

Comparing Government and Private Sector Compensation in British Columbia



*by Charles Lammam, Milagros Palacios,
and Feixue Ren*

MAIN CONCLUSIONS

- Using data on individual workers from January to December 2015, this report estimates the wage differential between the government and private sectors in British Columbia. It also evaluates four available non-wage benefits in an attempt to quantify compensation differences between the two sectors.
- After controlling for such factors as gender, age, marital status, education, tenure, size of firm, type of job, industry, and occupation, British Columbia's government sector workers (from the federal, provincial, and local governments) were found to enjoy a 7.4 percent wage premium, on average, over their private sector counterparts in 2015. When unionization status is factored into the analysis, the wage premium for the government sector declines to 4.2 percent.
- The available data on non-wage benefits suggest that the government sector enjoys an advantage over the private sector. For example, 91.6 percent of government workers in British Columbia are covered by a registered pension plan, compared to 18.7 percent of private sector workers. Of those covered by a registered pension plan, 95.9 percent of government workers enjoyed a defined benefit pension compared to just under half (46.8 percent) of private sector workers.
- In addition, government workers retire earlier than their private sector counterparts—about 2.5 years on average—and are much less likely to lose their jobs (3.0 percent in the private sector versus 0.4 percent in the public sector).
- Moreover, full-time workers in the government sector lost more work time in 2015 for personal reasons (12.4 days on average) than their private sector counterparts (8.0 days).

Introduction

As the BC government seeks to maintain its balanced operating budget and create the fiscal room for pro-growth policy initiatives such as tax reform, better control of spending will be key. In these efforts, an important area of spending to scrutinize is the compensation of government employees, which consumes around half of the government's annual program 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 (Lammam et al., 2015a). Using data on individual workers from January to December of 2015, 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 available non-wage benefits 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 due to a lack of data on non-wage benefits. However, we do present the data that are available on non-wage benefits to shed some light on the differences in these benefits between the government and private sectors.

The 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 compares available 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 Lammam et al. (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 regarding government sector wages and benefits is transparent, accessible, and disclosed regularly; and (4) instituting mechanisms for setting compensation such as wage boards. For more details, see Lammam et al. (2015b).

Comparing the Size of the Government and Private Sectors

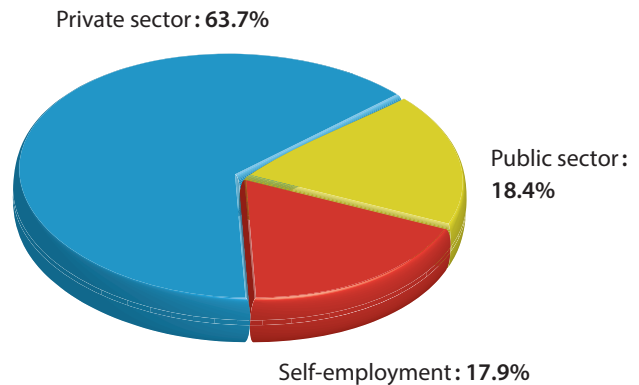
Before analyzing compensation in the government and private sectors, it is useful to compare the two sectors in a more general way. **Figure 1** displays the composition of total employment in British Columbia in 2015. In that year, about 0.4 million Canadian workers, representing 18.4 percent of total employment, were employed in the public sector. This includes the federal, provincial, and local governments, as well as government agencies, crown corporations, and government-funded establishments such as schools (including universities) and hospitals (Statistics Canada, 2016a).² In contrast, there were 1.5 million workers employed in the private sector in 2015, representing 63.7 percent of total employment (Statistics Canada, 2016a). The remaining 17.9 percent 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

2 Unless otherwise stated, data used in this section come from Statistics Canada's Labour Force Survey. This is a household survey of a sample of individuals who are representative of the civilian population 15 years of age or older. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Forces, and the institutionalized population (for example, inmates of penal institutions and patients in hospitals or nursing homes who have resided in the institution for more than six months). These groups together represent an exclusion of approximately 2.0 percent of the population aged 15 and over (Statistics Canada, 2016h: 20).

Figure 1: Components of total employment in British Columbia, 2015



Sources: Statistics Canada, 2016a; calculations by the authors.

between the public and private sectors; this is due to lack of sufficient 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 specific wage premiums vary depending on the data source and time period. What is clear, however, is that a premium exists.⁴

3 For a thorough review on wage differentials in the public and private sector in Canada, see Lammam et al. (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 wage process in the government sector 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 government sector operates versus the competitive environment of the private sector. For a more detailed explanation of the causes for the compensation premium observed in the public sector, see Lammam et al. (2015b).

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 2015 (Statistics Canada, 2016b).⁵ The major advantage of the Labour Force Survey data is that public sector workers are explicitly identified, whereas they are not in the National Household Survey data.⁶ The Labour Force Survey sample for British Columbia consists of 68,843 individuals for whom 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

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 2015.

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 such 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,

The Public Sector Wage Premium: Results from Empirical Analysis

The analysis in this section updates the analysis done by Lammam et al. (2015a) and follows earlier academic work by Gunderson et al. (2000).⁸ For details on the methodology used to compute the public sector wage premium in this section, please see Lammam et al. (2015a).

Table 1 summarizes the results of the analysis of the public and private wage sector comparison 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 indicates that wages in British Columbia’s public sector (including federal, provincial, and local public sector workers), are 32.7 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, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, industry, and

local general government, local school boards, and local government business enterprises. Those in the military armed forces are excluded from the survey.

8 Lammam et al. (2015a) use aggregated data from the monthly Labour Force Survey over the 12-month period from January to December 2013 and calculate a public sector wage premium of 34.2 percent, without controlling for other independent variables, and 6.7 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 3.6 percent.

Table 1: Summary of public sector wage premium in British Columbia, 2015

Dependent variable = log of hourly wage

	Model 1	Model 2	Model 2, controlling for unionization
	Coefficient	Coefficient	Coefficient
(Private)			
Public	32.7	7.4	4.2
N	68,843	68,843	68,843
Adjusted R square	0.09	0.54	0.54

Notes: (i) 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.

(ii) Self-employment is not included.

(iii) Estimates are significant at 99%.

Sources: Statistics Canada, 2016b; calculations by the authors.

occupation, which affect individual wage levels. Model 2 in table 1 controls for these personal characteristics. Controlling for these factors reduces the public sector wage premium in British Columbia to 7.4 percent, on average.⁹

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 10.6 percent more than women. As expected, higher education levels lead to higher wages. In fact, those who graduate from high school earn 7.9 percent more than those with elementary education or less. A university graduate earns 12.7 percent more than those with only elementary schooling, on average, whereas those with a graduate degree earn 18.9 percent more. Moreover, those with full-time, permanent jobs, and longer tenure, earn, on average, higher wages than those with temporary, part-time jobs, and shorter tenure. On average, those with seasonal, contract, and casual work earn between 3 and 6 percent less than

When unionization is included in Model 2, the premium is reduced to 4.2 percent.

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 non-wage benefit data that can be examined to roughly compare how British Columbia's public sector non-wage benefits compare to the nation's private sector. Four specific 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 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.

those with permanent jobs. Those who work full time earn 5.8 percent more than those with part-time jobs.

Table 2 summarizes the pension data for British Columbia and Canada.

In terms of registered pension coverage, there is a dramatic difference between the public and private sectors. In 2015, the latest data available at the time of writing, 18.7 percent of private sector workers in British Columbia were covered by a registered pension plan, compared to 91.6 percent 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.

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.

Table 2: Registered pension plan (RPP) members in British Columbia and Canada, by type of plan and sector, January 1, 2015

	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>	696,464	307,629	388,835	6,256,920	3,044,035	3,212,885
Defined benefit plans	516,889	143,934	372,955	4,380,386	1,369,789	3,010,597
Defined contribution plans	*n/a	*n/a	*n/a	1,097,211	952,630	144,581
Other pension plans	*n/a	*n/a	*n/a	779,323	721,616	57,707
Total Employment, 2015	2,070,100	1,645,600	424,500	16,398,800	12,800,400	3,598,400
% of employees covered by pension plans	33.6	18.7	91.6	38.2	23.8	89.3
<i>As a % of total number of members</i>						
Defined benefit plans	74.2	46.8	95.9	70.0	45.0	93.7
Defined contribution plans	*n/a	*n/a	*n/a	17.5	31.3	4.5
Other pension plans	*n/a	*n/a	*n/a	12.5	23.7	1.8

Notes: (i) Total employment includes workers in the public and private sectors 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).

(ii) The registered pension plan data comes from the annual Pension Plans in Canada Survey (PPIC). Meanwhile, total employment data comes from Statistics Canada’s Labour Force Survey (LFS). Although these two data sets (PPIC and LFS) are comparable, there are some conceptual differences that should be pointed out. First, members of Canadian Registered Pension Plans (RPP) living on Indian reserves (in any province or territory) as well as those working outside Canada (less than 1 percent of total RPP membership) are included in the pension plan membership but these groups are excluded from labour force survey estimates. Second, labour force estimates are annual averages while pension plan membership refers to the number of active, employed participants as of January 1, 2015. Finally, the Labour Force Survey does not cover full-time members of the Armed Forces.

(iii) Due to 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.

(iv) Data on defined contribution plans and other pension plans for British Columbia was suppressed by Statistics Canada due to confidentiality. For this reason, the authors were not able to calculate some of the metrics presented on this table.

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

Sources: Statistics Canada, 2016a, 2016c, 2016d; calculations by the authors.

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 increasing scarcity of defined benefit pensions in the private sector versus the prevalence of these pension plans in the public sector. In 2015, of the workers in British Columbia who were covered by a pension plan, 95.9 percent of those in the public sector enjoyed a defined benefit pension compared to 46.8 percent 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 2011 and 2015, for Canada as a whole and for individual provinces.¹⁰ On average, British Columbia's public sector workers retire 2.5 years earlier than do the province's private sector workers.¹¹

Table 3: Average retirement age, 2011–2015

	Total	Public sector employees	Private sector employees	Difference (years)
Canada	62.9	61.2	63.5	2.3
NL	61.2	59.0	62.8	3.8
PEI	63.4	61.2	65.3	4.1
NS	62.4	60.8	63.4	2.6
NB	62.6	60.8	63.7	2.9
QC	61.8	59.8	62.5	2.8
ON	63.3	62.1	63.5	1.4
MB	63.1	61.3	63.9	2.7
SK	63.9	61.6	64.1	2.5
AB	63.6	62.6	63.7	1.1
BC	63.6	61.4	63.9	2.5

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

(ii) 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, 2016e; calculations by the authors.

10 Statistics Canada notes 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 (2011 to 2015) to try 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 3.0 years earlier than the private sector employees if the median rather than the average is used.

Job Loss as a Proxy for Job Security

Table 4 presents data on job losses in 2015 (excluding those with temporary employment) for Canada as a whole and for the provinces. There are several reasons for job loss, including firms moving location, firms going out of business, changing business conditions, and dismissal. In 2015, 3.0 percent of those employed in the private sector experienced job loss in British Columbia, compared to only 0.4 percent of those employed in the public sector. That means the rate of job loss was nearly eight times higher in the private sector.

Table 4: Job loss by sector, 2015

	JOB LOSSES (thousands)			JOB LOSSES (% of employment)			
	Total	Public sector	Private sector	Total	Public sector	Private sector	Difference (percentage points)
Canada	456.1	19.7	436.4	3.0	0.5	3.8	3.2
NL	11.9	0.5	11.4	5.6	0.8	7.4	6.6
PEI	2.0	0.0	1.9	3.2	0.0	4.6	4.6
NS	12.5	0.9	11.6	3.2	0.8	4.2	3.4
NB	12.1	0.6	11.6	3.9	0.7	5.2	4.5
QC	125.6	5.3	120.3	3.6	0.6	4.5	3.9
ON	151.2	7.1	144.1	2.6	0.5	3.2	2.6
MB	10.3	0.9	9.4	1.9	0.5	2.4	1.9
SK	12.5	0.8	11.8	2.7	0.6	3.6	3.0
AB	72.3	1.8	70.5	3.8	0.4	4.6	4.2
BC	45.5	1.6	43.9	2.4	0.4	3.0	2.6

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

(ii) 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.

(iii) 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, 2016a, 2016f; 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 2015.¹²

Among full-time employees, an average of 8.0 days was lost for personal reasons in the private sector in British Columbia, compared to 12.4 days in the public sector (4.4 days higher).

12 Lamman et al. (2015a) also 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 2015, public sector workers in British Columbia had a higher incidence rate (10.0 percent) and inactivity rate (5.0 percent) compared to their private sector counterparts (6.5 percent and 3.2 percent, respectively).

Conclusion

In 2015, British Columbia's government sector workers earned a wage premium of 7.4 percent, on average. When unionization is accounted for, the wage premium declines to 4.2 percent. These findings are in line with previous research investigating wage differences between the two sectors. It is important to note that the wage premium varies within particular industries and occupations. 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.

Table 5: Total days lost for full-time employees by sector, 2015

	Total	Public sector employees	Private sector employees	Difference (days)
Canada	8.9	12.7	7.8	4.9
NL	9.2	13.1	7.8	5.3
PEI	10.4	12.9	9.2	3.7
NS	10.8	13.7	9.7	4.0
NB	10.5	14.1	9.2	4.9
QC	11.3	16.5	9.6	6.9
ON	7.7	10.9	6.8	4.1
MB	9.5	11.5	8.6	2.9
SK	10.1	12.9	9.0	3.9
AB	7.1	10.7	6.2	4.5
BC	9.0	12.4	8.0	4.4

Notes: (i) Absence data are only for personal reasons—that is, illness or disability, or personal or family responsibility.

(ii) 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 five-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, 2016g; calculations by the authors.

References

Gunderson, Morley, Douglas Hyatt, and Craig Riddell (2000). *Pay Differences between the Government and Private Sectors: Labour Force Survey and Census Estimates*. Human Resources in Government Series, CPRN Discussion Paper No. W10. Canadian Policy Research Networks.

Lammam, Charles, Milagros Palacios, Feixue Ren, and Jason Clemens (2015a). *Comparing Public and Private Sector Compensation in British Columbia*. Fraser Institute.

Lammam, Charles, Milagros Palacios, Feixue Ren, and Jason Clemens (2015b). *Comparing*

Public and Private Sector Compensation in Canada. Fraser Institute.

Statistics Canada (2016a). *Labour force survey estimates (LFS), employment by class of worker, North American Industry Classification System (NAICS) and sex, annual (persons)*. CANSIM Table 282-0012. Statistics Canada.

Statistics Canada (2016b). *Labour Force Survey (monthly)*. Microdata file (January to December 2015). Ordered and sent by Statistics Canada on May, 2016.

Statistics Canada (2016c). *Registered pension plan (RPP) members, by area of employment, sector, type of plan (defined benefit, defined contribution and other pension plan) and contributory status, by province as of January 1, 2015*. Custom tabulation from Statistics Canada (received on August 8, 2016). Statistics Canada.

Statistics Canada (2016d). *Registered pension plan (RPP) members, by area of employment, sector, type of plan and contributory status, annual*. CANSIM Table 280-0008. Statistics Canada.

Statistics Canada (2016e). *Average and Median retirement age by sex, class of worker, Canada and Provinces, annual average*. Custom tabulation from the Labour Force Survey (received on August 2, 2016). Statistics Canada.

Statistics Canada (2016f). *Job loss by reasons and by class of workers for Canada and the provinces*. Custom tabulation from the Labour Force Survey (received on August 2, 2016).

Statistics Canada (2016g). *Absence rates for full-time employees by sex and public and private sector, Canada and provinces*. Custom tabulation from the Labour Force Survey (received on August 2, 2016). Statistics Canada.

Statistics Canada (2016h). *Guide to the Labour Force Survey*. Catalogue No. 71-543-G. Statistics Canada. <<http://www.statcan.gc.ca/pub/71-543-g/71-543-g2016001-eng.pdf>>



Charles Lamnam is Director of Fiscal Studies at the Fraser Institute. He has published over 80 studies and 300 original articles on a wide range of economic policy issues. He holds an MA in public policy and a BA in economics with a minor in business administration from Simon Fraser University.



Milagros Palacios is a Senior Research Economist at the Fraser Institute. She holds a BA in Industrial Engineering from the Pontifical Catholic University of Peru and a MSc in Economics from the University of Concepción, Chile. Since joining the Institute, she has published or co-published over 100 research studies and over 80 commentaries on a wide range of public policy issues.



Feixue Ren is an Economist at the Fraser Institute. She holds a Master's Degree in Economics from Lakehead University and a BA in Statistics from Hunan Normal University in China. Since joining the institute, she has co-authored an assortment of studies on fiscal policy including tax competitiveness and government debt.

Acknowledgments

The authors wish to thank Jason Clemens, who contributed substantially to earlier versions of this study. The authors thank the anonymous reviewers of early drafts of this paper. Any errors or omissions are the sole responsibility of the authors. As the researchers 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.

Copyright © 2017 by the Fraser Institute. All rights reserved. Without written permission, only brief passages may be quoted in critical articles and reviews.

ISSN 2291-8620

Media queries: call 604.714.4582 or e-mail: communications@fraserinstitute.org

Support the Institute: call 1.800.665.3558, ext. 586, or e-mail: development@fraserinstitute.org

Visit our **website:** www.fraserinstitute.org