁶. For instance, Afonso and Gomes (2010) examined the relationship between public and private sector wages using data from 1973 to 2000 for 18 OECD countries, including Canada. They found that a 1.0 percent increase in public sector wages increased the wage in the private sector by 0.3 percent.

data would allow researchers and bureaucrats alike to assess overall public sector compensation and compare it to similar reimbursement in the private sector.

2. Recognize that total compensation is what matters, not wages alone

A second and challenging step in the reform process is to ensure that the comparison between the public and private sectors should centre on total compensation, not just on the narrower comparison of wages or on specific benefits such as pensions. The key is that overall compensation should be compared, not just its specific components. It is entirely feasible—and conceptually acceptable—for the public sector to have a different set of preferences for its compensation than does the private sector. However, again, the critical component is that the total amount of compensation is comparable.

3. Ensure transparency and routine disclosure

In order for the mechanisms that link public sector compensation and private sector equivalents to work, information about public sector wages and benefits must be transparent, accessible, and disclosed regularly.

4. Institute a mechanism for setting compensation

A new institutional framework for setting overall compensation levels in the public sector is necessary. This new framework should link the public sector's overall compensation to that in the private sector. This means that the overall compensation of public sector workers should be similar to that of their private sector counterparts with the same or similar job responsibilities, education level, tenure, and so forth.

There are a variety of options that will enable a more systematized approach to compensation setting using the private sector as a guide for public sector compensation.

Formal mechanisms within government

One approach is to simply legislate a specific mechanism within government that regularly and formally calculates total compensation for public sector positions based on private sector equivalents. (See Appendix B for information on compensation in Canada's federal government.)

Wage boards: An arms-length approach

Over three decades ago, Professor Sandra Christensen suggested the creation of independent wage boards to eliminate the problem of wage premiums in the public sector.²⁷

A wage board is an independent government body responsible for collecting, analyzing, and setting public sector wages and benefits based on private sector equivalents. The information collected and analyzed by these boards would provide the necessary transparency to both taxpayers and governments to set the public sector compensation at the levels prevailing in the private sector.²⁸

Lump sum payments

Another, more radical reform is to empower public sector unions to become more involved in determining the composition of compensation for their members.²⁹ Specifically, the recommendation is to provide unions with a lump-sum compensation total by hour, or perhaps per year, for workers covered by collective agreements. The union would then be asked to determine the mix of wages and benefits for its members. Given that nearly three-quarters of the workers in the public sector are unionized, asking the unions to contribute to the solution, rather than maintaining the adversarial relationship, is critical to the longer-term sustainability of public sector compensation.

27. For more information on the wage board concept, please see Christensen, 1980.

28. Over the past several decades, the federal government has attempted to collect wage and non-wage data on public and private sector workers to help set public sector worker compensation levels. For example, in 1957, the federal government created the Pay Research Bureau with the mission “to provide objective information on compensation and working conditions in government, business, and industry, and to assemble and analyze factual evidence of trends in outside employment” (Treasury Board of Canada Secretariat, 2006: 14). However, the bureau was eliminated in 1992. For details on its role and shortcomings, see Gunderson (1978: 118–121) and Treasury Board of Canada Secretariat (2006). More recently, in 2003, the federal government asked the Public Service Labour Relations Board “to provide impartial, accurate, and timely information on comparative rates of pay, employee earnings, conditions of employment, and benefits in the public and private sectors” (Public Service Labour Relations Board, 2012).

29. Jason Clemens (2010, 2012) has made this recommendation in both Canada and the United States.

Appendix A

Empirical methodology

This study uses aggregated data from the monthly Labour Force Survey over the 12-month period from January to December 2013 (Statistics Canada, 2014b). The analysis covers paid government and private sector employees only (persons 15 years of age and over with employment income); it excludes the self-employed, unemployed persons, and persons not in the labour force.

Data are available for 25 occupations and 18 industries. The classification of occupations is based on Statistics Canada's National Occupational Classification for 2001, or NOC-S2001.

1. Senior Management Occupations
2. Other Management Occupations
3. Professional Occupations in Business and Finance
4. Financial, Secretarial and Administrative Occupations
5. Clerical Occupations, Including Supervisors
6. Natural and Applied Sciences and Related Occupations
7. Professional Occupations in Health, Nurse Supervisors and Registered Nurses
8. Technical, Assisting and Related Occupations in Health
9. Occupations in Social Science, Government Service and Religion
10. Teachers and Professors
11. Occupations in Art, Culture, Recreation and Sport
12. Wholesale, Technical, Insurance, Real Estate Sales Specialists, and Retail, Wholesale and Grain Buyers
13. Retail Salespersons, Sales Clerks, Cashiers, Including Retail Trade Supervisors
14. Chefs and Cooks, and Occupations in Food and Beverage Service, including Supervisors
15. Occupation in Protective Services
16. Childcare and Home Support Workers

17. Sales and Service Occupations n.e.c., including Occ. in Travel and Accommodation, Attendants in Recreation and Sport as well as Supervisors
18. Contractors and Supervisors in Trades and Transportation
19. Construction Trades
20. Other Trades Occupations
21. Transport and Equipment Operators
22. Trades Helpers, Construction, and Transportation Labourers and Related Occupations
23. Occupations Unique to Primary Industry
24. Machine Operators and Assemblers in Manufacturing, including Supervisors
25. Labourer in Processing, Manufacturing and Utilities

The 18 industry groups used in this study are based on the 2007 North American Industrial Classification System (NAICS).

1. Agriculture
2. Forestry, Fishing, Mining, Oil and Gas
3. Utilities
4. Construction
5. Manufacturing—durables
6. Manufacturing—non-durables
7. Wholesale Trade
8. Retail Trade
9. Transportation and Warehousing
10. Finance, Insurance, Real Estate and Leasing
11. Professional, Scientific and Technical Services
12. Management, Administrative and Other Support
13. Educational Services
14. Health Care and Social Assistance
15. Information, Culture and Recreation
16. Accommodation and Food Services
17. Other Services
18. Public Administration

The model used for estimating a public sector wage premium in Canada is similar to the one used by Gunderson et al. (2000):

$$w_i = \beta P_i + \alpha x_i + \eta_i$$

In the equation, w_i denotes the (log) hourly wage of individual i , P is the dummy variable indicating whether an individual is employed in the

public or private sector ($P=1$ for the public sector status), x is a vector of control variables such as gender, age, marital status, education, tenure, type of work (permanent or seasonal), size of firm, industry, occupation, province, city, and η is an error term which includes factors such as unobserved skill or ability. Since we used aggregated data from the Labour Force Survey (which is collected on a monthly basis), we included initially a set of dummy variables for each month to control for seasonal variation in the data. But as these variables did not have a significant influence to the model, they were excluded from the final model. The α and β are coefficient estimates. In other words, the model controls for age, gender, marital status, education, tenure, type of work, province, city, size of establishment, industry, and occupation. Some may argue that age and tenure measure the same thing, i.e., experience. However, tenure in the Labour Force Survey only measures the length of time in the person's current job and thus ignores overall experience. The age indicator is needed to capture the individual's cumulative experience from different jobs over time.

Ordinary least squares (OLS) were used to estimate the wage premium in the public sector. Results were shown in table 2 using different control variables.

Appendix B

Federal public sector compensation

There are shortcomings in the existing federal compensation system. Some of the current issues and potential areas for improvement revolve around the process of setting wage and non-wage benefits.

In 2006 (and its 2011 update), the Treasury Board of Canada Secretariat provided a detailed analysis of how the wage and non-wage benefits are set in the federal public sector (Treasury Board of Canada Secretariat, 2006; Lahey, 2011). These two studies highlight three areas in which the current system could be improved substantially. First, federal compensation should be more comparable to that in the private sector. While some attempts have been made in the past to do so, very little progress has been made so far because “[t]he existing system tends to fluctuate between rapid increases and arbitrary constraints, inflating costs in ‘good’ times and alienating employees in ‘bad’” (Lahey, 2011: 84).

The last 20 years are a good example of this instability. For example, federal public sector employment dropped by about 20 percent in the mid-1990s as part of the Program Review (Lahey, 2011), a rather drastic (but necessary) measure to cut federal spending and balance the federal budget. However, after the Program Review, federal employment grew by about 40 percent by 2009/10 (Lahey, 2011). As a result, the salary costs of federal employees more than doubled from mid 1990s to 2009/10 (Lahey, 2011). This suggests that federal sector compensation ebbs and flows with the federal fiscal situation rather than the actual compensation in the private sector, a proxy for wages that would prevail in a competitive market.

A second issue is the lack of transparency. Currently, detailed data on the federal sector’s total compensation levels and trends (not just wages), is lacking (Lahey, 2011). This information would not only increase public scrutiny but would also allow greater comparability with the private sector (Lahey, 2011). Moreover, once the costs of total compensation are known and readily available, all sides would find it easier to make better informed decisions.

Related to the second point is the balkanization of the current system of salary and non-salary benefits. While the salary levels for federal government

workers are set either directly by the Treasury Board for non-unionized public employees, or through collective bargaining for unionized employees, benefits such as health, dental, disability, and pension plans are set separately (Lahey, 2011). The pension plan for federal employees is governed by statute and, thus, is not covered by collective bargaining. Consequently, this partial system prevents the government from making trade-offs among different parts of total compensation when setting the salaries for public servants or engaging in collective bargaining (Lahey, 2011).

These three factors make the federal public sector compensation a “black box” to all but a few specialists (Lahey, 2011: 84). A more integrated, transparent compensation system in line with private sector compensation would benefit both workers and taxpayers.

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