

# BATTLE OF THE WAGES:

Who gets paid more, public or private sector workers?



**CUPE**

## Contents

Summary.....	1
Introduction and Study Background .....	7
Methodology.....	9
Main Results .....	10
• By sex and age .....	10
• By occupation.....	13
• By level of government and broader public sector.....	15
• By region.....	17
Pension and Benefit costs.....	19
Conclusions and Recommendations .....	20
Appendix A: Key differences between public and private sector workforces.....	23
Appendix B: Summary of other relevant studies .....	27
Appendix C: Methodology .....	28
Endnotes .....	30

## **Battle of the Wages: Who gets paid more, public or private sector workers?**

Publié en français sous le titre, Le choc des salaires :  
Qui sont les mieux rémunérés, les travailleurs du secteur  
public ou du secteur privé?

Published by  
Canadian Union of Public Employees  
1375 St. Laurent Boulevard  
Ottawa, Ontario, K1G 0Z7

December 2011

This report is available on-line at [www.cupe.ca](http://www.cupe.ca)

Author: Toby Sanger, Senior Economist,  
Canadian Union of Public Employees, Ottawa  
Data analysis: LivingWork Consultants, Ottawa  
Design: Jocelyn Renaud,  
Canadian Union of Public Employees, Ottawa

## Summary

New analysis of Census data at the most detailed level available shows that overall average salaries for comparable occupation are very similar between public and private sectors in Canada.

There's a small overall "pay premium" of 0.5 per cent for public sector workers, **but this is entirely because of a smaller pay gap for women** in the public sector. On average, women employed in public sector jobs are paid 4.5 per cent more than women in comparable occupations in the private sector. **Men in the public sector are actually paid less** (-5.3 per cent) on average than men employed in similar occupations in the private sector.

Women are paid more in the public sector in part because of much stronger pay equity legislation and policies in public sector workplaces. Women in the public sector still face a significant pay gap in relation to men, but it's much smaller than in private sector workplaces. And it's not just for women: public sector pay is better for most lower-paid occupations. Overall average pay is very similar, but public sector pay is much more equitable by sex, age, occupation and region.<sup>1</sup>

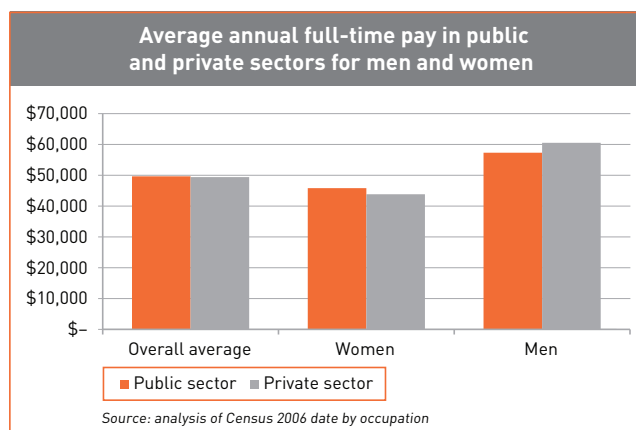
This is significant finding because there appears to be a common perception that public sector workers are paid more than workers in the private sector. In particular, the Canadian Federation of Independent Business (CFIB) claims public sector employees are paid eight to 17 per cent more than similarly employed individuals in the private sector and these additional costs increase public sector costs by an extra \$19 billion a year. The president of the CFIB has even said public sector pay and benefits

could force Canada into a Greece-style debt crisis and "what would be ideal is getting rid of public sector unions entirely".<sup>2</sup>

Partly on the basis of these reports, many governments enacted wage freezes or limits on public sector wages. They are also increasingly contracting out public services, and imposing or considering a range of restrictions on labour and bargaining rights for public sector workers. For example, Ontario Conservative leader Tim Hudak continues to push for a wage freeze for Ontario public sector workers as a priority and has advocated limiting the power of unions and increased contracting out of public services.<sup>3</sup>

***This study, using the most detailed data available from the Census, finds no evidence average pay in the public sector is significantly higher than the private sector when comparing similar occupations.***

Figure 1



Instead, average pay is remarkably similar, with the public sector average at \$49,655, only 0.5 per cent or \$248 higher than the \$49,407 average for similar jobs in the private sector.<sup>4</sup>

While *overall average* pay is similar, public sector wage scales are *very different* than the private sector for different groups and occupations. Public sector pay is much more equitable in relation to all characteristics analyzed, not just gender.

**Figure 2**

Average annual pay by sex and age Public and private sectors			
	Public sector	Private sector	Difference
	\$	\$	
Women	45,821	43,841	4.5%
15 to 24 yrs	26,207	25,146	4.2%
25 to 39 yrs	42,028	40,092	4.8%
40 to 54 yrs	48,669	47,036	3.5%
55 yrs +	47,529	44,100	7.8%
Men	57,318	60,531	-5.3%
15 to 24 yrs	28,315	26,236	7.9%
25 to 39 yrs	49,988	50,750	-1.5%
40 to 54 yrs	59,726	64,277	-7.1%
55 yrs +	63,080	66,402	-5.0%
Total	49,655	49,407	0.5%

*Source: LivingWork analysis of 2006 Census data.*

And because public and private sector wages influence each other through the labour market, more equitable wages scales in the public sector have also helped to moderate growing pay discrepancies in the private sector. If public sector pay scales reflected the private

sector, there would be greater inequality all around—and not just for public sector workers. In advanced English-speaking countries, inequality has widened to the highest rates in more than half a century. The International Monetary Fund, Organization for Economic Co-operation (OECD) and Development business groups such as the Conference Board of Canada, have all recently raised concern about the negative economic impact of growing income inequality.<sup>5</sup>

Figure 2 illustrates overall average pay by age and gender for comparable occupations between public and private employers for full-time, full-year employees. The table on this page shows public sector pay is more equitable than private sector pay in terms of most age groups as well as gender. These figures also demonstrate that significant pay gaps for women still exist at all levels, although they have been shrinking and are significantly lower for younger women.<sup>6</sup> (More detailed results, together with background data and technical details are provided in the main body and appendices to this report).

**Figure 3**

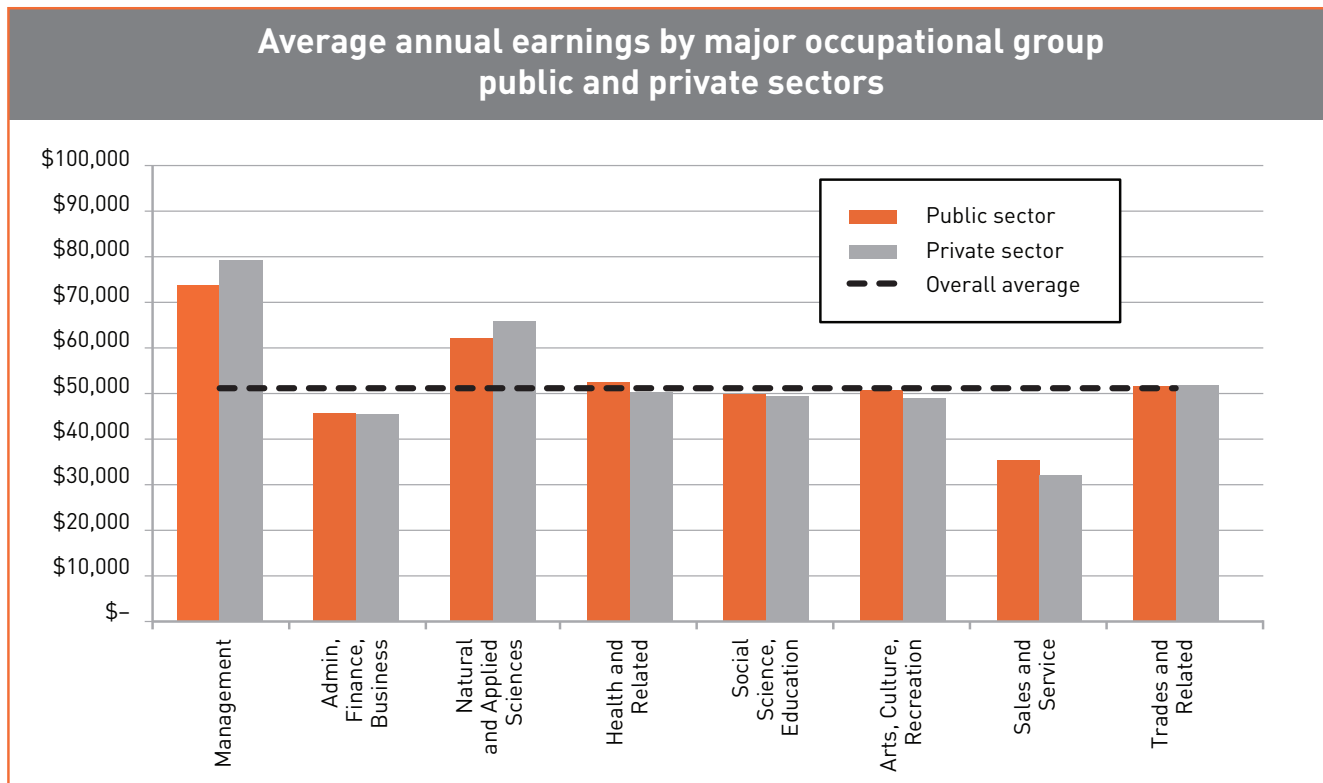
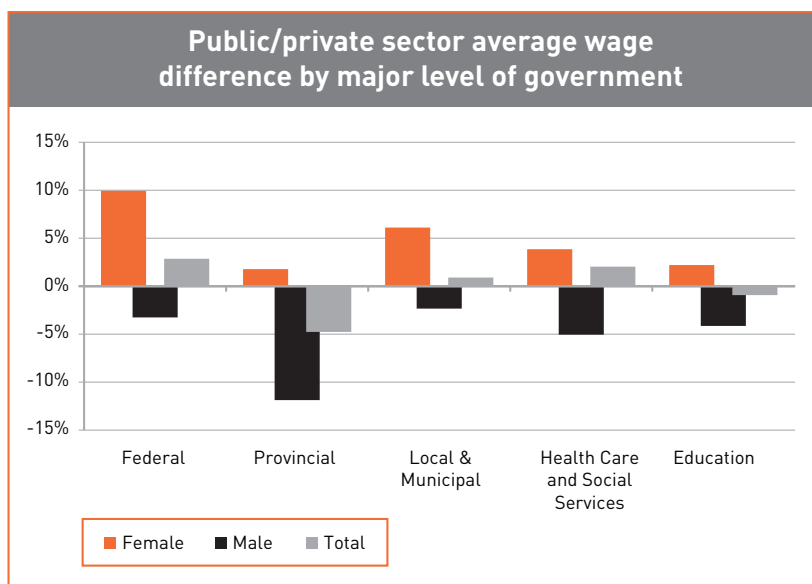


Figure 4



Other tables and figures in this report show a similar association between public and private sector wages in relation to other variables. Those in higher income occupational groups, such as management and sciences, are paid less on average in the public sector than comparable occupations in the private sector. Those employed in lower paid occupational groups tend to receive higher pay in public sector jobs.

As Figure 3 illustrates, there's a very clear relationship: when average wages for an occupational group are above the national average, public sector wages are lower than private sector and vice versa. Public sector wages reduce the pay gaps faced by women in comparison with the private sector in all major occupational groups.<sup>7</sup> In every major occupational group except sales and service—the lowest paid—average pay for men is lower in the public sector than the private sector.

These results are also consistent for all major “industry groups” of the public sector, including federal, provincial and local government administration, health care and social services, and education. Men employed at all different levels of the public sector are paid less on average than men employed in similar occupations in the private sector, while average pay for women at all different levels of the public sector is higher than the private sector, as is illustrated in Figure 4.

Once again, pay gaps for women relative to men are persistent at all different levels of the public sector, though less than in the private sector. Overall average pay for different levels of government are higher

or lower than the private sector average, depending on the share of women in their workforce and other factors. For instance, average pay at the federal government level is relatively higher, in part because bilingualism is often required while it isn't necessarily a requirement for comparative jobs in the private sector.

Pay in the public sector is also more equitable between regions, as is shown in Figure 5. In provinces where average pay levels are above the national average, public sector pay for men is below average pay for comparable jobs in the private sector in that province. In provinces where pay is below the national average, public sector pay tends to be higher than private sector pay.<sup>8</sup> In effect, public sector pay scales also play an equalizing role at the regional and national level.

The differences are greater for those in specific occupations at the bottom and top of the income scale. For most - but not all - detailed occupational groups, pay is considerably better for lower paid occupations in the public sector, and usually significantly less for the highest paid specific occupational groups.

Figure 5

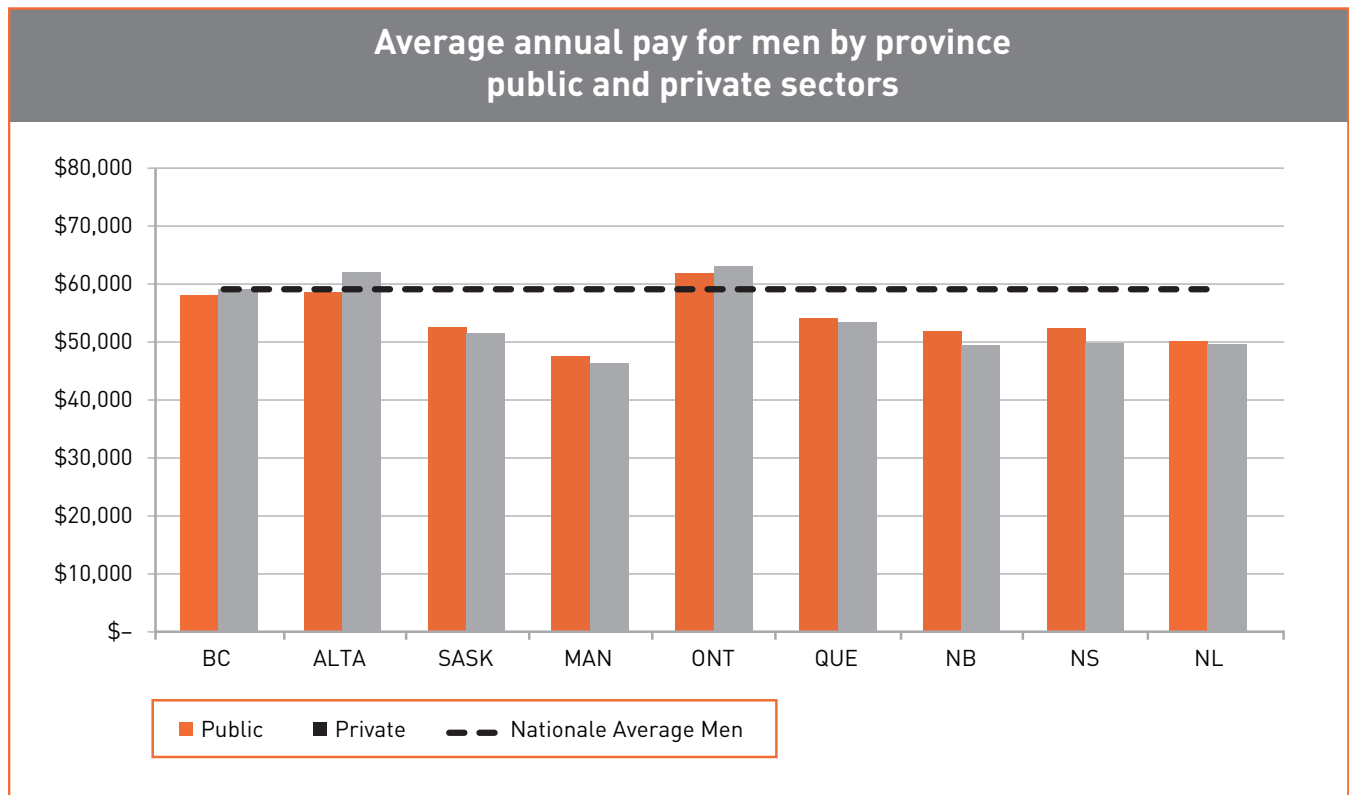


Figure 6 shows average wages for the five top highest and five lowest paid detailed occupation groups (with more than 500 public sector workers employed at the national level).

For example Cooks (Standard Occupational Classification # G412) who worked in public sector workplaces were paid an average of \$26,216 a year, which is 24 per cent more than the \$21,089 average received by Cooks who worked in private sector workplaces. The second highest paid occupations, Engineering managers (SOC 121), were paid an average of \$93,514 in the public sector, 27 per cent below the private sector average of \$128,886.

These differences are more extreme when broken down by gender and age group. For example, women under the age of 25 who worked as light duty cleaners were paid an average of \$14,354 for working full-time, full-year in private sector workplaces and 27 per cent more - or \$18,089 - for working in public sector workplaces. For a number of these lower paid occupations, the average annual earnings in private sector are below national low-income “poverty” levels. Many of these lower paid jobs are also the types of services that governments turn to first when they decide to contract out.<sup>9</sup>

Figure 6

Average pay for top five highest paid and lowest paid detailed occupations public and private sectors			
Detailed occupation (and SOC code)	Average annual earnings		Difference public-private
	public sector (\$)	private sector (\$)	
D011 Specialist physicians	124,672	132,370	-5.8%
A121 Engineering managers	93,514	128,886	-27.4%
E012 Lawyers and Quebec notaries	98,233	110,799	-11.3%
A122 Computer and information systems managers	79,690	101,546	-21.5%
A123 Architecture and science managers	80,556	96,343	-16.4%
G811 Visiting homemakers, housekeepers and related occupations	26,636	25,540	4.3%
G931 Light duty cleaners	29,108	25,170	15.6%
G981 Dry cleaning and laundry occupations	29,392	24,984	17.6%
G961 Food counter attendants, kitchen helpers and related occupations	26,196	22,755	15.1%
G412 Cooks	26,216	21,089	24.3%

At the other end of the income spectrum, male specialist physicians aged 40-54 who worked in private practices reported average earnings of \$198,815 (or more than 10 times the average pay of female cleaners), 24 per cent above the \$160,467 average earnings for similarly-aged male specialist physicians employed in public sector workplaces, such as hospitals.<sup>10</sup>

It is important to recognize that, unless otherwise indicated, these results don't adjust for other major factors – such as age, education, experience, unionization rates and employer size – that affect pay levels. All these factors are associated with higher wages, and all exhibit higher rates in the public sector workforce (*see Appendix A*). If these factors were accounted for, adjusted public sector wages would be significantly lower.

The public sector provides more equitable wages to its workers for a number of reasons:

- Many provinces have pay equity legislation and policies that apply to the public sector. These have resulted in significant wage increases for women in many occupations in these jurisdictions. Pay equity rules for the private sector are either much weaker or non-existent, with none applying to small businesses.
- The stronger representation of unions in the public sector has a major influence in setting common and equitable pay scales, and in particular raising wages for lower paid workers.
- Political considerations limit the compensation provided to senior officials in the public service, unlike in the private sector where top executives and business owners can effectively determine their own pay packets.
- At a regional level, consistent pay scales across the federal public service moderate regional disparities in wage levels. More stable public sector pay rates also fluctuate less in reaction to regional economic booms and busts.

This finding highlights an important question. What should be the norm for wages and benefits in the public sector?

If wages and salaries in the public sector followed private sector norms, as business lobby groups have argued, the result would not only be a larger pay gap for women, but also greater inequalities between different age groups, regions, and the top and lowest income earners.

Just as the salaries of private sector CEOs and senior executives have escalated, those at the top levels of the public sector would be paid vastly more, while public sector workers at the bottom of the scale would be paid considerably less. It is unlikely the public would be supportive of senior public sector executives being paid significantly more while other public sector workers are paid wages close to the poverty line – yet this is exactly what the CFIB and others are advocating.<sup>11</sup>

Most would probably agree that public sector pay scales should reflect broader public values and broader social norms, rather than simply what private employers and markets decide to pay themselves and their workers. This study provides evidence showing that, while overall average salaries are similar, public sector pay scales significantly moderate the pay gaps and discrepancies that exist in the private sector. Pay gaps persist in most areas, but pay equity rules in the public sector have helped narrow the large pay gap for women.

A greater challenge for women and other lower paid workers now are the broader attacks against public sector wages, workers and unions. Current pressure to have public sector pay reflect private sector wages, measures to freeze public sector pay, reduce the power of unions, and contract out or privatize public services, would increase pay gaps and pay discrepancies.

If public sector workers were paid at the same rate as those working similar jobs in the private sector, overall savings for governments and the broader public sector would be small: approximately 0.5 per cent or an overall average of \$248 for each public sector worker. The impacts for different workers, however, would be large.

For example, if women in the public sector were paid at the same rate as women in similar occupations in the private sector, they would receive an average \$1,980 less per year, increasing their pay gap. Meanwhile men would be paid an average of \$3,213 more. Pay discrepancies for most other groups and by region would also get considerably worse. Most of the gains would go to those already making higher than average salaries while lower paid workers would lose out the most.

Because public and private sector wages are correlated over time, reduced pay for lower and middle income public sector workers would also be reflected in lower pay for similar workers in the private sector as well – and increased wage inequality for all.<sup>12</sup>

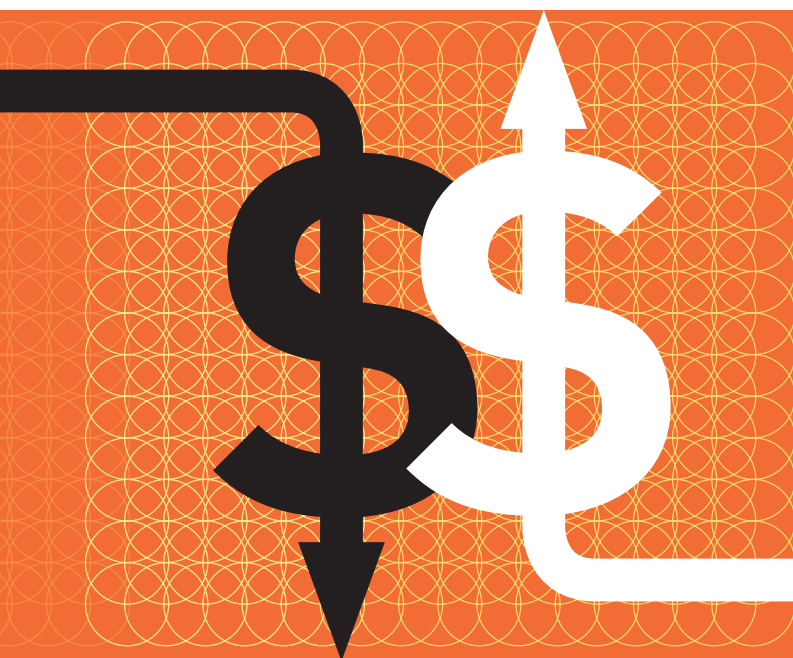


# Battle of the wages

## Introduction and study background

There is a long history of comparing wage levels between public and private sectors.

---



Comparisons of specific occupations are of course continually conducted through bargaining where employers, unions, individuals, and often arbitrators, consider wages for comparable occupations when negotiating their contracts.

There have also been a number of research studies in different countries attempting to compare average wages for all workers in the public and private sectors to determine whether there are persistent public sector wage premiums or penalties, including a number for Canada.

However, comparison of aggregate numbers isn't as straightforward as just taking simple averages of all workers employed in the public and private sectors. Simple averages for all workers employed in the public and private sectors don't provide an accurate comparison because: 1) many occupations are unique to either the public or private sectors; and 2) other relevant characteristics that have a major impact on earnings - such as education, age, gender, experience, responsibilities, unionization, location and size of the employer - can be very different between the workforces, even for similar occupations.

All of these factors *should* be taken into consideration when comparing wage levels. Unfortunately, no studies have taken *all* these factors into account because all this information is not available at a highly detailed level. As a result, studies either take the “person-based” approach or the detailed “occupation approach”.

Most studies take the “person-based” approach. This involves using a range of information on the characteristics of the labour force, usually using databases such as the Labour Force Survey. Relevant factors are analyzed using econometric statistical analysis techniques to estimate how much each factor (age, education, class of employer, etc.) relates to average pay levels.

These types of studies have often shown quite different results: some demonstrate a “public sector wage premium” while others demonstrate that public sector workers face a wage penalty.<sup>13</sup> A fundamental problem with this approach is that it usually doesn’t use detailed data for occupations – which is the most important factor influencing pay levels. While the *Labour Force Survey* collects a range of demographic data, it doesn’t have reliable information at a detailed occupation or industry level. The information comes from a survey of 54,000 households – less than 0.5 per cent of the total – so it lacks accuracy particularly at a detailed level.

In addition, while econometrics is widely used to either prove or disprove certain theories, it’s also often misused. Results are highly dependent on the particular dataset, what variables are included, the estimation technique, and the approach of the practitioner: it can be a bit of a black box activity that generates headline results, often without much transparency about the underlying data.

The “occupation-based” approach involves comparing pay at a very detailed occupational level between different sectors. The assumption is that education, skills and experience required should be fairly similar for occupations when considered at a specific detailed level and so compensation levels should be similar. This is also similar to the very detailed wage comparisons conducted annually by Quebec’s statistical agency. Its latest analysis for 2010 found that salaries in the Quebec government are an average 10.4 per cent lower than comparable occupations and 5.6 per cent lower in terms of total compensation.<sup>14</sup>

The best comprehensive data source for occupational data is usually the Census. Canada’s Census provides wage and salary information for over 500 different detailed occupations at the “4 digit level” – more than 10 times the detail of the occupational detail available through the *Labour Force Survey*. It involves a survey that is filled out by over two million households, 37 times the size of the LFS, making it much more detailed and accurate. The downside is the Census isn’t as timely as other surveys, and other related demographic and workplace data is often not available or can be highly expensive to purchase from Statistics Canada.

The analysis in this report has followed the same “occupational-based” approach as the CFIB study, using exactly the same detailed Census data with information classified by over 500 specific occupations. While the CFIB got a lot of attention, they employed a number of methods that distorted the results, inflating the calculation of average wages for public sector workers, while reducing average wages for private sector workers. This study uses the same Census data as was used in the Wage Watch study, but applies proper statistical techniques to calculate averages and determine comparable occupational groups. (See sidebar and below for more information on this.)

## Problems with the CFIB's Wage Watch report

The CFIB's "Wage Watch" report has gained considerable media attention, but few looked at the study in detail. Some of those who did were highly critical of their methods and suspicious of the results.

For instance, the study doesn't report wages for any *actual* specific occupations, but only the overall averages they aggregated for *all* occupations using their own calculation methods. Because public and private sectors have very different wage scales and distributions, it is wholly inappropriate to apply these overall averages to all occupations for any region.

The CFIB didn't apply any standard statistical tests to ensure reliability in its selection or use of data. As a result, there's no confidence that their results, particularly for the many small sample and populations they report, can be considered statistically reliable.

The overall averages calculated by the CFIB are also influenced by including a number of occupations with a large number of lower paid private sector workers, but few in the public sector. For instance, there are over 340,000 retail sales clerks, salespersons and grocery clerks working in the private sector but only one per cent of that number working in these occupations in public sector workplaces. Because this is a group with relatively low wages, it has an impact on overall averages.

The CFIB used a number of methods that inflated average wages for public sector workers and reduced average wages for workers in the private sector. For instance, the CFIB report uses "medians" instead of the much more standard "mean averages" to calculate averages. Since public sector wages have a much more equitable distribution than the private sector, with fewer very lower paid workers at the bottom end and less excessive salaries at the top end, this has the effect of artificially inflating average public sector wages in their calculations while reducing private sector averages. In its review of these studies, the federal Treasury Board stated that averages rather than medians should be used. The U.S. Congressional Budget Office also recently used the growing divergence between median and average wages as an illustration of growing inequality.

Some of the equations used in the 2008 Wage Watch report, such as those used to calculate total value of earnings at each level of public administration based on median income levels on page 25 and reported on page one, are simply mathematically incorrect.

The methodology of the CFIB's Wage Watch report has been critiqued in other areas by: Schetagne, Sylvain. [CFIB Does it Again: Comparing Apples to Fruit Salad](#), CLC, 2008; MacDonald, David. [An Examination of the Public Sector Wage Premium in Canada](#), NUPGE 2009; Sanger, Toby. [Distorted Lenses](#), CUPE 2009; and Treasury Board of Canada, [Expenditure Review of Federal Public Sector](#), 2007.

## Methodology

LivingWork Consultants was commissioned to analyze earnings data derived from 1,937,520 records from Statistics Canada's 2006 Long-form Census, which samples 20 per cent of all the households in Canada with detailed questions.

A database with over 1.2 million data points was purchased from Statistics Canada for employees who worked full-time, full-year together with information on annual earnings and number of workers by detailed occupation, industry, age, and region.

Those identified as self-employed were excluded as they represent a very diverse group: both owners of companies and individual contractors or consultants. Some may work in the public sector, but they aren't properly considered public sector employees.

The occupational data is at the most detailed available: 520 different specific occupations at the 4-digit level using the 2006 NOC-S classification. A limited number of occupations that are unique to the public sector were excluded in advance of other analysis. These included police officers, firefighters, officers in the armed forces, correctional service officers, teachers, professors, principals, letter carriers, government managers and elected officials. These occupations were similarly excluded in the CFIB study.

As the data is very detailed and comes from self-reported Census forms, it was necessary to use statistical methods to minimize both the sampling and non-sampling errors. This involved filtering to remove statistical outliers where wage differences suggest that the occupational groups may be sufficiently different; excluding those where there weren't a reasonable number of workers for comparison in either the public or private sectors, and also filtering out those that didn't meet standard statistical tests for data reliability. These filtering methods were either recommended by federal Treasury Board and/or are regularly used by Statistics Canada to ensure data reliability. Details on the methodology used are outlined in Appendix C.

As the Census data are not categorized by whether the employer is public or private, our definition of the "public sector" included the predominant broader public sector industry groups: federal, provincial and local government public administration, public health care and social services, education services, urban transit, and postal services.

At a national level, the methodology we employed resulted in a comparison of 1.22 million workers in the public sector with 2.83 million individuals in the private sector working in 268 distinct specific 4-digit occupational groups.<sup>15</sup> Average wages were calculated in a straightforward manner by dividing the total wages and salaries for each occupational group by the number of workers in each category.<sup>16</sup>

To ensure comparable weighting by occupational group, private sector wages were weighted by the number of public sector workers in each category – the same approach used in the CFIB study. If this group was weighting by the number of private sector workers, overall average pay in the private sector is 5.2 per cent *above* the public sector average, partly because there are a larger proportion of (higher paid) male workers in the private sector.

## Main results

Detailed analysis of census data by occupation and industry group show that overall average annual full-time pay for comparable jobs are very similar between public and private sectors.

---

In total, workers in the public sector were paid an average of 0.5 per cent more than those working similar jobs in the private sector, but this was entirely because of a smaller pay gap for women in the public sector. Similar overall averages, however, conceal very different wage distributions: pay scales in the public sector are significantly more equitable between men and women, by age, occupation and region.

Therefore, if public sector wages followed private sector norms and reflected prevailing private sector pay levels, it wouldn't lead to significant overall savings for most governments in Canada, but it would result in considerably greater inequality – not just for women, but in many other dimensions.

### *By sex and age*

Men in the public sector were paid an average of 5.3 per cent less than men employed in similar occupations in the private sector, while women were paid an average of 4.5 per cent more.<sup>17</sup> Women in the public sector still face a significant pay gap in relation to men, but considerably less than in the private sector.

Average annual earnings for the 1.2 million workers in the public sector who work in comparable occupations as the private sector was \$49,655, slightly above the \$49,407 average in the private sector. The average pay for men in the public sector was \$57,318, 5.3 per cent below the \$60,531 average for men in the private sector (see Figure 7).

Figure 7

Census analysis results for all comparable occupations by sex and age public and private sector workers, total wages and average wages							
Sex and Age	Public sector worker coverage	Private sector worker coverage	Public sector total wages (\$millions)	Private sector total wages weighted (\$millions)	Average public sector wage	Average private sector wage	Wage Diff
Women 15 to 24 years	24,750	60,545	649	622	26,207	25,146	4.2%
Women 25 to 39 years	243,930	454,400	10,252	9,780	42,028	40,092	4.8%
Women 40 to 54 years	421,050	590,260	20,492	19,804	48,669	47,036	3.5%
Women 55 years +	123,725	171,015	5,881	5,456	47,529	44,100	7.8%
<b>Women total</b>	<b>813,455</b>	<b>1,276,220</b>	<b>37,273</b>	<b>35,663</b>	<b>45,821</b>	<b>43,841</b>	<b>4.5%</b>
Men 15 to 24 years	5,455	27,825	154	143	28,315	26,236	7.9%
Men 25 to 39 years	109,390	544,210	5,468	5,551	49,988	50,750	-1.5%
Men 40 to 54 years	215,660	747,480	12,880	13,862	59,726	64,277	-7.1%
Men 55 years +	76,490	230,945	4,825	5,079	63,080	66,402	-5.0%
<b>Male total</b>	<b>406,995</b>	<b>1,550,460</b>	<b>23,328</b>	<b>24,636</b>	<b>57,318</b>	<b>60,531</b>	<b>-5.3%</b>
Both 15 to 24 years	30,205	88,370	803	765	26,588	25,343	4.9%
Both 25 to 39 years	353,320	998,610	15,720	15,331	44,492	43,392	2.5%
Both 40 to 54 years	636,710	1,337,740	33,373	33,667	52,414	52,876	-0.9%
Both 55 years +	200,215	401,960	10,706	10,535	53,471	52,620	1.6%
<b>Overall total</b>	<b>1,220,450</b>	<b>2,826,680</b>	<b>60,601</b>	<b>60,299</b>	<b>49,655</b>	<b>49,407</b>	<b>0.5%</b>

Source: LivingWork analysis of 2006 Census earnings data.

In contrast, women working in public sector jobs were paid an average of \$45,821, 4.5 per cent higher than the \$43,841 average pay for women working in comparable jobs in the private sector. Average pay for women is 80 per cent of the average pay men in the public sector, while in the private sector, average annual pay for women is only 72 per cent that of men. If women who work in the public sector were paid at the same rate as women similar occupations in the private sector, their average pay would be an average of \$1,980 less per year.

When female/male wage comparisons are made by age group and at the detailed occupational level – comparing people in the same specific occupation and age group, 420 in total – women working in the private sector were paid an average of 82.1 per cent what men of a similar age in the same jobs were paid in the private sector. For women in the public sector, the average was 88.4 per cent. Only 1.1 per cent of women in the private sector were in occupational and age groups where their average pay was higher than men in the same specific occupation and age group. In the public sector, this ratio was only slightly better, at 4.3 per cent of all female public sector workers considered.

Public sector pay is better for women than the private sector in most areas except higher paid occupations. In 69 per cent of the detailed 524 occupational and age groups considered, public sector pay was higher for women, with the majority (71 per cent) in occupational groups where private sector pay was lower than the national average wage. Of the 31 per cent of detailed occupational and age groups where the private sector paid women more, only 36 per cent were in occupations where pay for women was less than the national average: these amounted to 11 per cent of all occupational and age groups.

Figure 7 shows there is also greater equality of pay in the public sector by age group. Average pay for those aged 15–24 working in the public sector is 4.9 per cent higher than for those in similar jobs in the private sector, for those aged 25–39 average pay is 2.5 per cent higher, but for those aged 40–54 (who represent more than 50 per cent of all public sector workers), average pay in the public sector is 0.9 per cent lower. Older workers aged 55 and over in the public sector are paid 1.6 per cent more, but this is entirely because of higher public sector pay for older women: average pay for older men in the public sector is 5 per cent below the private sector average for comparable occupations.

The positive wage difference for young males in the public sector averages 7.9 per cent, but there's a much smaller share of young men working in the public sector, so this has a smaller impact on overall wages.<sup>18</sup>

For women aged 55 and over, there is a significantly greater benefit to working in the public sector, with average pay 7.8 per cent higher than in the private sector for similar occupations. The largest occupational categories for older women in the public sector are registered nurses, nurse aides, office clerks, secretaries, and community and social service workers.

Middle-aged men 40-54 years old face the largest pay penalty, making on average 7.1 per cent less than men in the same age group working in similar occupations in the private sector. Major occupations in this demographic group include janitors and caretakers, who are paid more in the public sector, but also information system analysts, financial auditors, and accountants who are paid significantly more in the private sector.

Figure 8 illustrates who would win and who would lose by sex and age group if public sector wages were identical to private sector wages for the 1.22 million public sector workers included in this comparative analysis. These calculations were done at a detailed occupational level by sex and age group.

As can be seen, two-thirds of public sector workers would face a pay cut if their wages were identical to private sector wages for the same jobs, with an average loss of \$3,532, bringing their average pay from \$46,001 down to \$42,469. A large majority of the losers (79 per cent) would be women, whose average pay would be cut from \$45,206 to \$41,840.

At the same time, if public sector wages were identical to private sector pay, one-third of public sector workers would get a pay raise averaging \$6,500, increasing their average annual pay from \$57,164 to \$63,665. A majority of these "winners" would be men, whose average pay would increase from \$63,784 to \$72,640. Among men aged 55 and over, the winners would get a pay increase of \$10,100.

Overall, women in the public sector would *lose* an average of \$1,980 a year if their pay was identical to private sector pay for the same occupations, while men would *gain* an average of \$3,213 a year.

For both men and women combined, there would be an average net loss of \$248, equivalent to 0.5 per cent of average public sector pay, but as the detail in the table shows, averages can be deceiving, concealing very different distributional impacts.

Figure 8

Winners and losers if public sector wages were equivalent to private sector wages							
	Losers			Winners			Both
	# of losers	Average pay (\$)	Average lost (\$)	# of winners	Average pay (\$)	Average gained (\$)	Average loss or gain (\$)
Women 15-24	12,080	30,395	-3,007	12,670	22,214	796	-1,060
Women 25-39	187,630	42,276	-3,293	56,300	41,202	2,588	-1,936
Women 40-54	334,855	46,754	-3,078	86,195	56,109	3,979	-1,633
Women 55+	109,635	47,126	-4,409	14,090	50,667	4,193	-3,430
<b>Women Total</b>	<b>644,200</b>	<b>45,206</b>	<b>-3,366</b>	<b>169,255</b>	<b>48,160</b>	<b>3,296</b>	<b>-1,980</b>
Men 15-24	4,365	28,473	-3,335	1,090	27,684	2,950	-2,079
Men 25-39	56,245	46,635	-3,892	53,145	53,536	5,687	762
Men 40-54	82,140	49,929	-3,932	133,520	65,753	9,770	4,551
Men 55+	34,020	52,766	-5,141	42,470	71,343	10,100	3,321
<b>Men Total</b>	<b>176,770</b>	<b>48,897</b>	<b>-4,137</b>	<b>230,225</b>	<b>63,784</b>	<b>8,856</b>	<b>3,213</b>
<b>Both men and women</b>	<b>820,970</b>	<b>46,001</b>	<b>-3,532</b>	<b>399,480</b>	<b>57,164</b>	<b>6,500</b>	<b>-248</b>

### By occupation

The distinct differences in wage scales – and greater equality of wages in the public sector – are particularly apparent when considering average wages by occupation. There is of course a great degree of correlation of wages by occupation, but average earnings in the public sector are consistently lower for the higher paid major occupational groups, and consistently higher for lower paid major occupational groups.

Figure 9 clearly illustrates this: public sector pay is considerably lower than in the private sector for management and for natural and applied science occupations, where the pay is above the national average of \$49,531. For all the major occupational groups where pay is lower than the national average of \$49,531, average earnings are higher in the public sector.

Figure 9 presents these figures on comparative average annual earnings for major occupational groups, with the averages for men and women included. In all cases, public sector pay scales are more equitable and reduce the larger pay differences that exist between these occupational groups in the private sector. In most cases (except trades and related, where there is a small number of women working), public sector pay scales reduce the pay gaps for women within these major occupational groups.

These two factors can be illustrated by looking at a simple example: the ratio of pay for men in the highest paid occupational group in comparison with the average pay women in the lowest paid occupational group. In the private sector, men in the highest paid occupational group, management, are paid an average of almost four times as much as the average pay for women in the lowest paid occupational group, sales and service. In the public sector, this ratio is three to one.

Figure 9

Average annual pay by major occupational group public and private sectors, men and women					
Major occupational group	Sex	Number of public sector workers	Public sector average wage	Private sector average wage	Difference
			\$	\$	
Management	Male	37,950	80,528	91,297	-11.8%
	Female	46,345	65,266	66,487	-1.8%
	Total	84,295	72,137	77,657	-7.1%
Admin, Finance, Business	Male	61,885	55,724	61,260	-9.0%
	Female	271,070	41,528	39,773	4.4%
	Total	332,955	44,167	43,767	0.9%
Natural and Applied sciences	Male	87,910	62,250	67,105	-7.2%
	Female	31,010	56,114	56,195	-0.1%
	Total	118,920	60,650	64,260	-5.6%
Health and related	Male	38,340	57,785	60,419	-4.4%
	Female	243,245	49,831	46,765	6.6%
	Total	281,585	50,914	48,624	4.7%
Social science, Education	Male	68,020	59,766	62,086	-3.7%
	Female	169,555	43,515	41,966	3.7%
	Total	237,575	48,168	47,726	0.9%
Arts, Culture, Recreation	Male	7,010	52,661	54,542	-3.5%
	Female	16,035	47,648	44,290	7.6%
	Total	23,045	49,173	47,408	3.7%
Sales and service	Male	52,275	38,298	35,401	8.2%
	Female	35,165	27,080	23,347	16.0%
	Total	87,440	33,787	30,553	10.6%
Trades and related	Male	53,605	50,355	50,521	-0.3%
	Female	1,030	34,541	34,657	-0.3%
	Total	54,635	50,057	50,222	-0.3%

Figure 10

This relationship is also significant at the detailed occupational level. While there is of course a strong correlation between public and private sector wages by detailed occupation group, there is also a significant *negative* correlation between public and private sector wage differences in relation to average wages: the higher the wage, the more likely public sector wage will be lower than the private sector, and vice versa.

This is very evident by looking at a scatterplot which plots each specific occupation with a point matching public and private sector wages against different axes. In Figure 10 for every occupation represented by a point above and to the left of the 45 degree line, private sector pay is higher than public sector pay. For every specific occupation represented by a point below and to the right of the 45 degree line, public sector pay is higher. Average wages for men in all 232 comparative occupations are represented by a separate red X, while for women they are represented by the blue dot.

It is immediately clear that:

- 1) relatively higher public sector wages are concentrated among lower paid occupations, the large majority with annual pay below \$60,000;
- 2) there are more women in occupations with a positive public sector wage differential, particularly at relatively lower income levels; and
- 3) the opposite holds true for the private sector: positive wage differentials are concentrated at higher income levels and mostly represent men.

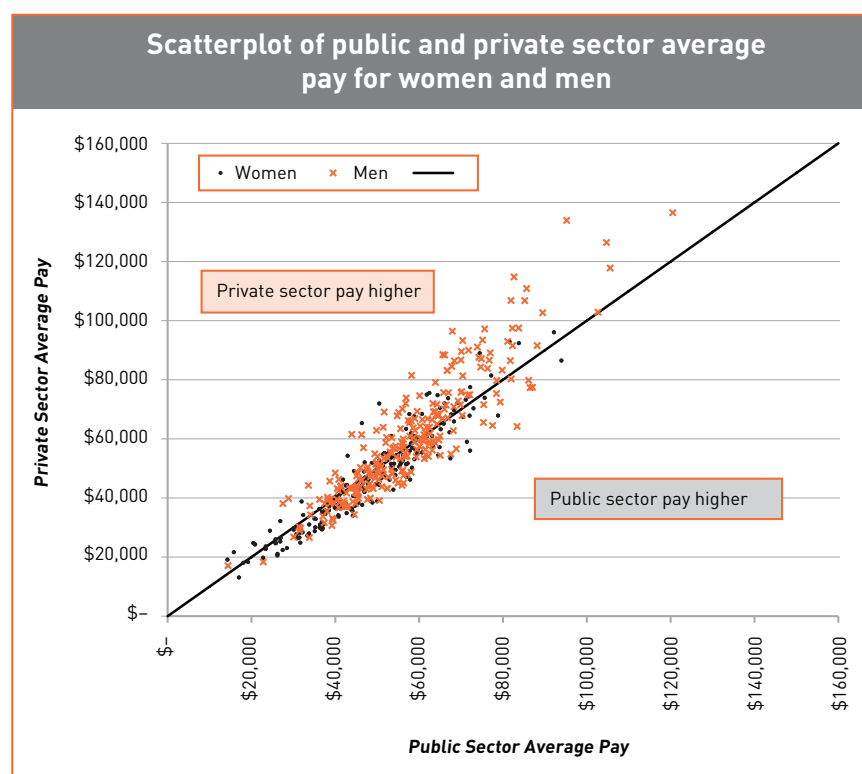


Figure 10 provides results for the 30 specific occupations with the largest number of public sector workers from the list of comparable occupations. For all these occupations, there are a substantial group of private sector workers – over 1,000 for each group – which means the comparisons should be reliable.

A large majority – 24 of 30 – of these occupations are female-dominated in the public sector, in many cases quite heavily. Generally, when the average wage for the occupation is above the national average, public sector wages are lower than private sector wages and vice versa. The two most notable exceptions are registered nurses and early childhood educators. In over 70 per cent of these occupations, public sector wage scales reduce overall wage differences. For all but one of these 30 specific occupations, average wages for women are lower than those of men.



Figure 11

Results for 30 largest comparative specific public sector occupations public sector workers, average wage and pay differentials							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Detailed 4-digit occupation (and 2006 SOC code)	# of public workers	% Female	# of private workers	Average public salary (\$)	Average private salary (\$)	Wage diff public/private	Female/Male wage
D112 Registered nurses	122,240	92%	22,650	59,747	55,311	8.0%	93%
D312 Nurse aides, orderlies and patient service associates	72,015	83%	5,920	30,689	30,595	0.3%	83%
B511 General office clerks	55,565	90%	99,275	39,075	36,418	7.3%	86%
E217 Early childhood educators and assistants	44,695	99%	1,430	25,766	26,170	-1.5%	79%
E212 Community and social service workers	44,045	75%	10,520	37,981	35,870	5.9%	93%
B211 Secretaries (except legal and medical)	42,670	99%	72,235	35,380	33,540	5.5%	51%
<b>G933 Janitors, caretakers and building superintendents</b>	<b>40,065</b>	<b>19%</b>	<b>56,785</b>	<b>36,796</b>	<b>33,509</b>	<b>9.8%</b>	<b>77%</b>
E121 College and other vocational instructors	37,995	47%	13,865	59,412	58,471	1.6%	86%
B541 Administrative clerks	27,980	83%	34,915	42,362	43,167	-1.9%	73%
B311 Administrative officers	27,785	78%	79,320	50,427	49,395	2.1%	66%
E022 Social workers	25,730	80%	5,340	52,396	48,476	8.1%	94%
B011 Financial auditors and accountants	22,390	50%	85,170	62,006	70,430	-12.0%	74%
D233 Licensed practical nurses	21,010	92%	2,625	38,738	37,622	3.0%	91%
B531 Accounting and related clerks	20,765	84%	88,670	41,463	39,135	5.9%	76%
C071 Information systems analysts and consultants	20,150	33%	73,390	64,144	73,277	-12.5%	91%
B021 Specialists in human resources	14,295	73%	22,015	60,854	68,117	-10.7%	77%
G811 Visiting homemakers, housekeepers and related	13,715	86%	18,715	26,636	25,540	4.3%	82%
B514 Receptionists and switchboard operators	13,485	95%	48,765	32,472	28,533	13.8%	88%
G931 Light duty cleaners	12,710	45%	29,720	29,108	25,170	15.6%	77%
B553 Customer service, information and related clerks	12,415	77%	93,835	41,860	35,969	16.4%	86%
A321 Managers in health care	10,420	74%	4,560	74,387	74,390	0.0%	80%
A114 Other administrative services managers	9,750	57%	20,540	69,768	69,108	1.0%	78%
E023 Family, marriage and related counsellors	9,425	72%	4,040	44,137	45,859	-3.8%	90%
B513 Records management and filing clerks	9,030	84%	5,665	38,218	36,121	5.8%	85%
B312 Executive assistants	8,985	94%	15,515	46,930	48,649	-3.5%	103%
E012 Lawyers and Quebec notaries	8,830	52%	18,095	98,233	110,799	-11.3%	81%
C074 Computer programmers and interactive media developers	8,700	69%	53,585	58,690	64,917	-9.6%	94%
A324 Managers in social, community and correctional services	8,700	73%	5,495	56,010	59,206	-5.4%	76%
C181 Computer network technicians	8,560	22%	25,985	54,704	56,389	-3.0%	87%
D211 Medical laboratory technologists and pathologists assistants	8,540	82%	4,300	56,823	55,043	3.2%	94%

As can be seen from Figure 11, in column 7, the largest positive wage differentials for the public sector are for relatively lower paid jobs, such as cleaners, customer service clerks, receptionists and janitors. For these four occupations with a pay differential of 10 per cent or higher, the average private sector wage is \$30,800. By contrast, the largest wage premiums for the private sector (or penalties in the public sector) are for relatively higher paid occupations, such as lawyers, financial auditors and accountants, information system analysts, human resource specialists,

and computer programmers. The average pay in these five occupations with a private sector pay premium of 10 per cent or higher is \$77,500, two and a half times the average wage of the occupations with the substantial public sector pay premiums.

#### *By level of government and broader public sector*

The equalizing impact of public sector wage scales is also evident at all levels of the broader public sector.

Figure 12 provides comparative average wages by level of government and for the other major public sector industries of health care and social services, and education. In all these industry groups, average wages for women in the public sector are higher than average wages for women who work in similar occupations in the private sector. In contrast, average pay for men is lower at all levels of government and the broader public sector than for men who work in similar jobs in the private sector.

The highest positive public sector pay differential is for women in the federal public administration at 9.9 per cent. In the federal government, women are heavily concentrated in clerical occupations, which make up six of the ten largest occupational categories for women. Federal public sector pay for women in these jobs is higher than the private sector, partly because of federal pay equity rules and language requirements.

The largest occupational groups for men in federal public administration where there are valid comparisons with the private sector include both higher paid groups such as auditors, accountants, information system analysts and economists, where there's a substantial pay penalty and a number of lower-paid clerical occupations, where public sector pay is higher.

In contrast, the largest negative pay penalty is for men at the provincial government level, where average pay for men is 11.9 per cent lower than pay for men who work in similar jobs in the private sector. The largest occupational groups for men in provincial government

are information system analysts, auditors and accountants, administrative officers, civil engineers, and health and safety inspectors. These are comparatively higher paid jobs, but also ones where there's a significant pay premium to working in the private sector. For example, the ninth largest occupational group for men at the provincial government level is economists, for whom average pay in the private sector is 30 per cent higher.

There's less of a pay benefit for women working for provincial governments. The largest occupational groups for women in provincial public administration are also clerical, but pay for these jobs consistently averages about 13 per cent below federal government. There are also a significant number of women working for provincial governments in relatively higher paid occupations, such as lawyers, accountants and auditors, where pay for women is similar to the private sector.

At the local government level, the largest occupational groups for men are both in lower paid labour and janitorial jobs, where average pay is higher in the public sector, and in relatively higher paid engineering, planning, and heavy equipment occupations, where pay is lower in the public sector. The top 10 occupational groups for women at the local government level include both relatively lower-paid clerical positions, but also social workers, community and social service workers, and land use planners. Average pay for women in local government is higher than for women in the private sector for all these occupations.

**Figure 12**

Average annual pay by level of government and broader public sector men and women, public and private sectors						
	Women			Men		
	Public (\$)	Private (\$)	Difference	Public (\$)	Private (\$)	Difference
Federal government	53,881	49,009	9.9%	67,651	69,927	-3.3%
Provincial government	48,259	47,415	1.8%	63,386	71,924	-11.9%
Local & municipal	46,608	43,924	6.1%	56,136	57,479	-2.3%
Health care and social services	43,386	41,775	3.9%	50,272	52,947	-5.1%
Education services	45,578	44,596	2.2%	53,700	56,019	-4.1%

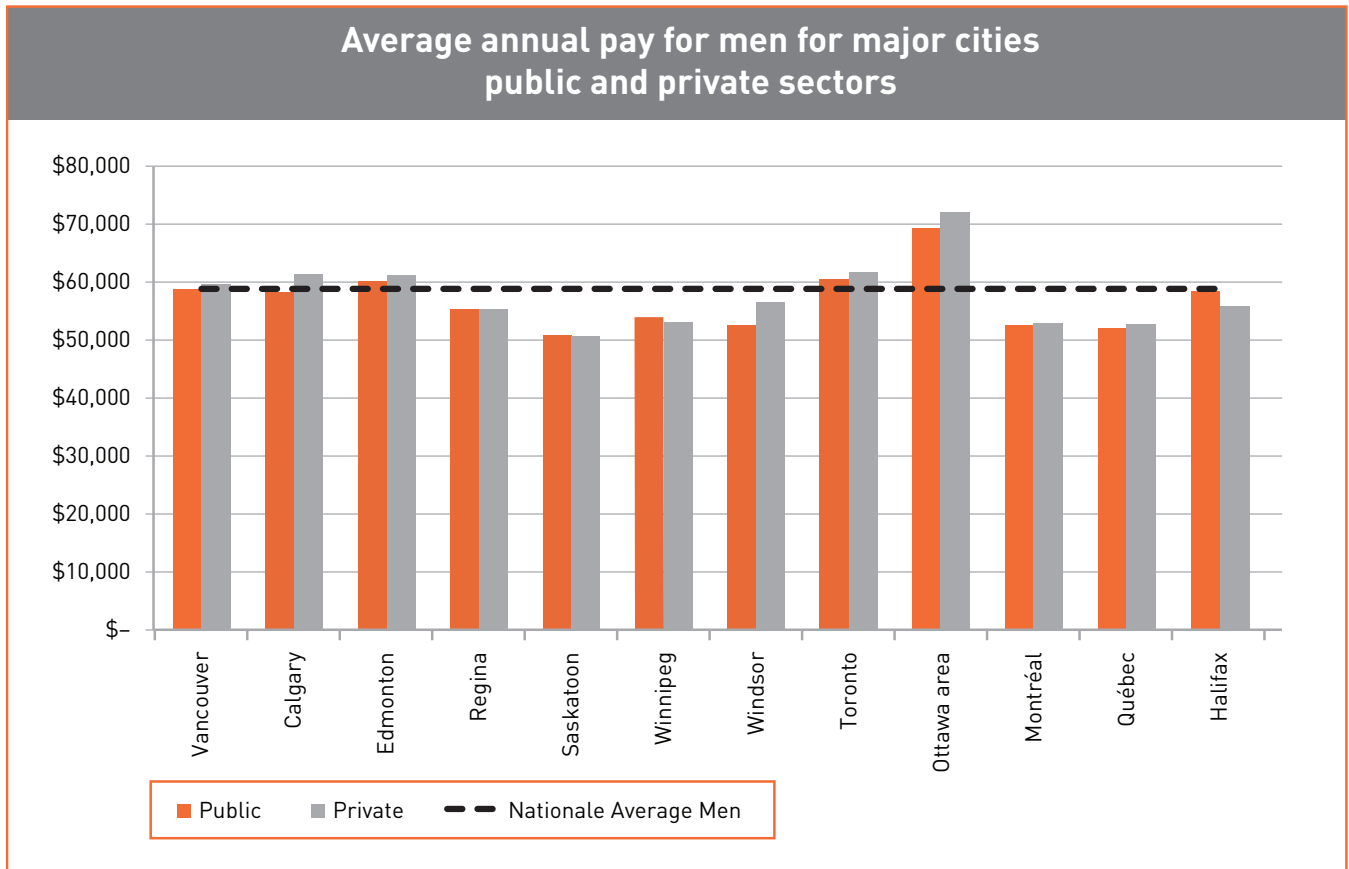
*Source: LivingWork Analysis of 2006 Census data.*

**By region**

The Census data also demonstrate that public sector wages are more equitable by region - both by province and major city - than private sector wages.

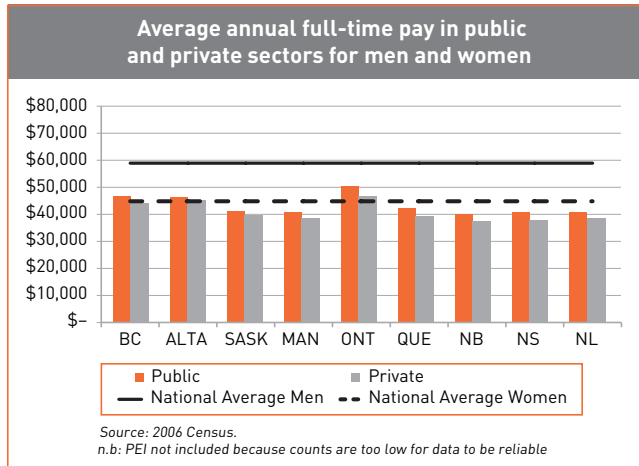
This may be expected, given national pay scales for federal public sector, but it is also remarkable how consistent this relationship is between provinces. When the average private sector wage for men is higher than the national average, public sector wages in those provinces are lower, and when private sector wages for men in a province are below the national average, public sector wages in those provinces are higher. This is illustrated for provinces in Figure 13.

**Figure 13**



The same relationship also applies to the 12 major cities included in this analysis. Private sector wages for men in these comparable occupations are above the national average wage in Toronto, Vancouver, Ottawa, Calgary, and Edmonton. In each of these cities, public sector salaries for men are below the private sector average, as can be seen in Figure 15. In most other cities where private sector wages for men are below the national average, public sector salaries are very close to or higher than the private sector average. The one notable exception is Windsor, Ontario, where average public sector pay for men was seven per cent below the private sector.

**Figure 14**

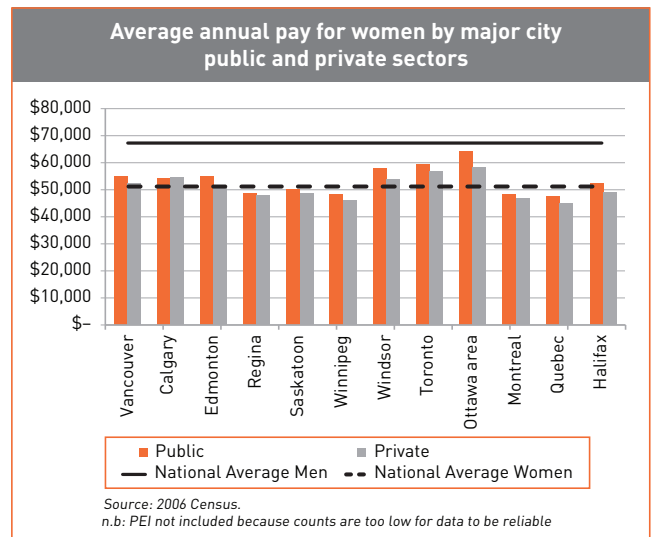


The relationship of public sector women’s wages by region isn’t as straightforward. In all provinces and major cities, except Calgary, average public sector wages for women are above what women are paid in the private sector when working in similar occupations. In all provinces except British-Columbia,

Alberta and Ontario, the public sector pay for women is still below the national average for women of public and private sectors combined. Similarly, public sector pay for women is higher than the national average for women only in the major cities of these wealthier provinces - Vancouver, Calgary, Edmonton, Windsor, Toronto and Ottawa - plus Halifax. In none of these regions does public sector pay for women exceed the national average for men, nor does it approach average wages for men in these regions.

There isn’t much of an equalizing effect for public sector women’s pay between regions, as there is for men, but public sector pay for women is relatively better in those provinces that have stronger pay equity legislation, such as Ontario and Quebec. Public sector pay for women in Alberta and Saskatchewan, which don’t have pay equity legislation or policies in place, is only slightly above the private sector average in those provinces.

**Figure 15**



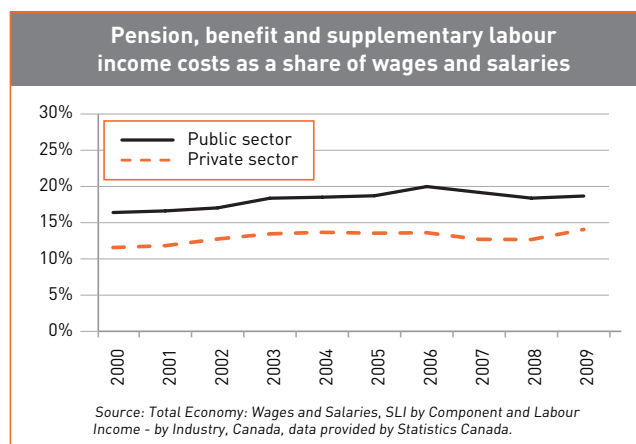
## Pension and benefits costs

The CFIB study claims that the additional value of public sector pensions and benefits adds another seven to 25 per cent to the public sector wage premium, with the cost of paid benefits adding up to 28 per cent to the wage bill depending on the sector.

Unlike some other jurisdictions, Canada has very little comprehensive data available on workplace pension and benefit costs. The only comprehensive economy-wide information available on an industry basis is through Statistics Canada's Supplementary Labour Income figures. However, these figures – which include all additional employer payroll costs for pension plans, employment insurance, workers compensation, health and life insurance and additional retirement benefits – don't show nearly as large a difference as the CFIB claims. In fact the average difference in these supplementary pension and benefit costs in the last decade has been close to five per cent. This is less than the 5.3 per cent average *wage penalty* that faced by men in the public sector. As the chart below shows, these differences widened during the 2005 to 2008 period, but have narrowed since then with the most recent figures showing a difference of 4.6 per cent in 2009.

These provide a rough indication of relative costs, but without much detail: they include all occupations and all workers, whether they work full-time or part-time. As a result, these figures magnify the differences in pension and benefit costs between the public and private sector in different ways. A large share of pension and benefit costs at the federal and local government level are for the armed forces, as well as police and firefighters, which all have earlier retirement provisions and improved benefits. These occupations were excluded from the wage analysis because of non-comparability with the private sector, but their additional pension and benefit costs are included in these numbers. Excluding pension and benefit costs for these occupations to be consistent with the wage comparisons would substantially reduce the averages for the public sector.

Figure 16



Larger employers, whether in the public or private sector, also tend to provide better pensions and benefits than smaller employers. A comprehensive study by the Economic Policy Institute found that not only do large employers pay their employees substantially more than small employers, but they are much more likely to provide pension and health benefits. Over 68 per cent of employees in large firms were covered by pension plans compared to only 13 per cent of employees in small firms.<sup>19</sup>

This factor is significant since over 80 per cent of public sector workers work for large employers and only five per cent work for small employers, while 37 per cent of private sector workers work for large employers and 38 per cent work for small employers.

## Conclusions and recommendations

Analysis of Census data at the most detailed level available shows that overall average salaries for comparable occupation are very similar between public and private sectors in Canada. The small overall “pay premium” of 0.5 per cent for all public sector workers, is entirely because of a smaller pay gap for women in the public sector.

On average, women employed in public sector jobs are paid 4.5 per cent more than women in comparable occupations in the private sector, while men in the public sector are paid an average of 5.3 per cent less than men employed in similar occupations in the private sector.

Women are paid persistently less than men working in the same specific jobs in all age groups, although the pay gap is substantially smaller in the public sector. When identical jobs and age groups are compared, in the public sector women are paid an average of 11.6 per cent less than men of a similar age working in the same jobs, but in the private sector this pay gap averages 17.9 per cent.

Public sector pay scales also demonstrate considerably greater equality in all the other dimensions examined – age, occupation, and region. These relationships are consistent at all levels of government and within the broader public sector: on average women in the public sector are paid more than women working in comparable jobs in the private sector pay, while men in the public sector are paid less.

Pay in the public sector is also more equitable between regions. In provinces where provincial average earnings are above the national average, public sector pay for men is below pay for comparable jobs in the private sector. In provinces where pay is below the national average, public sector pay tends to be higher than private sector pay. In effect, public sector pay scales also help to play an equalizing role at the regional and national level.

In every major occupational group, public sector pay is better for lower paid occupational groups such as sales and services jobs, but is *lower* than the private sector pay in higher paid occupations, such as management and the sciences. Pay differences between public and private sector are especially stark for many of the highest and lowest paid occupations, and especially when compared by age group and sex. For some of these groups, such as cleaners, average full-time, full-year pay in the private sector is lower than national low income or “poverty” levels.<sup>20</sup>

While this analysis compares pay at a very detailed occupational level, it doesn’t take account of other factors that can also have a significant positive impact on earnings, such as educational attainment, age and size of the employer. If these factors were accounted for, average pay adjusted for these factors would be lower in the public sector than the private sector.

Pay scales are more equitable in the public sector than the private sector for a variety of different reasons:

- pay equity legislation and policies
- political considerations and pressure for the public sector to be more of a model employer
- greater union influence in establishing common and more equitable pay levels
- consistent public sector wage rates reduce regional discrepancies at the national and provincial level.

While these results are from the 2006 Census, evidence from the Labour Force Survey suggests wage trends between public and private sectors have been similar since then. From 2006 to 2010, average hourly wages in public administration, education, and health care and social assistance all increased at a slightly lower rate than the national average for all industry sectors, in part because of public sector wage constraints and freezes.

## Implications

When business lobby groups and politicians continue to call for public sector pay cheques to be in line with private sector standards, these findings highlight an important question. What should be the appropriate norm for wages and benefits in the public sector?

If wages and salaries in the public sector followed private sector norms, the result would be much larger pay gaps for women, and much greater income inequality between different age groups, regions and between top and lower income earners. Public sector pay for senior officials would escalate, while some of those at the bottom of the scale would be paid less than poverty level wages.

If public sector pay reflected private sector standards, annual pay for women in the public sector would be about \$2,000 a year less. Those in lower paid occupations would lose out the most, while many of those in higher paid occupations would get a pay raise. Average pay for men in the public sector would be about \$3,200 higher. Those in higher paid occupations would benefit the most, while those in the lowest paid occupations would lose out.

It is unlikely the public would be supportive of this at a time when income inequality in Canada has become much worse, poverty is increasing and executive compensation continues to soar. Average working wages and incomes have been stagnant for the past three decades, with virtually all the gains going to the top 10–20 per cent, while incomes of those on the bottom have declined.<sup>21</sup> At the very top, the average compensation for Canada's 50 highest paid CEOs reached 219 times the salary of the average worker, up from 85 times the pay of the average worker in 1995. Inequality is now so severe that it is now seen as an obstacle to stronger economic growth by organizations such as the International Monetary Fund, the Conference Board of Canada and the OECD.<sup>22</sup>

There are good reasons why pay scales in the public sector are more equitable than the private sector. They reflect broader public values and social norms than just what private employers and markets choose to pay.

More equitable and stable pay in the public sector also reduces regional disparities, and protects against the impact of economic cycles. This helps stabilize the economy, just as increased public spending helped prevent Canada and other countries from suffering a worse economic downturn. The biggest economic challenge for Canada and other countries isn't a shortage of savings and investment for business, inadequate incomes for higher incomes, or even public sector deficits; it is inadequate demand, slow wage growth and the perilous state of household debt and finances. To remedy this, we need real wage growth, particularly for lower and middle income families.<sup>23</sup>

Instead of forcing public sector pay to reflect private sector standards, private sector pay scales should better reflect broader public standards. Instead of paying public sector workers in relatively lower paid occupations even less and those in higher paid occupations even more, governments should instead take immediate steps to reduce inequality and to increase wages for lower and middle income workers.

These measures should include:

- *Hike minimum wages.* The average minimum wage across Canada in the late 1970s was worth over \$10/hr in today's dollars. Despite recent increases, the provincial average is still four per cent lower than the provincial average and 14 per cent lower than the federal minimum wage of 1977. Increasing minimum wages is the most effective way of reducing working poverty at no cost to government.
- *Living wages and fair wages.* All governments and public institutions should commit to pay "Living Wages" to public sector workers and fair wages to those working on contract to public agencies.
- *Stronger pay equity legislation, extend to private sector.* Pay equity legislation and policies have helped reduce the pay gap between men and women in many provinces. Alberta and Saskatchewan, however, don't have pay equity legislation or policies, and in most provinces, except Ontario and Quebec, it is restricted to the public sector. Pay equity rules should be strengthened and applied to private sector employers.
- *Reduce incentives for high pay, mandate "say on pay" in private sector.* CEO and executive compensation has escalated wildly, aided by preferential tax provisions and self-dealing in the executive club. These excessive pay packets could be limited by eliminating the stock option tax deduction, limited corporate tax deductibility for compensation in excess of \$500,000, and mandating companies to allow shareholders to vote on executive compensation levels through "say on pay" votes at their annual general meetings.
- *Allow public sector workers to engage in free collective bargaining.* In recent years, federal and provincial governments have frequently imposed wage freezes or specified wage increases on public sector workers without allowing labour and employers to engage in free collective bargaining. Disturbingly, the rapid use and threat of back-to-work legislation for workers with imposed settlements is increasingly removing or limiting the right to strike for more and more workers.
- *Provide adequate funding for public services and public sector wages.* Public sector employment, compensation and public spending in Canada recently dropped to its lowest share of the economy in at least 30 years.<sup>24</sup> Higher deficits weren't caused by unsustainable public spending, but are the result of the recession and tax cuts. Increased investment in public services will do much more to strengthen the economy than tax cuts.
- *Strengthen workers' rights.* Stronger unions and labour rights are one of most effective ways of reducing inequality. Analysis shows that declining unionization rates in the United States were responsible for 20 to 33 per cent of the increase in inequality from 1973 to 2007 and higher rates of unionization were responsible for 40 per cent of the difference in inequality between Canada and the United States.<sup>25</sup> Our governments should make it easier for workers to join unions without fear of reprisals, and halt policies that drive down wages, including the exploitative temporary foreign worker program and trade agreements that give investors precedence over democratic rights.
- *Improve public pensions and social benefits.* As universal public pensions and social benefits have been cut back, and families have increased their reliance on workplace pensions and benefits, gaps have grown between higher income employees working for large employers, public sector workers and those working for smaller employers and businesses who usually have very little in the way of pensions or benefits. Many of those in the public sector working for small employers also lack pensions and decent benefits. The solution isn't to cut decent pensions and benefits for those who have them, but to raise the floor for those who don't. Gradually raising benefits provided through the Canada Pension Plan and introducing a national pharmacare plan are two of the most effective ways of doing this, the first at little additional cost to governments, the second at an estimated \$10 billion cost savings for Canadians.



## Appendix A: Key differences between public and private sector workforces

### Public sector workers are concentrated in public administration, education, health and utilities

Over 84 per cent of Canada’s public sector workers are employed in three main industries: public administration, education, and health care. While effectively 100 per cent of those working in public administration are considered public sector workers, this industry sector ranks third in total employment of public sector workers: a larger number of public sector workers actually work in both education services and in health care and social services.

Following public administration, the next largest industry employers of public sector workers are transportation and warehousing 4.6 per cent, utilities 3.6 per cent, information, culture and recreation 3.4 per cent and finance and insurance 1.4 per cent.

### Majority of public sector workers are female

62 per cent of all public sector workers are women. The largest number are employed in health and social services, where women account for 82 per cent of the industry’s workforce, followed by education with 67 per cent female and then public administration with 51 per cent female. Considerably smaller numbers of female public sector workers are employed in other industry sectors.

Figure 17

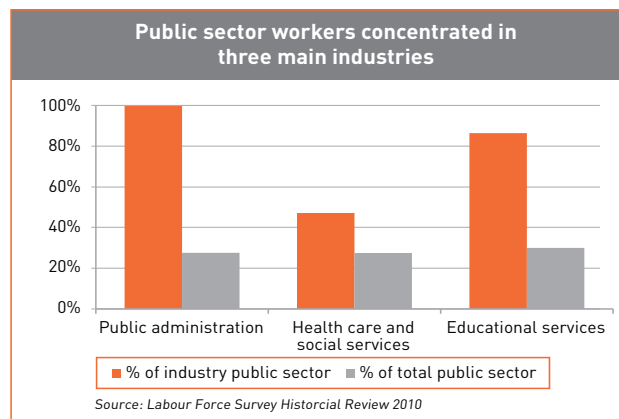
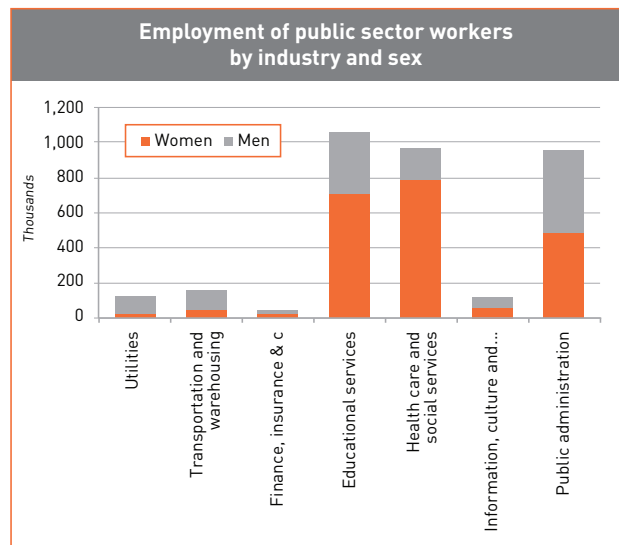


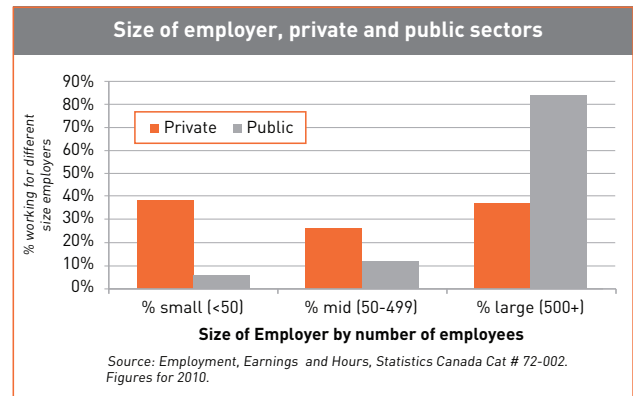
Figure 18



### Much larger share of public sector works for large employers

Over 80 per cent of public sector workers work for large employers and only five per cent work for small employers with less than 50 employees. In the private sector, only 37 per cent work for large employers while 38 per cent work for small employers.

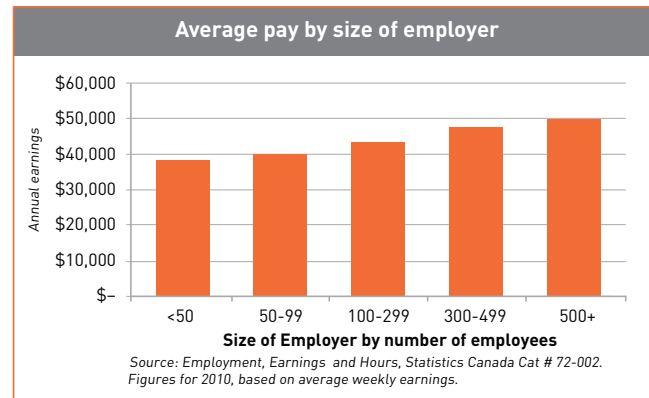
Figure 19



### Larger employers, whether public or private, pay on average 30 per cent more than small businesses and employers

This size of employer on its own can more than explain the difference in average wages between public and private sectors. For example, large employers (over 500 employees) – whether public or private – pay average wages 30 per cent higher than small employers (less than 50 employees). In fact, average wages for small and medium sized employers in the public sector are *lower* than average pay for small and medium sized employers in the private sector.

Figure 20

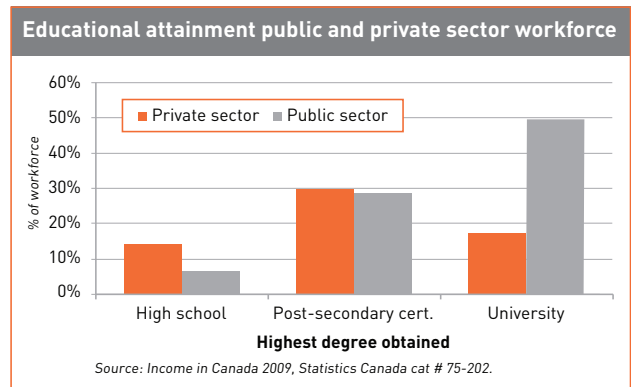


Large employers are also much more likely to provide pension and health benefits by a factor of more than two to one. Some of the differences in compensation between large and small employers are explained by higher levels of education, experience and productivity of employees at larger enterprises (Berman et al 1998). Employees of large enterprises may also sacrifice higher levels of flexibility for the increased compensation and security provided by larger employers.

**Public sector workers have higher levels of education**

Almost 80 per cent of those working in public sector industries have a university degree or post-secondary certificate compared with 46 per cent of those working in private sector industries.

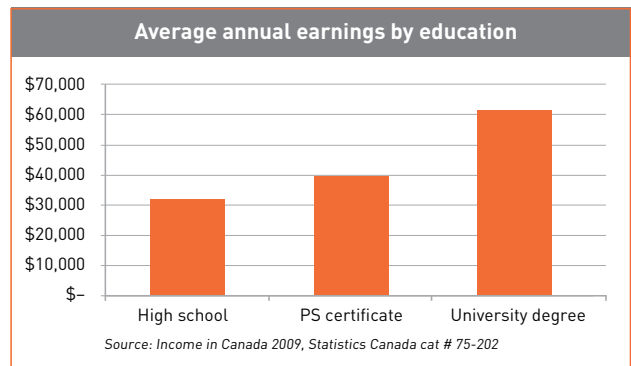
**Figure 21**



**Pay for workers with university degrees is almost double the pay for those with education to high school only**

Annual earnings for those with a university degree are on average 93 per cent higher than for those with high school graduation only. Almost half (49 per cent) of the public sector workforce has a university degree compared to 17 per cent of the private sector workforce.

**Figure 22**

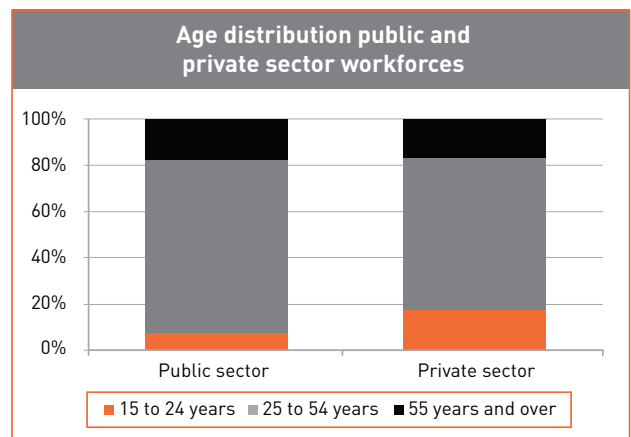


**The public sector workforce is older and more experienced**

Public sector industries have a larger share of older workers and a smaller share of younger workers. Less than eight per cent of the public sector workforce is under the age of 25 compared with 18 per cent of the private sector workforce and a slightly higher share of the public sector is 55 and older.

Together with an older workforce, average tenure of employment is over 10 years in the public sector compared to approximately eight years for private sector workers.

**Figure 23**



## Public sector has higher rate of union representation

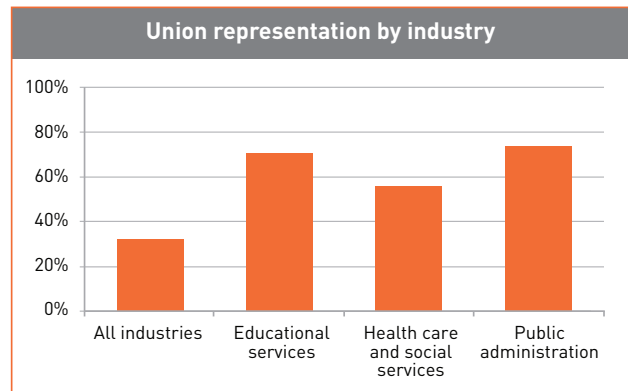
Major public sector industries have a considerably higher rate of union representation than private sector industries. Over 70 per cent of the workers employed in education and public administration are covered by union contracts and 55 per cent of those working in health care and social service.

Union coverage of all public sector workers has remained steady at about 75 per cent, but it has declined from 21.3 per cent of the private sector workforce in 1997 to 17.5 per cent in 2010. Overall union representation of the total population has fallen slightly from 33.7 per cent in 31.5 per cent over that period.

Representation by a union is usually reflected in higher wages, and particularly for those in generally lower paid occupations such as women as a result of common wage scales and an emphasis on raising wage rates for the lowest-paid.<sup>26</sup> However, the overall “union wage premium” has been shrinking, having fallen from 31 per cent in 1997 to an average of under 24 per cent in the past five years for all workers. Wage benefits of unionization are stronger for women, temporary, and younger workers. For middle-aged and older male workers with a permanent position, the overall union wage premium averages eight per cent. These figures are not adjusted by industry or occupation, which provide different results.

The results of this analysis suggest that higher rates of union representation in the public sector have resulted in higher wages especially for lower paid workers, but they aren’t associated with a significantly higher total wage bill. Instead, the main consequence of higher rates of unionization in the public sector is greater equality of pay, and not higher overall wage and salary costs.

Figure 24



## Appendix B: Summary of other relevant studies

Study	Coverage	Data/method	Findings
Maclean and Vincent, 2003: "Are estimates of a public sector wage premium reliable?"	Canada: broad public sector. Reviews major studies, updates data	Survey of Labour and Income Dynamics; regression analysis	Concludes estimates of studies finding a public sector wage premium are not reliable.
Gunderson, Hyatt and Riddell 2000: <i>Pay Differences between the Government and Private Sectors: Labour Force and Census Estimates</i> (CPRN)	Canada: government/public administration, broader public sector	Labour Force Survey 1997, Census 1996, regression analysis	Public sector pay premium seven-11 per cent for public admin, lower in education and health.
Institut de la Statistique du Québec (1999-2010) ; Rémunération des salariés - État et évolution comparés 2010.	Quebec	Comparisons with various different groups	Quebec public sector workers paid average seven per cent less than comparable private, total compensation equivalent (2010 report).
Afonso and Gomes, 2008. <i>Interactions between Private and Public Sector Wages</i> , European Central Bank Working Paper No. 971	Canada and fifteen other OECD countries	OECD, European Commission, Labour Market Institutions Database 1970 to 2010	Finds that public sector wages have been lower than private sector wages in Canada since mid-1990s. Public sector wages are also lower than private in the UK, Norway and Sweden, but are similar or higher in other countries studied.
Richwine 2011. <i>Same Worker, Higher Wage</i> (Heritage Foundation)	U.S. Workers who switch jobs	Survey of Income and Program Participation (sample of 146), 2004, 2008	Finds 8.9 per cent increase in wages for workers switching from private to federal employment.
Keefe, 2011. <i>Are Missouri Public Employees Overcompensated?</i> (Economic Policy Institute)	U.S. Missouri public sector workers	U.S. Current Population Survey (labour force survey), 2004-2009, regression analysis	Finds public employees undercompensated by 15.7 per cent on average; 24 per cent for state government employees and 10 per cent for local government.
Keefe, 2011. <i>Are Minnesota Public Employees Overcompensated?</i> (Economic Policy Institute)	U.S. Missouri public sector workers	U.S. Current Population Survey (labour force survey), 2004-2009, regression analysis	Finds public employees undercompensated by 11 per cent on average, including total compensation
Schmitt 2010 <i>The Wage Penalty for Local Government Employees</i> (CEPR)	U.S. State and Local government employees	U.S. Current Population Survey (labour force survey), 2009, regression analysis	Finds 4 per cent wage penalty for state and local government workers, 2 per cent for women, 6 per cent for men.
Allegretto and Keefe 2010 <i>The Truth about Public Employees in California: They are Neither Overpaid nor Overcompensated</i> (CWED, University of California)	U.S. California state and local government workers	U.S. Current Population Survey (labour force survey), 2009, regression analysis.	Finds average wages 7 per cent lower; total compensation 1 per cent higher.
Bender and Heywood 2010. <i>Out of Balance?: Comparing Public and Private Sector Compensation over 20 years</i> (NIRS)	U.S. state and local workers	U.S. Current Population Survey 1983 – 2008, regression analysis	Wages for state workers 11 per cent less than comparable private sector workers, local government workers 12 per cent less, total compensation 7 per cent lower.
Thompson and Schmitt 2010. <i>The Wage Penalty for State and Local Government Employees in New England</i>	U.S. State and local workers, New England, Connecticut, Massachusetts	U.S. Current Population Survey (labour force survey), 2009, regression analysis	Average wage 3 per cent lower, higher for low incomes, larger penalty for high income occupations.
Meurs and Ponthieux. <i>Public and private employment and the gender wage gap in eight European countries</i>	Europe: UK, France, Spain, Italy, Poland, Belgium, Germany, Denmark	European Community Household Panel 2001	Public sector wages generally higher for women, esp. at lower end of wage distribution. Pay gap for women usually higher in private sector.
Lucifora and Meurs 2004. <i>The Public Sector Pay Gap in France, Great Britain and Italy</i>	Britain, France, Italy, includes broader public sector	National labour force surveys, regression analysis	Overall public sector pay premiums of 5-11 per cent, negative at higher incomes.

Bargain and Melly 2007. <i>Public Sector Pay Gap in France: New Evidence using Panel Data</i>	France: broader public sector workers, excluding blue collars	Labour Force Survey 1990-2002	Long-run pay gap close to zero for both men and women.
Danzer and Dolton 2011. <i>Total Reward in the UK in the Public and Private Sectors</i>	U.K. broader public sector	Annual Survey of Hours and earnings, other data 1997-2009	Accumulated Lifetime Total Reward for men is equalized between public and private sectors over life cycle; women better-off in public sector at all points.
Bozio and Johnson 2011 Institute for Fiscal Studies	U.K. broader public sector	Labour Force Survey, regression analysis	Public sector pay premium of 2 per cent for men, 7 per cent for women after controlling for age, education, qualification.
Ghinetti and Lucifora 2008 Public sector pay gaps and skill levels: a cross-country comparison	UK, Italy, France	European Countries Household Panel, regression analysis	Public sector pay premium higher for low skilled service sector workers, becomes close to zero at higher quantiles.

## Appendix C: Methodology

The objective of this study was to produce a series of robust and reliable estimates of average annual wages for workers in similar occupation that are classified into either the private or public sectors.

### Data source and sample

The study used a custom dataset created by Statistics Canada from the 2006 Census using data from the long-form census, which was filled in by 20 per cent (over 1.9 million) Canadian households. Data was provided for the number of workers and annual wages of those who worked full-time, full-year, classified by detailed occupational group (520 different specific occupations at the 4-digit level using the 2006 National Occupational Classification), by industry, sex, age and region. Statistical data on the standard error and median wages was also obtained. Data was obtained at the national and provincial level and for ten large major cities.

These records represent annual earnings for employees who worked full-time, full-year: those who worked for 30 or more hours a week and for 49 or more weeks per year. Those identified as self-employed were excluded as they represent a very diverse group: both owners of companies and individual contractors or consultants. Some may work in the public sector, but they aren't properly considered "public sector employees".

As the Census data were not categorized by whether the employer was considered public or private, we obtained data for the predominant public sector industries from Statistics Canada (using the same approach employed for the CFIB Wage Watch study). These include:

- Federal public administration (NAICS 911, 914, 919)
- Provincial public administration (NAICS 912)
- Local and municipal public administration (NAICS 913)
- Public health care and social services (NAICS 622, 623, 624)
- Education services (NAICS 610)
- Public Sector: above, plus Urban transit (NAICS 4851) and Postal Services (NAICS 4911)

Private Sector: all other industry sectors. A limited number of occupations that are unique to the public sector were excluded in advance of other analysis. These included police officers, firefighters, armed forces officers, correctional service officers, teachers, professors, principals, letter carriers, government managers and elected officials. These occupations were similarly excluded in the CFIB study.

Given that the survey data comes from a large sample of workers, the objective of the statistical methods focused on minimizing both the sampling and non-sampling errors used in the methods to produce these estimates.

### Data quality and outlier detection

Additional care must be taken with the raw Census data because they are self-reported and, as with all data, often include classification, coding and inputting errors. In addition, the method of constructing public and private sector classifications based on industry codes means a proportion of these individuals are misrepresented. Typically an error rate of five per cent should be expected for non-sampling errors.

The data were filtered to remove occupational categories by sex and age where the average wage was 30 per cent or higher for either the public or private sectors. While the 4-digit NOCs code provides the highest level of detail available, these levels of wage differences may signify that these occupational groups may be sufficiently different. This approach was recommended by the federal Treasury Board and also used in the CFIB Wage Watch study.

Outliers and non-comparable occupations were further filtered by eliminating those where there were less than 25 individuals employed and where either the public or private sector comprised less than 2.5 per cent of total employment for this occupational group.

### Sampling errors

To ensure data reliability and integrity, occupational groups with a high level of wage dispersion—where the “standard error” is more than 30 per cent of the average wage—were also excluded. This represents estimated errors based on the fact that the sample data isn’t identical to underlying population.

These are standard statistical methods widely used to determine whether data used comes from sample large enough to be considered reliable and representative of the underlying population.<sup>27</sup> The standard error is calculated as the square root of the average, taken over all possible samples of the same size and design, of the squared deviation of the sample estimate from the value for the total population.

In statistical terms, there’s a 99 per cent confidence level that the true value of a sample lies within plus or minus three times its standard error. Plus or minus two times the standard error provides a 95 per cent confidence level, similar to the “19 times out of 20” probability reported in opinion polls.

For smaller samples – such as those representing smaller provinces or cities with smaller occupational counts – the standard error will be relatively large in relation to the sample.

### Calculation of average wages

Total and average wages for each group were calculated in a straightforward manner by aggregating the number of workers in each subcategory multiplied by their average wage. Analysis and aggregation was done by detailed occupation, gender and age group.

For some types of data analysis, medians (the middle value in a list of numbers) are used instead of mean averages to represent a typical value and to minimize the impact of outliers (e.g. those with very low or high incomes). However, in this form of analysis, use of medians is inappropriate because 1) it biases the results of different wage distributions between the public and private sectors; and 2) it is mathematically incorrect to multiply medians (or the difference between medians) to derive aggregate or total earnings, as was done in the CFIB Wage Watch study.

The statistical tests we applied demonstrate the data filtering used in this analysis was rigorous enough to provide statistically robust results at the levels presented.

## Endnotes

- 1 This isn't an entirely new finding—other more specific studies have found this for particular workforces—but this study appears to be the first analysis that demonstrates these results so comprehensively. For instance, the federal Treasury Board's 2007 [Expenditure Review of the Federal Public Sector](#) found that “the overall federal government ‘wage premium’ mainly reflects relatively higher female wages, which in turn reflects in part various federal social policies...” Independent studies by Watson Wyatt and Hay Associates of specific jobs also found higher pay for lower classifications but significantly lower pay at the executive level of the federal public service. Finance minister Jim Flaherty has also clearly acknowledged this: in a recent speech to business students he said “Public service is good for you. It's unlike any other career. It features long hours, relatively lower rates of pay than comparable positions on Bay Street, and it is often decades before you can witness the positive results of your labour. Some of you might then ask: ‘If the hours are long and the pay low, why would I do it?’ The answer is simple: It is the most satisfying and personally enriching career you will ever find.” Robert Sibley, “[Flaherty touts public service as ‘higher calling’](#)”, *Ottawa Citizen*, p. 1, 12 October 2011.
- 2 Hank Daniszewski, “Swift calls for end to unions”, *London Free Press*, 11 May 2011. <http://www.lfpress.com/news/london/2011/05/10/18128546.html>
- 3 Artuso, Antonella, “Hudak: Freeze public servants pay now” *Toronto Sun*, 18 November 2011. <http://www.torontosun.com/2011/11/18/hudak-freeze-public-service-pays-now> Ontario Progressive Conservative Party, *Changebook*, p. 15. The chart accompanying this campaign pledge illustrates comparative provincial deficits, implying that higher rates of public sector pay are responsible for Ontario's deficit. [http://www.ontariopc.com/pdf/Changebook\\_en.pdf](http://www.ontariopc.com/pdf/Changebook_en.pdf)
- 4 This public sector average is 3.6 per cent lower than the national average annual pay of those working full-time, full-year in all occupations (not just the group of comparable occupations) of \$51,531 reported by the 2006 Census. This is partly because the public sector workforce includes a higher proportion of women, who are typically paid less than men. The national average pay for women in all occupations was even lower, \$41,893 while for men it was \$59,246.
- 5 Yalnizyan, Armine. “[When business talks about inequality, it's time to get worried.](#)” *Globe and Mail Economy Lab*, 27 September 2011. International Monetary Fund, “[All for One: Why inequality throws us off balance.](#)” Finance and Development September 2011. Conference Board of Canada, “[World Income Inequality.](#)” in *How Canada Performs*, September 2011.
- 6 Drolet, Marie. “[Why has the gender wage gap narrowed?](#)” Perspectives on Labour and Income, Statistics Canada, Spring 2011. When wages are compared between men and women of the same age group for detailed occupations, women are paid on average 88.4 per cent of men for the same jobs in the public sector and 82 per cent of what men are paid for working in the same jobs in the private sector (see below).
- 7 The only exception is the trades and related occupational category where pay ratios between women and men are identical in the public and private sectors. However, this category only accounts for 0.1 per cent of women working in these comparable occupations in the public sector.
- 8 Results were not provided for Prince Edward Island as the much smaller population makes these results much less reliable.
- 9 For example, laundry and food preparation are the two areas Ontario Conservative leader Tim Hudak specifically says he could require public institutions to contract out. *Changebook*, p. 14. One of the first services Toronto Mayor Rob Ford contracted out to the private sector was cleaning of police stations.
- 10 The underlying unfiltered Census data shows even greater discrepancies at the top and bottom end in the private sector, but our analysis followed the same filtering method recommended by the federal Treasury Board and used in the CFIB's Wage Watch report, excluding occupations where the difference in average wages by gender and age group was 30 per cent or greater (see below in the methodology section).
- 11 In fact, the CFIB's *Wage Watch* report suggests compensation for senior public sector officials is too low. *Wage Watch*, p. 5. Some may argue that wages each individual receives through private competitive markets reflects their productivity. However, those who have actually analyzed this issue have found instead that “occupations at the top of the wage hierarchy are overpaid with respect to their marginal productivity and occupations at the bottom underpaid” with managers and professionals typically overpaid while sales and service, trades, plant and machine and other elementary occupations underpaid. (Kampelmann, Stephan and Rycx, Francois, “*Are Occupations Paid What They Are Worth?*” Institute for the Study of Labor Discussion paper 5951, September 2011.) This study used data from Belgium.
- 12 Different studies, covering a number of countries including Canada, have found strong correlations between public and private sector wages. See: Ana Lamo, Ludger Schuknecht and Javier J. Pérez (2008). *Public and Private Sector Wages: Co-Movement and Causality*. European Central Bank Working Paper No 963. November 2008; Frédéric Holm-Hadulla et al (2010). *Public Wages in the Euro Area: Towards Securing Stability and Competitiveness*, European Central Bank Occasional Paper No 112, June 2010; and António Afonso and Pedro Gomes (2010). *Interactions between Private and Public Sector Wages*, Institute for the Study of Labor, November 2010. In fact, in a court affidavit, Canada's Associate Deputy Minister of Finance stated that one of the top policy objectives of the federal government's Expenditure Restraint Act was “to reduce undue upward pressure on private sector wages;” Attorney General of Canada, Respondent's Factum, Ontario Superior Court, 7 April 2011, page 20. <http://www.ajc-ajj.org/eng/Shared%20Documents/AGC%20Factum%20Part%201%20of%203.pdf>
- 13 Appendix C provides a summary of many of the most relevant of these studies that have compared public and private sector wages, in Canada, United States and European nations. MacDonald (2009) [An examination of the Public Sector Wage Premium in Canada](#) (NUPGE, 2009) also includes a summary of some of the Canadian studies.
- 14 Institut de la Statistique du Québec. [Rémunération des salaires État et évolution comparés, 2010](#). Government of Québec.



- <sup>15</sup> In comparison, the CFIB's method involved comparing a total of 1.13 million public sector workers against over 4 million private sector workers.
- <sup>16</sup> Using averages rather than medians ensures that the product of the number of workers employed multiplied by their average wage is equal to the total wages and salaries paid. When medians are used, then this is mathematical relationship is not true, despite the CFIB's Wage Watch report stating otherwise (p. 25).
- <sup>17</sup> With the higher proportion of women working in the public sector, the 4.5 per cent positive differential for women outweighs the 5.6 per cent wage penalty for men to result in an overall positive 0.5 per cent weighted average.
- <sup>18</sup> The largest occupational groups for young men aged 15-24 in the public sector groups are janitors & caretakers, community and social service workers, orderlies & nurse aids, information system analysts and computer technicians. While the average pay for young men in these top five occupations group is approximately \$28,560 in the private sector, it is still considerably higher than the \$24,930 average pay for young men in these five occupations in the private sector. The five largest occupational groups for young women in the public sector are early childhood educators and educational assistants, nurse aides & orderlies, community and social service workers, and general office clerks. Pay for young women in clerical positions is higher in the public sector, but there's little overall difference in average pay for these other occupational groups.
- <sup>19</sup> Dale Belman et al (1998). Small Consolation: The Dubious Benefits of Small Business for Job Growth and Wages. Economic Policy Institute, Washington. [http://www.epi.org/publication/study\\_small\\_consolation/](http://www.epi.org/publication/study_small_consolation/)
- <sup>20</sup> These results would show even greater discrepancies in pay if filtering methods had not been used to exclude occupational groups where the difference in pay was 30 per cent or greater.
- <sup>21</sup> Frenette, Marc et al. [Earnings and Incomes of Canadians over the past Quarter Century, 2006 Census](#). Statistics Canada 2008. Median real incomes of the top 20 per cent increased by an average of 16.4 per cent from 1980 to 2005, incomes of the bottom 20 per cent fell by 20.6 per cent while incomes for those in the middle 20 per cent only increased by 0.1 per cent over the 25 years. See also Yalnizyan, Armine. [The Rich and the Rest of Us](#). CCPA, March 2007. One-third of income gains have gone to the top one per cent. Mackenzie, Hugh. [Recession-Proof: Canada's 100 best paid CEOs](#). CCPA, 2011.
- <sup>22</sup> According to a recent Conference Board of Canada report, Canada had one of the greatest increases in inequality since the mid-1990s and is now 6<sup>th</sup> worst among in a group of 17 peer countries. International Monetary Fund, ["All for One: Why inequality throws us off balance."](#) Finance and Development September 2011. Conference Board of Canada, ["World Income Inequality,"](#) in *How Canada Performs*, September 2011.
- <sup>23</sup> See UNCTAD [Trade and Development Report 2011](#), United Nations, September 2011. Ciuriak, Dan and John Curtis. [What if Everything We Know About Economic Policy is Wrong?](#) Centre for International Governance Innovation, April 2011. [CUPE submission for 2012 Federal Budget Consultations](#), August 2011.
- <sup>24</sup> Sanger, Toby. [Canada's incredible shrinking public sector](#), CUPE 2011
- <sup>25</sup> Western, Bruce and Jake Rosenfeld (2011). "Unions, Norms and the Rise in American Wage Inequality", *American Sociological Review* August 2011, Vol 76, No. 4, pp. 513-537. Available on-line at: [http://www.wjh.harvard.edu/soc/faculty/western/pdfs/Unions\\_Norms\\_and\\_Wage\\_Inequality.pdf](http://www.wjh.harvard.edu/soc/faculty/western/pdfs/Unions_Norms_and_Wage_Inequality.pdf)
- <sup>26</sup> Jackson, Andrew. [Work and Labour in Canada: Critical Issues](#), 2<sup>nd</sup> edition 2010, Jackson, Andrew and Schellenberg, Grant. [Unions, Collective Bargaining and Labour Market Outcomes for Canadian Working Women](#). CLC Research Paper #11.
- <sup>27</sup> These additional steps to ensure comparability of occupational groups with the 2.5 per cent threshold and the standard statistical tests for data reliability were not conducted by the CFIB. As a result, their averages are affected by the inclusion of occupations such as cashiers and retail sales clerks where there are very few employed in the public sector and there is no assurance their data meets basic tests for statistical reliability. This is even more of a concern when they publish data for municipalities with populations of less than 60,000 and fewer than 10 comparable occupations.

cope491  
Dec. 12, 2011