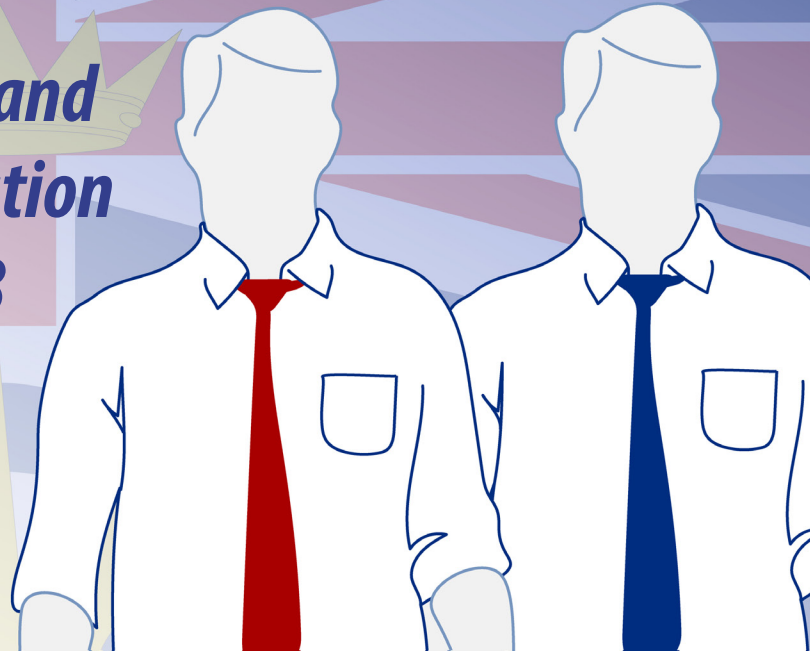


Comparing Government and Private Sector Compensation in British Columbia, 2018

by Milagros Palacios, David Jacques, and Charles Lammam



MAIN CONCLUSIONS

■ Using data on individual workers from January to December 2017, 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 compensation differences between the two sectors.

■ After controlling for factors like gender, age, marital status, education, tenure, size of firm, type of job, industry, and occupation, the authors found that British Columbia's government-sector workers (federal, provincial, and local) enjoyed a 7.5% wage premium, on average, over their private-sector counterparts in 2017. When unionization status is factored into the analysis, the wage premium for the government sector declines to 4.2%.

■ The available data on non-wage benefits suggest that the government sector enjoys an

advantage over the private sector. For example, 91.8% of government workers in British Columbia are covered by a registered pension plan, compared to 17.7% of private-sector workers. Of those covered by a registered pension plan, 94.0% of government workers enjoyed a defined benefit pension compared to under half (44.7%) of private-sector workers.

■ In addition, government workers retire earlier than their private-sector counterparts—about 1.9 years on average—and are much less likely to lose their jobs (2.3% in the private sector compared to 0.4% in the public sector).

■ Moreover, full-time workers in the government sector lost more work time in 2017 for personal reasons (13.7 days on average) than their private-sector counterparts (9.2 days).

Introduction

During last year's election campaign, and in his first full budget as premier, John Horgan promised to balance British Columbia's operating budget. If his government remains committed to this promise, the coming negotiations on compensation with public-sector unions will be critically important. After all, government employee compensation constitutes more than half of all provincial spending, so managing this area of spending is critical.

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 (Lammam, Palacios, and Ren, 2017). Using data on individual workers from January to December of 2017, 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 compensation differences between 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

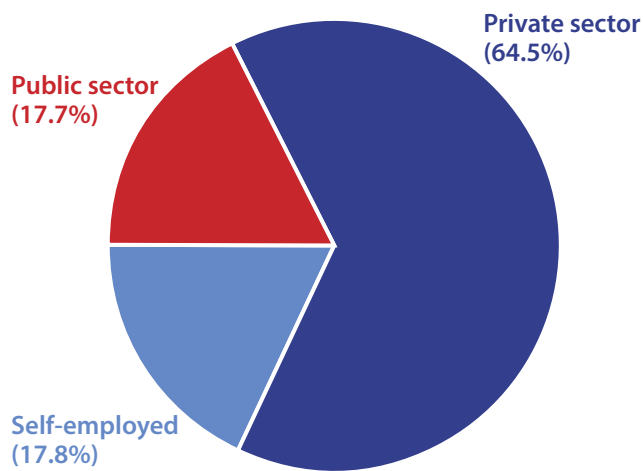
Comparing the size of the government and private sectors

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 2017. In that year, about 0.4 million British Columbian workers, representing 17.7% 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, 2017a).² In contrast, there

¹ Lammam, Palacios, Ren, and Clemens (2015b) provide possible solutions to the disparities in compensation between 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 Lammam, Palacios, Ren, and Clemens, 2015b.

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

Figure 1: Components (%) of total employment in British Columbia, 2017



Sources: Statistics Canada, 2018a; calculations by the authors.

were 1.6 million workers employed in the private sector in 2017, representing 64.5% of total employment (Statistics Canada, 2018a). The remaining 17.8% were self-employed.

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

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, 2017a).

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 2017 (Statistics Canada, 2017b, 2018b).⁵ The major advantage of data from the Labour Force Survey is that public-sector workers are explicitly identified, whereas they are not in the National Household Survey data.⁶ The Labour Force Survey sample for British Columbia consists of 72,932 individuals for whom

3 For a thorough review of wage differentials in the public and private sectors in Canada, see Lamman, 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 Lamman, 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 2017.

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

their 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 Lammam, Palacios, and Ren (2017) and follows earlier academic work by Gunderson, Hyatt, and Riddell (2000).⁸ For details on the

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 (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 armed forces are excluded from the survey.

⁸ Lammam, Palacios, and Ren (2017) used aggregated data from the monthly Labour Force Survey over the 12-month period from January to December 2015 and calculate a public-sector wage premium of 32.7%, without controlling for other independent variables, and 7.4% after accounting for gender, age, marital status, level of education, job status, tenure, province of employment, size of firm, full-time/part-time work, city, occupation, and industry. When unionization is accounted for, 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 analysis 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 Model 1 estimate

Table 1: Summary of the public-sector wage premium in British Columbia, 2017

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	33.0	7.5	4.2
N	72,932	72,932	72,932
Adjusted R ²	0.09	0.57	0.58

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, industry, and occupation. [b] Self-employment is not included. [c] Estimates are significant at 99%.

Sources: Statistics Canada, 2017b, 2018b; calculations by the authors.

public-sector wage premium was 4.2%. Although the methodology in the current report and the previous one (Lammam, Palacios, and Ren, 2017) is the same, data from the 2017 Labour Force Survey had different categories of occupations than the 2015 survey. For the previous analysis, we controlled for 25 categories of occupations while in the current analysis we control for 40. Thus, the results presented in the earlier study are not directly comparable with those in the current one.

indicates that wages in British Columbia's public sector (including federal, provincial, and local public-sector workers), are 33.0% 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, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, 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 7.5%, on average.⁹ When unionization is included in Model 2, the premium is reduced to 4.2%.

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

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 8.9% more than those with elementary education or less. A university graduate earns 13.5% more than those with only elementary schooling, on average, whereas those with a graduate degree earn 19.0% 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 4.6% and 5.7% less than those with permanent jobs. Those who work full time earn 4.1% more than those with part-time jobs.

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. Four types 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 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 British Columbia and Canada.

There is a dramatic difference between the registered pension coverage in the public and private sectors. In 2016, the latest data available at the time of writing, 17.7% of private-sector workers in British Columbia were covered by a registered pension plan, compared to 91.8% of public-sector workers. Put differently, while nearly two of every 10 private-sector workers have a registered pension plan, more than 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.

Table 2: Registered pension plan (RPP) members in British Columbia and Canada, by type of plan and sector, January 1, 2016

	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:	695,642	303,073	392,569	6,261,820	3,032,410	3,229,410
<i>Defined benefit plans</i>	504,644	135,566	369,078	4,203,840	1,264,381	2,939,459
<i>Defined contribution plans</i>	n/a	n/a	n/a	1,128,397	982,276	146,121
<i>Other pension plans</i>	n/a	n/a	n/a	929,583	785,753	143,830
Total Employment, 2016	2,138,900	1,711,200	427,700	16,528,700	12,908,300	3,620,400
% of employees covered by pension plans	32.5	17.7	91.8	37.9	23.5	89.2
As a % of total number of members						
<i>Defined benefit plans</i>	72.5	44.7	94.0	67.1	41.7	91.0
<i>Defined contribution plans</i>	n/a	n/a	n/a	18.0	32.4	4.5
<i>Other pension plans</i>	n/a	n/a	n/a	14.8	25.9	4.5

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, labour force estimates are annual averages while pension plan membership refers to the number of active, employed participants as of January 1, 2016. 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 pension plan might be lower than the numbers shown in this table. [d] Data on defined contribution plans and other pension plans for British Columbia were suppressed by Statistics Canada for confidentiality ("n/a" in table). For this reason, the authors were not able to calculate some of the metrics presented on this table. [e] Numbers may not add up to the total because of rounding.

Sources: Statistics Canada, 2017c, 2018a, 2018c; calculations by the authors.

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 fully fund the guaranteed benefit.

The comparative data presented in table 2 illustrate the scarcity of defined benefit pensions in the private sector compared to the prevalence of these pension plans in the public sector. In 2016, of the workers in British Columbia who were covered by a pension plan, 94.0% of those in the public sector enjoyed a defined benefit pension compared to 44.7% of those in the private sector.

While almost half 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 2013 and 2017, 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 (2013–2017) in an attempt to mitigate the sample size 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 Columbia's public-sector workers retire 2.3 years earlier than the private-sector employees if the median rather than the average is used.

Table 3: Average retirement age (years), 2013–2017

	Total	Public-sector employees	Private-sector employees	Difference (years)
Canada	63.3	61.4	63.8	2.4
NL	62.1	59.7	63.5	3.8
PEI	64.1	62.2	65.5	3.3
NS	62.8	60.9	63.9	3.0
NB	63.0	61.2	63.7	2.5
QC	62.5	60.2	63.2	3.0
ON	63.4	61.9	63.7	1.8
MB	63.4	61.5	64.6	3.1
SK	63.9	61.9	64.0	2.1
AB	64.1	62.5	64.2	1.7
BC	64.0	62.1	64.0	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, 2018d; calculations by the authors.

Job loss as a proxy for job security

Table 4 presents data on job losses in 2017 (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 2017, 2.3% of those employed in the private sector experienced job loss in British Columbia, compared to only 0.4% of those employed in the public sector. That means the rate of job loss was nearly six times higher in the private sector.

Table 4: Job loss by sector, 2017

	JOB LOSSES (thousands)			JOB LOSSES (% of employment)			
	Total	Public sector	Private sector	Total	Public sector	Private sector	Difference (percentage points)
Canada	362.6	19.6	343.0	2.3	0.5	2.9	2.4
NL	12.6	0.6	12.1	6.2	1.0	8.6	7.6
PEI	1.5	0.0	1.4	2.4	0.0	3.2	3.2
NS	11.3	0.5	10.8	2.9	0.4	3.9	3.5
NB	9.6	0.0	9.1	3.1	0.0	4.0	4.0
QC	77.7	4.4	73.2	2.1	0.5	2.7	2.2
ON	124.6	6.9	117.7	2.1	0.5	2.5	2.0
MB	9.0	0.8	8.2	1.6	0.5	2.1	1.6
SK	12.9	1.0	11.8	2.8	0.7	3.6	2.9
AB	65.3	3.1	62.1	3.4	0.7	4.2	3.5
BC	38.2	1.7	36.5	1.9	0.4	2.3	1.9

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.

Sources: Statistics Canada, 2018a, 2018e; 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 2017.¹² Among full-time employees, an average of

9.2 days was lost for personal reasons in the private sector in British Columbia, compared to 13.7 days in the public sector (4.5 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). Lamman, 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 2017, public-sector workers in British Columbia had a higher incidence rate (11.0%) and inactivity rate (5.5%) compared to their private sector counterparts (7.5% and 3.7%, respectively).

Table 5: Total days lost per worker, full-time employees, by sector, 2017

	Total	Public sector	Private sector	Difference (days)
Canada	9.6	13.5	8.4	5.1
NL	10.4	15.7	8.1	7.6
PEI	9.2	12.3	7.9	4.4
NS	10.7	13.8	9.4	4.4
NB	10.7	12.7	10.0	2.7
QC	11.7	15.9	10.3	5.6
ON	8.6	12.4	7.6	4.8
MB	10.1	13.5	8.8	4.7
SK	10.6	13.6	9.3	4.3
AB	7.6	11.8	6.5	5.3
BC	10.2	13.7	9.2	4.5

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, 2018f; calculations by the authors.

Conclusion

In 2017, British Columbia’s government-sector workers earned a wage premium of 7.5%, on average. When unionization is accounted for, the wage premium declines to 4.2%. 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 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, 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 wish to thank Jason Clemens, who contributed substantially to an earlier version of this study. 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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Milagros Palacios

Milagros Palacios is the Associate Director for the Addington Centre for Measurement at the Fraser Institute. She holds a B.S. in Industrial Engineering from the Pontifical Catholic University of Peru and a M.Sc. in Economics from the University of Concepcion, Chile. Since joining the Institute, Ms. Palacios has authored or coauthored over 100 comprehensive research studies, 80 commentaries and four books. Her recent commentaries have appeared in major Canadian newspapers such as the *National Post*, *Toronto Sun*, *Windsor Star*, and *Vancouver Sun*.



production has been presented to industry groups, at conferences, and published in scholarly journals. He has also built an economic model of the Canadian dairy industry that has been used to analyze the economic implications of changes in Canadian trade policy. He is currently working on studies of health and labour-market policy issues.

Charles Lammam

Charles Lammam is Director of Fiscal Studies at the Fraser Institute. He holds an M.A. in public policy and a B.A. in economics with a minor in business administration from Simon Fraser University. Since joining the Institute, Mr. Lammam has published over 100 studies and 400 original articles on a wide range of economic policy issues. His articles have appeared in every major national and regional newspaper in Canada as well as several prominent US-based publications. He regularly gives presentations to various groups, comments in print media, and appears on radio and television broadcasts; and frequently receives invitations to provide expert testimony for various federal and provincial government panels and committees.



David Jacques

David Jacques is an economist at the Fraser Institute. He holds a B.Sc. in Environmental Sciences from the University of Guelph and an M.Sc. in Food, Agricultural, and Resource Economics from the University of Guelph. Mr Jacques previous research on the economics of water conserving technologies used in agricultural

