



Comparing Government and Private Sector Compensation in British Columbia, 2019

by Milagros Palacios and Nathaniel Li

MAIN CONCLUSIONS

■ Using data on individual workers from January to December 2018, this report estimates the wage differential between the government and private sectors in British Columbia. It also evaluates four non-wage benefits for which data are available to quantify differences in the compensation offered by the two sectors.

■ After controlling for factors like gender, age, marital status, education, tenure, size of firm, type of job, immigrant status, industry, and occupation, the authors found that British Columbia's government-sector workers (federal, provincial, and local) enjoyed a 5.8% wage premium, on average, over their private-sector counterparts in 2018. When unionization status is factored into the analysis, the wage premium for the government sector declines to 2.3%.

■ Available data on non-wage benefits suggest that the government sector enjoys an advantage over the private sector. For example, 91.6% of government workers in British Columbia are covered by a registered pension plan, compared to 16.6% of private-sector workers. Of those covered by a registered pension plan, 93.9% of government workers enjoyed a defined benefit pension compared to under half (42.3%) of private-sector workers.

■ In addition, government workers retire earlier than those in the private-sector—about 1.9 years on average—and are much less likely to lose their jobs.

■ Moreover, full-time workers in the government sector lost more work time in 2018 for personal reasons (15.1 days on average) than their private-sector counterparts (9.0 days).

Introduction

As part of the implementation of Budget 2019, which is forecasting small surpluses (ranging from \$274 to \$585 million) over the next three years, the British Columbia government continued the negotiations on compensation with public-sector unions. As of October 24, 2019, over 229,000 of more than 330,000 unionized public-sector employees reached tentative or ratified agreements under British Columbia's Sustainable Services Negotiating Mandate, elements of which include general wage increases of 2% in each year of the next three-year term on or after December 31, 2018. (Public Sector Employers' Council Secretariat, 2019). This serves the important goal of managing government expenses, since compensation for government employees constitutes more than half of all provincial spending.

With heightened interest in how wages and non-wage benefits in the government sector compare with those in the private sector, this report builds on previous research by the Fraser Institute comparing government and private-sector compensation in British Columbia (Lamman, Palacios, and Ren, 2017; Palacios, Jacques, and Lamman, 2018). Using data on individual workers from January to December of 2018, the report updates past estimates of the wage differential between government-sector workers in British Columbia (including federal, provincial, and local government workers) and their private-sector counterparts. It also evaluates four non-wage benefits for which data are available in an attempt to quantify differences in the compensation offered by the two sectors.

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 report, we are unable to estimate the overall total compensation premium in the government sector as there is 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 between the benefits received in the government and private sectors.

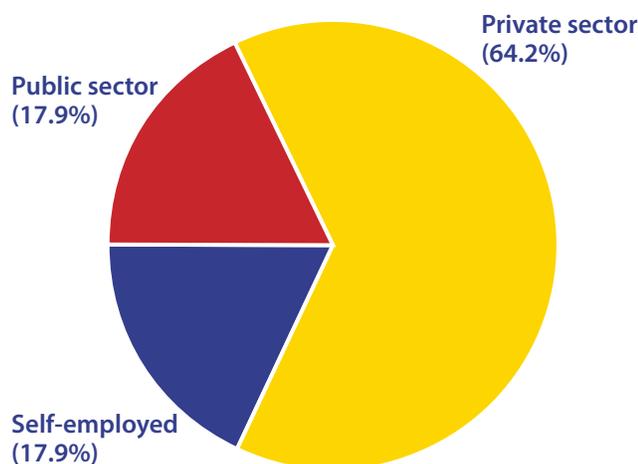
The first section of this report provides some basic statistics on government- and private-sector employment in British Columbia. The second section presents the results of calculations used to determine the wage premium in the government sector. The third section assesses the data available on non-wage benefits to ascertain the likelihood that there is a premium for non-wage benefits in the government sector compared to the private sector.¹

1. Comparing the size of the government and private sectors

Before analyzing compensation in the government and private sectors, it is useful to compare the two sectors in a more general way. **Figure 1** displays the composition of total employment in British Columbia in 2018. In that year, about 0.4

¹ Lamman, Palacios, Ren, and Clemens (2015b) provide possible solutions to the disparities in compensation in the government and private sectors. The options they propose include: (1) gathering better data on wage and non-wage benefits for government and private-sector workers; (2) recognizing that total compensation is what matters, not wages alone; (3) ensuring that the information about government-sector wages and benefits is transparent, accessible, and disclosed regularly; and (4) instituting mechanisms, such as wage boards, for setting compensation. For more details, see Lamman, Palacios, Ren, and Clemens, 2015b.

Figure 1: Components (%) of total employment in British Columbia, 2018



Sources: Statistics Canada, 2019a; calculations by the authors.

million British Columbian workers, representing 17.9% 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, 2018).² In contrast, there were 1.6 million workers employed in the private sector in 2018, representing 64.2% of total employment (Statistics Canada, 2019a). The remaining 17.9% were self-employed.

² Unless otherwise stated, data used in this section come from Statistics Canada's Labour Force Survey. This is a household survey completed by a representative sample 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% of the population aged 15 and over (Statistics Canada, 2018).

2. Comparing wages in British Columbia's government and private sectors

A number of studies have empirically quantified wage differences between similar occupations in the private and public sectors. Nearly all of these studies measure just the wage differences between the public and private sectors; this is because there is a lack of data on non-wage benefits. The Canadian research examining wage differences between the two sectors over the past three decades consistently indicates a premium for government-sector workers.³ The wage premiums vary depending on the data source and time period. What is clear, however, is that a premium exists.⁴

Methodology and data sources

This report provides new calculations for the government-sector wage premium in British Columbia. It uses aggregated monthly data on individual workers from the Labour Force Survey from January to December of 2018 (Statistics Canada, 2019b).⁵ The major

³ For a thorough review of wage differentials in the public and private sectors in Canada, see Lammam, Palacios, Ren, and Clemens, 2015b.

⁴ The reason for the premium in the government sector is twofold. The process of determining wages in the public sector is markedly different from that in the private sector. The process of setting wages in the government sector is largely determined by political factors, while in the private sector it is largely guided by market forces and profit constraints. These differences are amplified by the monopoly environment in which the government sector operates while the private sector faces a competitive environment. For a more detailed explanation of the causes for the compensation premium observed in the public sector, see Lammam, Palacios, Ren, and Clemens, 2015b.

⁵ 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 2018.

advantage of data from the Labour Force Survey is that public-sector workers are explicitly identified, whereas they are not in the data from the National Household Survey.⁶ The Labour Force Survey's sample for British Columbia consists of 72,581 individuals for whom the hourly wage rate, age, gender, education, marital status, type of work, and other characteristics are 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.⁷

The public-sector wage premium— results from empirical analysis

The analysis in this section updates the analysis done by Palacios, Jacques, and Lammam (2018) and follows earlier academic work by Gunderson,

Hyatt, and Riddell (2000).⁸ An ordinary least squares (OLS) model was employed to determine if and how much wage premium might exist between the government and private sectors. For details on the methodology used to compute the public-sector wage premium in this section, please see the first study in this series (Lammam, Palacios, Ren, and Clemens, 2015a).

Table 1 summarizes the results of the comparison of public and private wage sectors in British Columbia. The column labelled “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 estimate under Model 1 indicates that wages in British Columbia's public sector (including federal, provincial, and local public-sector workers), are 31.5% higher, on average, than in the private sector.

6 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 a variable to distinguish government from private employers.

7 Specifically, the Labour Force Survey considers the public sector as those working for federal general government (that is, 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 armed forces are excluded from the survey.

8 Palacios, Jacques, and Lammam (2018) used aggregated data from the monthly Labour Force Survey over the 12-month period from January to December 2017 and calculate a public-sector wage premium of 33.0%, without controlling for other independent variables, and 7.5% after accounting for gender, age, marital status, level of education, job status, tenure, size of firm, full-time/part-time work, occupation, and industry. When unionization is accounted for, the public-sector wage premium was 4.2%. They do not control for immigrant status in their model. If we replicate their methodology (excluding immigrant status as a control variable) and use monthly Labour Force Survey data aggregated from January to December 2018, the public-sector wage premium is 6.5% after controlling for different factors. When unionization is included in our model, the premium is reduced to 2.9%. Comparing these results with those in Palacios, Jacques, and Lammam (2018) confirms a small drop in wage premium of public sector from 2017 to 2018 in the province.

Table 1: Summary of the public-sector wage premium in British Columbia, 2018

Dependant variable = log of hourly wage.

	Model 1	Model 2	Model 2, controlling for unionization
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
(Private)			
Public	31.5	5.8	2.3
N	72,581	72,581	72,581
Adjusted R ²	0.08	0.57	0.57

Notes: [a] The control variables used in the regressions include sex, age, marital status, education, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, immigration status, industry and occupation. [b] Self-employment is not included. [c] Estimates are significant at 99%.

Sources: Statistics Canada, 2019b; calculations by the authors.

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, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, immigrant status, industry, and occupation, which affect individual wage levels. Model 2 in table 1 controls for these personal characteristics. When these factors are controlled, the public-sector wage premium in British Columbia is 5.8%, on average.⁹ When unionization is included in Model 2, the premium is reduced to 2.3%.

⁹ Model 2 also provides details on the differences in wages across various personal and job characteristics (not shown on table 1). For instance, after controlling for other wage-determining factors, men, on average, earn 11.5% more than women. As expected, higher education levels lead to higher wages. In fact, those who graduate from high school earn 5.0% more than those with elementary education or less. A university graduate earns 10.7% more than those with only elementary schooling, on average, whereas those with a graduate degree earn 14.9% more. Recent immigrants, defined as those landed 10 or fewer years ago, and established immigrants (landed more than 10 years ago) earn, respectively, 9.9% and 7.3% less than non-immigrants. Moreover, those with full-time,

3. 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-level 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 data about non-wage benefits that can be examined to roughly compare how British Columbia's public-sector non-wage benefits compare to those of the nation's private sector. Data on four types of non-wage benefits 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 has two important dimensions. The first is the percentage of workers in both sectors who have a registered pension; the second is the type of pension plan in each sector. **Table 2** summarizes the pension data for British Columbia and Canada.

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 2.4% and 4.5% less than those with permanent jobs. The hourly wage of those who work part time is 6.5% less than the wage of those with full-time jobs.

Table 2: Registered pension plan (RPP) members in British Columbia and Canada, by type of plan and sector, January 1, 2018

	BRITISH COLUMBIA			CANADA		
	Total (public and private)	Private sector	Public sector	Total (public and private)	Private sector	Public sector
Total number of members who have:	706,106	297,324	408,782	6,325,712	2,999,716	3,325,996
<i>Defined benefit plans</i>	509,835	125,863	383,972	4,240,414	1,219,867	3,020,547
<i>Defined contribution plans</i>	104,136	89,595	14,541	1,161,400	1,009,870	151,530
<i>Other pension plans</i>	92,135	81,866	10,269	923,898	769,979	153,919
Total Employment, 2018	2,237,300	1,790,900	446,400	17,113,400	13,322,300	3,791,100
Percentage of employees covered by pension plans	31.6	16.6	91.6	37.0	22.5	87.7
As a % of total number of members						
<i>Defined benefit plans</i>	72.2	42.3	93.9	67.0	40.7	90.8
<i>Defined contribution plans</i>	14.7	30.1	3.6	18.4	33.7	4.6
<i>Other pension plans</i>	13.0	27.5	2.5	14.6	25.7	4.6

Notes: [a] Total employment includes workers in the public and private sector as well as self-employed workers in incorporated businesses (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. 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% of total RPP membership) are included in the pension plan membership but these groups are excluded from Labour Force Survey estimates. Second, estimates in the Labour Force Survey are annual averages while pension plan membership refers to the number of active, employed participants as of January 1, 2018. Finally, the Labour Force Survey does not cover full-time members of the Armed Forces. [c] Because of 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 because of rounding.

Sources: Statistics Canada, 2019a, 2019c; calculations by the authors.

There is a dramatic difference between the registered pension coverage in the public and private sectors. In 2018, 16.6% of private-sector workers in British Columbia were covered by a registered pension plan, compared to 91.6% of public-sector workers. In other words, while less than two of every 10 private-sector workers have a registered pension plan, more than nine of every 10 public-sector workers do. This gap between the two sectors is also evident 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 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 provide full funding of the guaranteed benefit.

The comparative data presented in table 2 illustrate the scarcity of defined-benefit pensions in the private sector compared to their prevalence in the public sector. In 2018, of the workers in British Columbia who were covered by a pension plan, 93.9% of those in the public sector enjoyed a defined-benefit pension compared to 42.3% of those in the private sector.

While a little over four of every 10 of private-sector workers with a pension 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 registered pension plan, and are much more likely to receive a defined benefit pension, than their private-sector counterparts.

Average age of retirement

Table 3 presents data on the average age of retirement for public- and private-sector workers between 2014 and 2018, for Canada as a whole and for individual provinces.¹⁰ On average, British Columbia's public-sector workers retire 1.9 years earlier than do the province's private-sector workers.¹¹

¹⁰ Statistics Canada notes that the data on age of retirement should be used with caution because of small sample sizes, especially for the provinces. Five-year averages were used (2014–2018) in an attempt to mitigate this problem.

¹¹ The authors also examined median retirement age. 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. If the median retirement age is used, the difference in years is slightly larger: for instance, British

Table 3: Average retirement age (years), 2014–2018

	Total	Public-sector employees	Private-sector employees	Difference (years)
Canada	63.5	61.5	64.0	2.4
NL	62.2	59.7	63.9	4.2
PEI	64.1	62.4	65.7	3.3
NS	63.0	61.1	64.0	2.9
NB	63.0	61.3	63.6	2.3
QC	62.7	60.5	63.5	3.0
ON	63.5	61.8	63.8	2.0
MB	63.5	61.8	64.3	2.6
SK	64.1	62.0	63.9	1.9
AB	64.5	62.8	64.5	1.8
BC	64.0	62.3	64.2	1.9

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, 2019d; calculations by the authors.

Job loss as a proxy for job security

Table 4 presents data on job losses in 2018 (excluding workers 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 2018, 1.8% of those employed in the private sector experienced job loss in British Columbia. Although the figure for the public sector is not available in 2018 due to Statistics Canada's suppression rules, it is found that 0.4% of those employed in the public sector experienced job loss in British Columbia in 2017, compared to 2.3% of those employed in the private sector (Palacios, Jacques and Lammam, 2018).

Columbia's public-sector workers retire 2.1 years earlier than the private-sector employees.

Table 4: Job loss by sector, 2018

	JOB LOSSES (thousands)			JOB LOSSES (% of employment)			
	Total	Public sector	Private sector	Total	Public sector	Private sector	Difference (percentage points)
Canada	310.3	16.3	294.0	2.0	0.4	2.4	2.0
NL	10.8	0.7	10.1	5.2	1.1	7.1	6.1
PEI	1.5	n/a	1.4	2.3	n/a	3.1	n/a
NS	7.9	n/a	7.5	2.0	n/a	2.7	n/a
NB	9.8	0.5	9.3	3.1	0.6	4.1	3.6
QC	65.3	2.1	63.2	1.8	0.2	2.3	2.1
ON	115.1	7.0	108.1	1.9	0.5	2.3	1.8
MB	9.1	0.9	8.2	1.6	0.6	2.1	1.5
SK	10.3	0.7	9.6	2.2	0.5	2.9	2.4
AB	49.9	2.8	47.1	2.6	0.6	3.2	2.5
BC	30.6	n/a	29.6	1.5	n/a	1.8	n/a

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 as a result of an end of temporary, casual, and seasonal job are not included. [c] The difference in years may not equal the difference as displayed by the data because the job loss percentages for both the public and private sectors are rounded. [d] "n/a" denotes estimates that are suppressed (cannot be published) because the data is below the confidentiality threshold. This threshold is 1,500 for Canada, Quebec, Ontario, Alberta, and British Columbia; less than 500 for Newfoundland & Labrador, New Brunswick, Nova Scotia, Manitoba, and Saskatchewan; and less than 200 for Prince Edward Island. For suppression levels within census metropolitan areas (CMAs), census agglomerations (CA), and economic regions (ERs), use the respective provincial suppression levels above.

Sources: Statistics Canada, 2019a, 2019e; calculations by the authors.

Absence rate of full-time employees

Table 5 presents a measure of the absence rate in the two sectors: total days lost per worker in 2018.¹² Among full-time employees, an average of

9.0 days was lost for personal reasons in the private sector in British Columbia, compared to 15.1 days in the public sector (6.1 days more).

12 Days lost per worker are calculated by multiplying the inactivity rate (number of hours lost as a proportion of the usual weekly hours worked by full-time workers) by the estimated number of working days in the year (250). Lammam, Palacios, Ren, and Clemens (2015a) present two additional measures of absence rates: total incidence rate and inactivity rate. The total incidence rate is defined

as the percentage of full-time paid workers that were absent during a reference week. The inactivity rate is the number of hours lost as a proportion of the usual weekly hours worked by full-time workers. In 2018, public-sector workers in British Columbia had a higher incidence rate (11.8%) and inactivity rate (6.0%) compared to their private sector counterparts (7.8% and 3.6%, respectively).

Table 5: Total days lost per full-time employee, by sector, 2018

	Total	Public sector	Private sector	Difference (days)
Canada	10.0	14.6	8.6	6.0
NL	11.0	15.6	9.0	6.6
PEI	9.5	12.7	8.2	4.5
NS	10.9	15.0	9.3	5.7
NB	10.8	14.6	9.4	5.2
QC	11.8	16.9	10.2	6.7
ON	9.1	13.7	7.8	5.9
MB	10.8	14.5	9.4	5.1
SK	10.2	13.6	8.7	4.9
AB	8.7	12.4	7.6	4.8
BC	10.3	15.1	9.0	6.1

Notes: [a] Absence data are only for personal reasons: that is, illness or disability, and personal or family responsibility. [b] Days lost per worker are calculated by multiplying the inactivity rate (number of hours lost as a proportion of the usual weekly hours worked by full-time workers) 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, 2019f; calculations by the authors.

Conclusion

In 2018, British Columbia's government-sector workers earned a wage premium of 5.8%, on average. When unionization is accounted for, the wage premium declines to 2.3%. 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. While there is insufficient data to 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, including higher rates of pension coverage, higher rates of defined benefit pensions, earlier ages of retirement, lower rates of job loss, and more days lost per worker.

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Acknowledgments

The authors would like to acknowledge the contributions of authors of earlier versions of this study, including Jason Clemens, Charles Lamman, and David Jacques. They also thank the anonymous reviewers of earlier drafts of this paper. Any remaining errors or oversights are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters. This publication in no way implies that the Fraser Institute, its directors, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

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