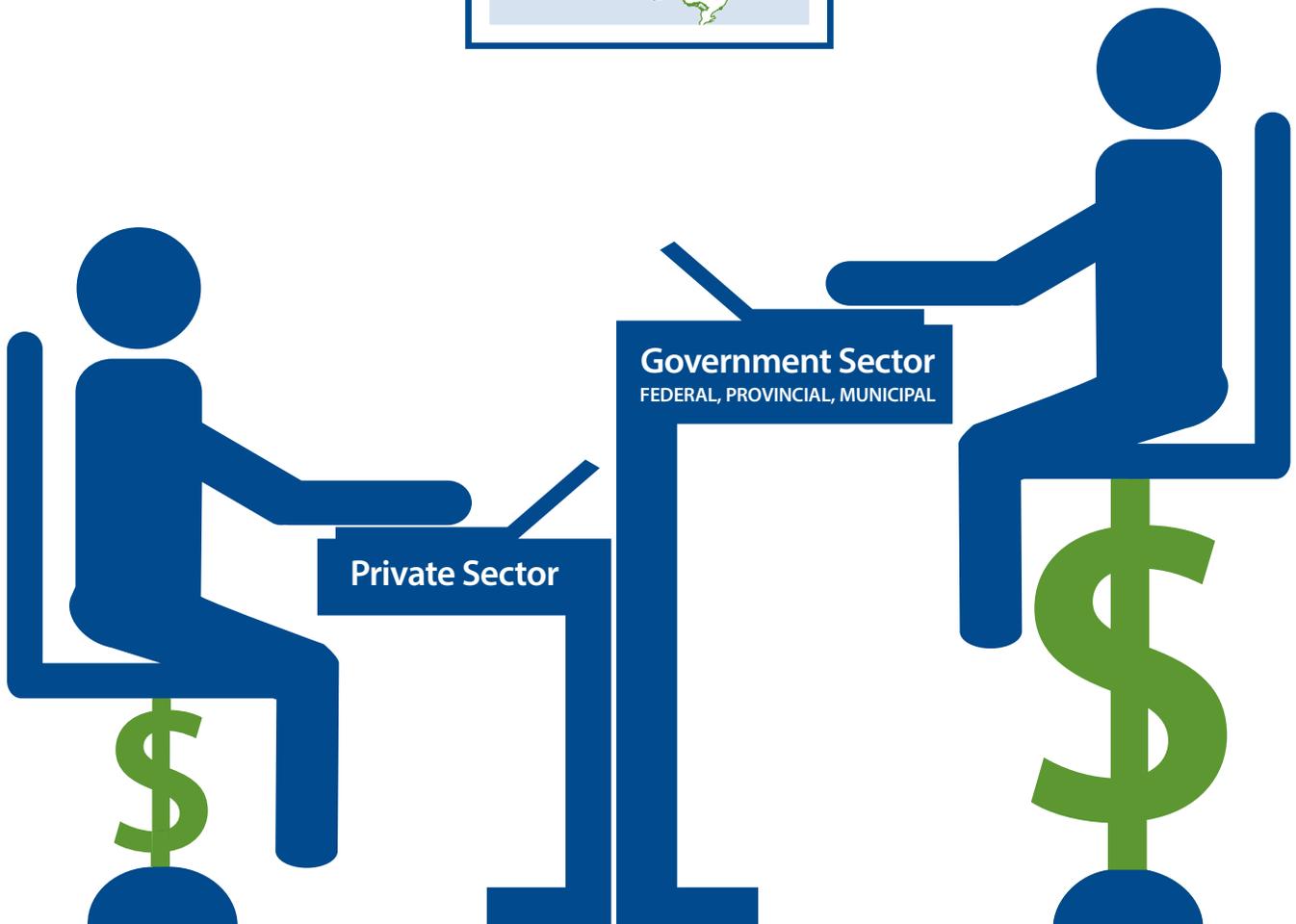


Comparing Government and Private Sector Compensation in British Columbia

Charles Lamnam, Milagros Palacios, Feixue Ren,
and Jason Clemens

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Executive summary

As the BC government struggles with growing debt and looks for ways to restrain spending, now is an opportune time to examine the compensation levels of government employees, particularly in light of ongoing collective bargaining negotiations between the government and its public sector unions.

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 public and private sector compensation in British Columbia for April 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 British Columbia.

While a lack of non-wage benefits data mean 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, type of job, industry, and occupation, British Columbia's public sector workers (from the federal, provincial, and local governments) enjoyed a 6.7 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 public sector declines to 3.6 percent.

Non-wage comparison

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, 86.9 percent of public sector workers in British Columbia were covered by a registered pension plan, compared to 19.2 percent of private sector workers (**figure A**). Of those public sector workers covered by a registered pension plan, 95.7 percent enjoyed a defined benefit pension, compared to 46.9 percent of private sector workers.

In addition, public sector workers in British Columbia retire earlier than their private sector counterparts—about 3 years earlier, on average (**figure B**)—and are less likely to lose their jobs (3.3 percent in the private sector versus 0.8 percent in the public sector) (**figure C**). Government workers in British Columbia also lost more time to absenteeism in 2013 for personal reasons (12.7 days on average) than their private sector counterparts (9.3 days) (**figure D**).

PENSION COVERAGE

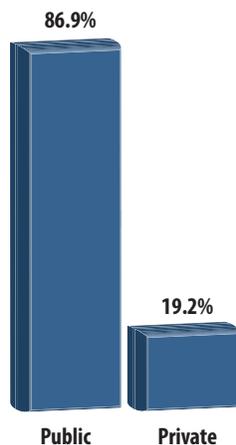


Figure A
Percentage of employees in BC covered by a registered pension plan, as of January 1, 2013

RETIREMENT AGE

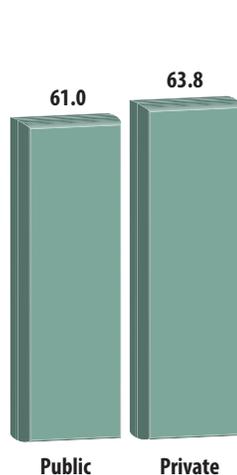


Figure B
Average retirement age in BC, 2009–2013

JOB SECURITY

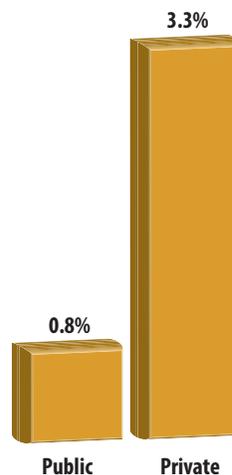


Figure C
Job loss as a percentage of employment in BC, 2013

ABSENTEEISM

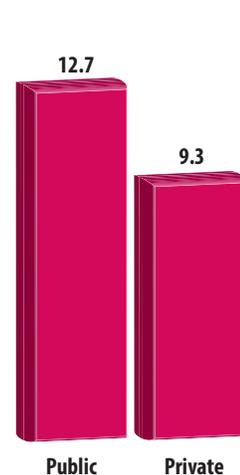


Figure D
Total days lost per BC worker in 2013

Introduction

While British Columbia's government has returned to an operating surplus, the province still faces fiscal challenges as it continues to borrow to pay for capital expenditures, thus increasing government debt. In fact, a recent study warned that the province's fiscal position could become unsustainable unless the government restrains spending in the future (Wen, 2014).

As the BC government struggles with growing debt and looks for ways to restrain spending, now is an opportune time to examine the compensation levels of government employees, particularly with ongoing collective bargaining negotiations between the government and its public sector unions.

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 public and private sector compensation in British Columbia for April 2011 (Karabegović and Clemens, 2013). Using similar methodology and 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 British Columbia.

The study is divided into three sections. The first reviews past research comparing the compensation of public and private sector workers. The second presents and explains the wage comparisons between the private and public sectors (broadly defined) in British Columbia. It also presents a summary of the methodology employed to compare and calculate differences in wages between the two sectors. Finally, the third section compares available non-wage benefits such as pension coverage, the age of retirement, job security, and absenteeism, to ascertain the likelihood that there is also a premium for non-wage benefits in the government compared to the private sector.

A review of past research

Understanding compensation

Before reviewing the existing research comparing public and private sector compensation, it is necessary to highlight the different compensation components. The first and most readily understood of these is the wages people earn from their employment.

A second component of compensation is non-wage benefits. This category includes such benefits as retirement programs (including pensions and RRSPs), dental coverage, supplemental health benefits, fitness and related memberships, and the number of weeks of vacation an employee has. These benefits can represent a significant and meaningful portion of an employee's overall compensation.

A particularly important but frequently ignored third aspect of compensation is job security, and the potential difference in job security between the two sectors. The difference could arise from the fact that there is little to no risk of bankruptcy or insolvency in the public sector, at least in most industrialized countries. Public sector entities that encounter financial problems are generally bailed out in one way or another (i.e., they have “soft” budgets), which allows them to continue operating, in contrast to the private sector.¹

In comparing compensation between the public and private sectors, it is important to include as broad a measure of wages and non-wage benefits as possible. Unfortunately, there are significant data barriers in Canada to measuring both non-wage benefits and job security. Despite that, the goal should be for public sector compensation to broadly reflect private sector compensation for similar and comparable positions. The key is that the *overall* compensation levels should be comparable between public and private sector workers, rather than just the individual compensation components.

1. For a general discussion of this phenomenon, see Janos Kornai's 1986 work on what is referred to as “the soft budget constraint” (Kornai, 1986).

Past research comparing wages in the public and private sectors

A number of studies have empirically quantified wage differences between similar occupations in the private and public sectors.² All of the studies summarized in this section, except for one, 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 data from the 1981 Canadian Census. They found that, in 1980, 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 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).³ 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 received a wage premium of roughly 9 percent compared to similar workers in the private sector.^{4,5}

2. Note that male-female 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).

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

4. 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).

5. 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.

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, in 1990.⁶

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.⁷ 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).⁸

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.

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

7. 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.

8. 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.

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.⁹ 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 7.3 percent probability of job loss while the probability for private sector workers was an average of 12.6 percent.¹⁰

9. 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 other countries.

10. 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.

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 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.¹¹

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.

11. For an additional discussion of the differences between the public and private sectors, see Christensen (1980), Kornai (1992), and Kornai et al. (2003).

Comparing wages in British Columbia's public and private sectors

Methodology and data sources

This study uses aggregated monthly data from the Labour Force Survey¹² from January to December of 2013 (Statistics Canada, 2014a). The major advantage of the Labour Force Survey data is that public sector workers are explicitly identified, whereas they are not explicitly identified in the National Household Survey data.¹³ The Labour Force Survey sample for British Columbia consists of 68,966 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 British Columbia.¹⁴

12. 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.

13. 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.

14. 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. In 2011, the latest year with data available on the breakdown of total public sector workers in British Columbia by level of government, 11.0 percent were federal employees, 55.5 percent were provincial employees, and 33.6 percent were local government employees (Palacios and Clemens, 2013).

The analysis in this section expands on that of Karabegović and Clemens (2013) and follows earlier academic work by Gunderson et al. (2000):¹⁵

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

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, namely 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 are shown in table 1 using different control variables.

Wage comparison results

Table 1 presents the results of the analysis of the public and private wage sector comparison in British Columbia. 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.

15. Karabegović and Clemens (2013) use Labour Force Survey data for April 2011 for British Columbia and use a similar methodology as Gunderson et al. (2000). As a result, the public-sector wage premium was 37.5 percent without considering any control variable and 13.6 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 11.2 percent. The only addition to the current model is the inclusion of occupation as an explanatory variable.

Table 1
Public sector wage premium in British Columbia, 2013
Dependent variable = log of hourly wage

	MODEL 1 Coefficient	MODEL 2 Coefficient
(Private)		
Public	34.2 ***	6.7 ***
(Female)		
Male		10.0 ***
(Age 15-19)		
Age 20-24		3.2 ***
Age 25-29		16.0 ***
Age 30-34		20.5 ***
Age 35-39		22.3 ***
Age 40-44		22.3 ***
Age 45-49		21.9 ***
Age 50-54		22.8 ***
Age 55-59		22.0 ***
Age 60-64		19.5 ***
Age 65-69		13.8 ***
Age 70 +		4.8 **
(Married)		
Living in common-law		0.4
Widowed		-5.4 ***
Separated		-2.6 ***
Divorced		-2.2 ***
Single, never married		-4.7 ***
(Grade 0-8)		
Some secondary		7.4 ***
11 to 13 years of schooling		11.2 ***
Some post secondary		12.6 ***
Post secondary certificate		14.8 ***
Bachelors degree		17.2 ***
Masters degree		22.0 ***
(Tenure 1-5 months)		
Tenure 6-11 months		1.3 **
Tenure 1-5 years		4.5 ***
Tenure 6-10 years		11.6 ***
Tenure 11-20 years		19.7 ***
(Permanent Work)		
Seasonal Work		-6.6 ***
Contract Work		-6.2 ***
Casual Work		-4.2 ***
(Full Time)		
Part Time		-5.9 ***
(Establishment, less than 20 employees)		
Establishment, 20-99 employees		5.9 ***
Establishment, 100-500 employees		10.9 ***
Establishment, more than 500		14.0 ***

Table 1 continues on page 11

Table 1, continued

	MODEL 1 Coefficient	MODEL 2 Coefficient
(Agriculture)		
Forestry, fishing, mining, oil and gas		40.6 ***
Utilities		35.6 ***
Construction		34.7 ***
Manufacturing - durables		27.7 ***
Manufacturing non-durables		16.7 ***
Wholesale trade		20.1 ***
Retail trade		7.9 ***
Transportation and warehousing		26.1 ***
Finance, insurance, real estate and leasing		23.0 ***
Professional, scientific and technical services		31.3 ***
Management, administrative and other support		10.8 ***
Educational services		21.7 ***
Health care and social assistance		18.0 ***
Information, culture and recreation		19.1 ***
Accommodation and food services		6.2 **
Other services		13.3 ***
Public administration		33.1 ***
(Senior management occupations)		
Other management occupations		-7.4 **
Professional occupations in business and finance		-15.5 ***
Financial, secretarial and administrative occupations		-43.4 ***
Clerical occupations, including supervisors		-51.4 ***
Natural and applied sciences and related occupations		-21.3 ***
Professional occupations in health, nurse supervisors and registered nurses		-1.7
Technical, assisting and related occupations in health		-32.4 ***
Occupations in social science, government service and religion		-30.5 ***
Teachers and professors		-20.1 ***
Occupations in art, culture, recreation and sport		-28.8 ***
Wholesale, technical, insurance, real estate sales specialists, and retail, wholesale and grain buyers		-39.1 ***
Retail salespersons, sales clerks, cashiers, including retail trade supervisors		-54.3 ***
Chefs and cooks, and occupations in food and beverage service, including supervisors		-53.5 ***
Occupation in protective services		-43.0 ***
Childcare and home support workers		-52.6 ***
Sales and service occupations n.e.c., including occupations in travel and accommodation, attendants in recreation and sport as well as supervisors		-59.8 ***
Contractors and supervisors in trades and transportation		-21.9 ***
Construction trades		-39.6 ***
Other trades occupations		-25.6 ***
Transport and equipment operators		-40.4 ***
Trades helpers, construction, and transportation labourers and related occupations		-47.3 ***
Occupations unique to primary industry		-39.4 ***

Table 2 continues on page 12

Table 1, continued

	MODEL 1 Coefficient	MODEL 2 Coefficient
Machine operators and assemblers in manufacturing, including supervisors		-46.1 ***
Labourer in processing, manufacturing and utilities		-55.9 ***
Constant	3.0 ***	2.8 ***
N	68,966	68,966
Adjusted R Square	0.09	0.55

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, 2014a; calculations by the authors.

The Model 1 estimate indicates that wages in the public sector, including federal, provincial, and local government workers located in British Columbia, are 34.2 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 1's third column (Model 2) controls for these personal characteristics. Controlling for these factors reduces the public sector wage premium in British Columbia to 6.7 percent, on average.¹⁶ When unionization is included in our model, the premium is reduced to 3.6 percent.¹⁷

Table 1 also provides some additional details on the differences in wages across various personal and job characteristics. The characteristics shown in boldface in table 1 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 10.0 percent more than women.

16. The Labour Force Survey provides data by occupation and industry. However, the public sector wage premium within industry and occupation is not presented in the paper due to small sample sizes.

17. Since Karabegović 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 10.4 percent after controlling for different factors. When unionization is included in our model, the premium is reduced to 8.5 percent.

As expected, higher education levels lead to higher wages. University graduates, on average, earn 17.2 percent more than those with only elementary schooling.

Moreover, those with full-time, permanent jobs and longer tenure earn, on average, higher wages than those with part-time, temporary jobs and shorter tenure.

It is important to emphasize that 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 British Columbia's public and private sectors

Although public sector workers in British Columbia 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 British Columbia's public sector than in the provincial private sector. Four specific sources of non-wage benefits data are examined: registered pensions, average age of retirement, job loss (as a proxy for 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 2** summarizes the pension data for Canada and for British Columbia.¹⁸ In terms of registered pension coverage,

¹⁸ The registered pension plans data come 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 excluded from Labour Force Survey estimates. Second, labour force estimates are annual averages while pension plan

Table 2
Registered pension plan (RPP) members in British Columbia and Canada, by type of plan and sector,
January 1, 2013

	BRITISH COLUMBIA			CANADA		
	Total (public and private)	Private sector	Public sector	Total (public and private)	Private sector	Public sector
<i>Total number of members who have:</i>	698,278	312,052	386,226	6,184,982	3,005,678	3,179,304
Defined benefit plans	515,789	146,300	369,489	4,422,838	1,427,067	2,995,771
Defined contribution plans	101,578	87,547	14,031	1,030,311	884,029	146,282
Other pension plans	80,911	78,205	2,706	731,833	694,582	37,251
Total employment, 2013	2,071,600	1,627,100	444,500	16,182,400	12,560,500	3,621,900
% of employees covered by pension plans	33.7	19.2	86.9	38.2	23.9	87.8
<i>As a % of total number of members</i>						
Defined benefit plans	73.9	46.9	95.7	71.5	47.5	94.2
Defined contribution plans	14.5	28.1	3.6	16.7	29.4	4.6
Other pension plans	11.6	25.1	0.7	11.8	23.1	1.2

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 come 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, 2014b, 2014c; calculations by the authors.

there is a dramatic difference between the public and private sectors. In 2013, the latest data available at the time of writing, 19.2 percent of private sector workers in British Columbia were covered by a pension compared to 86.9 percent of public sector workers.

Second, for those who have pensions, what type of plan do they have? 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 employers' contributions,

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.

and earnings on the pension savings over time. A defined benefit plan is increasingly scarce in the private sector because of its high costs and risks for the employer. Specifically, in a defined benefit pension plan, the employer bears 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 2 illustrates the increasing scarcity of defined benefit pensions in the private sector and compares it to the prevalence of these pension plans in the public sector. In 2013, of the workers in British Columbia who were covered by a pension plan, 95.7 percent of those in the public sector enjoyed a defined benefit pension compared to 46.9 percent of those in the private sector. While less than 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 British Columbia are much more likely to be in a 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 3a and **3b** present data on the average and median age of retirement for public and private sector workers between 2009 and 2013, both for Canada as a whole and for individual provinces.¹⁹ Regardless of whether the average or median age of retirement is used, public sector workers in British Columbia retire at an earlier age than their private sector counterparts. Specifically, on average, British Columbia's public sector workers retire 2.8 years earlier than do the province's private sector workers. The gap increases to 3.6 years if the median rather than the average is used.

¹⁹ 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 3a
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, 2014d; calculations by the authors.

Table 3b
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 3a.

Sources: See table 3a.

Job loss as a proxy for job security

Table 4 presents data on job losses (excluding those with temporary employment) in 2013 for Canada and 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, 3.3 percent of those employed in the private sector experienced job loss in British Columbia, compared to only 0.8 percent of those employed in the public sector.

Table 4
Job loss by class of worker, 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, 2014b, 2014f; calculations by the authors.

Absence rate of full-time employees

Table 5 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, 9.9 percent of full-time public sector workers in British Columbia were absent at some point during the reference week, compared to 7.4 percent of their private sector counterparts.

Table 5

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 for 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, 2014e; 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, 5.1 percent of hours were lost due to absences in a typical week in the public sector. Meanwhile, only 3.7 percent of hours were lost in the private sector.

The third measure in table 5 is the average number of days lost per worker throughout the year.²⁰ In 2013, among full-time employees, an average of 9.3 days were lost in the private sector compared to 12.7 days in the public 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 British Columbia, the available data suggest that the public sector enjoys more generous non-wage benefits than the private sector. More specifically, public sector workers in British Columbia have higher rates of pension coverage, higher rates of defined benefit pensions, lower ages of retirement, lower rates of job loss, and higher absence rates than private sector workers in the province.

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

Conclusion

The empirical analysis of wage data and a survey of available non-wage benefit data for British Columbia indicate that government workers in the province enjoy both higher wages and likely higher non-wage benefits than their private sector counterparts. Specifically, British Columbia's public sector workers (including federal, provincial, and local government workers) enjoy a 6.7 percent wage premium, on average, compared to private sector workers, after adjusting for personal characteristics such as gender, age, marital status, education, tenure, size of establishment, type of job, industry, and occupation. When unionization is included in the analysis, the wage premium for the government sector in British Columbia declines to 3.6 percent.

An examination of the available non-wage benefits data similarly indicates that government workers fare better than those in the private sector. For example, 19.2 percent of private sector workers in British Columbia are covered by a pension, compared to 86.9 percent of public sector workers. And of the workers in British Columbia who were covered by a registered pension plan, 95.7 percent of those in the public sector enjoyed a defined benefit pension compared to 46.9 percent of those in the private sector. In addition, government workers in British Columbia retire earlier than their private sector counterparts—by about 2.8 years, on average. Government workers in British Columbia also have more job security. In 2013, 3.3 percent of private sector workers lost their jobs compared to 0.8 percent of government workers. Finally, government sector workers in British Columbia have higher absence rates than their private sector counterparts. For instance, full-time employees in the government sector lost more work time (12.7 days) in 2013 for personal reasons than their private sector counterparts (9.3 days).

Clearly, government sector workers in British Columbia enjoy higher wages, and more than likely higher non-wage benefits, than comparable workers in the private sector.

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Prof. Stephen Easton	Prof. Lawrence B. Smith
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Past members

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Prof. James M. Buchanan*†	Prof. George Stigler*†
Prof. Friedrich A. Hayek*†	Sir Alan Walters*
Prof. H.G. Johnson*	Prof. Edwin G. West*

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