

Which Pays Better: Public or Private Sector Jobs?

Settling the Debate

Richard Shillington





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Which Pays Better: Public or Private Sector Jobs?

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Introduction

In this age of austerity, there has been a growing number of studies that attempt to demonstrate public sector workers are paid more handsomely than their private sector counterparts.

This report provides an overview of public versus private sector pay in order to determine which one pays better. Looking at the general consensus from an array of academic studies of private-public sector pay, we find that public sector workers, on average, are paid more than private sector workers. The consensus view from academic work is captured in the following quotation from a paper by Canada's leading academic researcher in this area, Professor Morley Gunderson of the University of Toronto.

In summary, while the evidence clearly shows that government employers pay a wage premium relative to private employers, that premium must be judged in light of the more egalitarian pay practices that seem to prevail in the public sector, especially with respect to women and less skilled workers where the premiums are usually largest. (Gunderson, 2000)

The discrepancy isn't due to high-end salaries. In fact, most studies show the difference between private and public sector pay is readily explained by factors such as age and education and that they are concentrated in two areas: lower-paid workers and female workers. In both cases, more egalitarian pay practices of the public sector, compared to the private sector, generate a positive outcome for public sector workers.

Public vs Private Work: What Makes for a Fair Comparison?

The charts below compare the demographic distribution of the public to private sector employees. These tables use the Labour Force Survey Ontario data for those employed in April of 2011 and are limited to those jobs which are: full-time and permanent (excluding contract, seasonal and casual).

Figure 1 breaks down the areas in which both private and public sector workers are employed in Ontario. It shows that public sector work tends to be more concentrated in public administration, education, utilities, information, culture and recreation. Private sector work tends to be more concentrated in wholesale trade, agriculture, retail trade, construction, accommodation and food services, professional, science and technological services, forestry, fishing, mining, oil and gas, finance insurance and real estate.

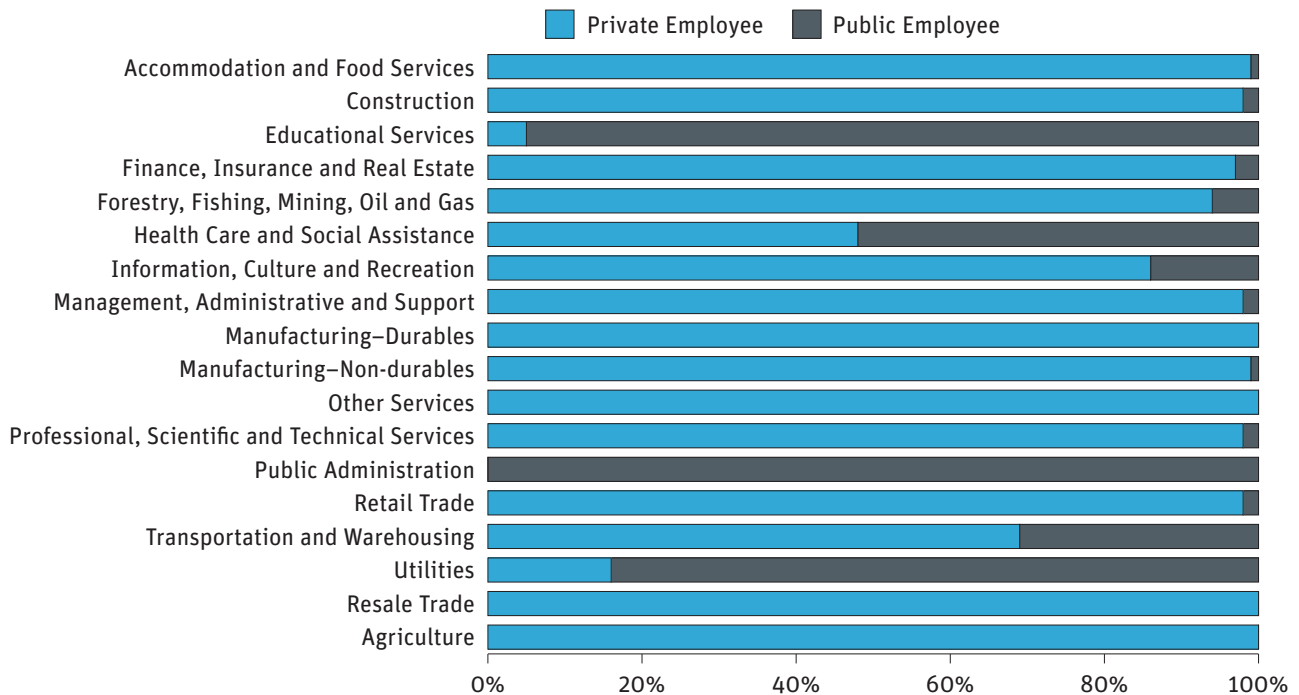
Of the 18 industry categories, only four had at least 35 observations in both the public sector and private sector. In general, industries are either overwhelmingly in the public sector or overwhelmingly in the private sector. For example, teachers are overwhelmingly public sector as are nurses. Those working in manufacturing and primary industries like mining are overwhelmingly in the private sector.

As a result, the industry variable adds nothing to our understanding of pay differentials unless you focus on the job categories that can be found in both the public and private sector.

Figure 2 illustrates that many occupations tend to be primarily public sector or private sector. Indeed, the only occupational categories that are not dominated by either the private or public sector are the two occupational groups in health care, social and government services and the child care and health support workers.

In order to make a fair comparison, we have selected a subsample to better understand the difference in compensation between the private and public sector.

FIGURE 1 Population of Ontario, Employed Persons Full-Time Permanent, April 2011, By Industry



Source: Labour Force Survey Ontario, April 2011

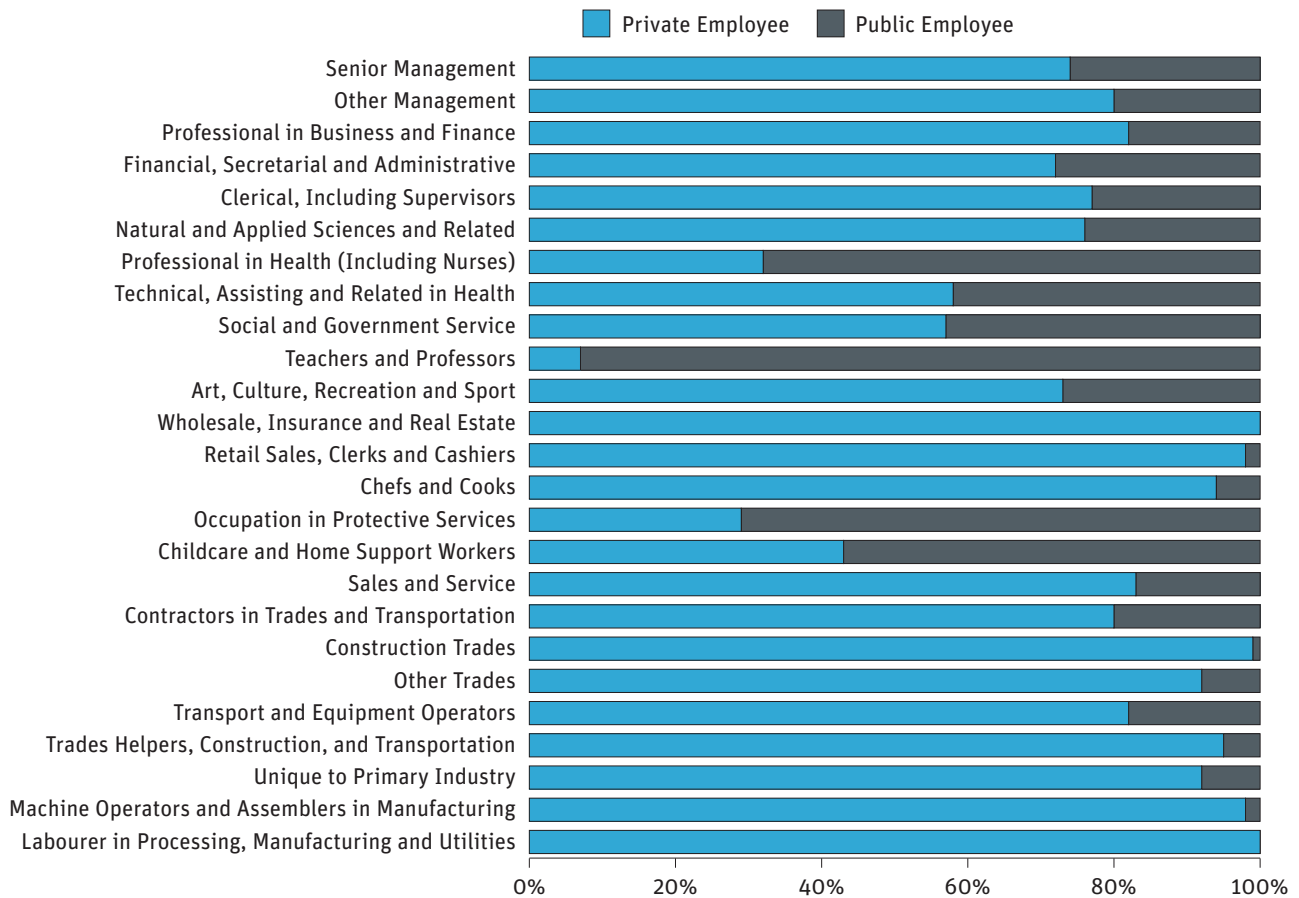
We limit our analysis to those under age 55 and those currently engaged in permanent full-time positions (excluding casual and seasonal employment). We only examine jobs that reported a wage exceeding \$10 per hour, approximately the legal minimum wage in Ontario in 2011 (\$10.25). We compare on the basis of firm size, sex, age, education, job tenure, unionization and occupation.

Our analysis found an overall average wage premium for public sector workers of 12.5%. However, if you limit the analysis to those earning more than \$15 per hour the wage premium drops to 9.5%. If you limit the analysis to those earning more than \$25 per hour the wage premium drops to 1.7%.

Our analysis demonstrates that the wage premium for public sector employees essentially disappears for those earning more than \$25 per hour, a finding which is consistent with the consensus of academic studies of the public sector vs. private sector relationship.

The regression analysis indicates that women, on average, make about 10% less than men in the public sector and 13.5% less than men in the private sector. As well, the analysis of residuals indicates that there was a de-

FIGURE 2 Population of Ontario, Employed Persons Full-Time Permanent, April 2011, By Occupation



Source: Labour Force Survey Ontario, April 2011

facto minimum wage in the public sector of about \$15 per hour in 2011, while the minimum wage in the private sector was the statutory \$10.25 per hour.

This suggests that the overall public sector wage premium is due to three factors: a smaller wage gap for women in the public sector, fewer low-wage positions in the public sector, and a higher effective minimum wage in the public sector.

In other words, there is a pay premium for workers at the bottom end of the income scale in the public sector and that’s what explains the overall difference between public and private sector pay when you make a fair “apples to apples” comparison of jobs found in both universes – something many studies of private vs. public sector pay (such as the latest Fraser Institute attempt) fail to do.¹

TABLE 1 Regression Results After Removing Low-Wage Jobs, Ontario, April 2011
Permanent Full-Time Jobs for Those Under Age 55

Lowest Hourly Wage Included in the Analysis	Coefficient for the Private Sector	Coefficient for Sex	R-Square
\$10	12.5%	12.9%	52%
\$15	9.5%	10.0%	42%
\$25	1.7%	8.4%	30%
\$30	1.1%	7.3%	26%

Table 1 illustrates the impact of removing those with lower wages from the analysis.

As you remove the lower end of the wage scale from the analysis a number of things happen in the regression results. The “reward” for being in the public sector reduces and essentially disappears. The average penalty for being female falls, and the fit of the regression to the data to the regression model, the R^2 , falls.

This suggests that the reward to public sector wages and the penalty for being female is concentrated in lower wage occupations. The R^2 is reduced by half when the lower end of the wage scale is removed. This implies that the regression analysis based on all wage levels is primarily predicting those with lower wages. For those above median wages the regression covariates can explain very little about the diversity in wages.

When one conducts a regression with all wages, the public/private sector variable plays a role in determining wages; 11% of the variation in wages is accounted for by the public/private sector choice. This is comparable to the importance in predicting wages of education or age group.

If you limit your analysis to those with wages of \$25 or more than only 1% of the variation in wages is accounted for by the public/private sector variable. In comparison, age group and education account for 4% and 8% of the variation.

This illustrates three key points:

- First, the analysis of residuals demonstrates clearly that the wage premium for public sector employment is concentrated among low-wage employees.
- Second, it demonstrates that differences in the pay of women relative to men vary between the public sector and the private sector,

with lower differentials in the public sector, and that the relatively better position of women in the public sector helps to explain the overall differential.

- And third, it demonstrates that the identified differential between public sector and private sector wages is exceedingly small compared to the unexplained variation in wages.

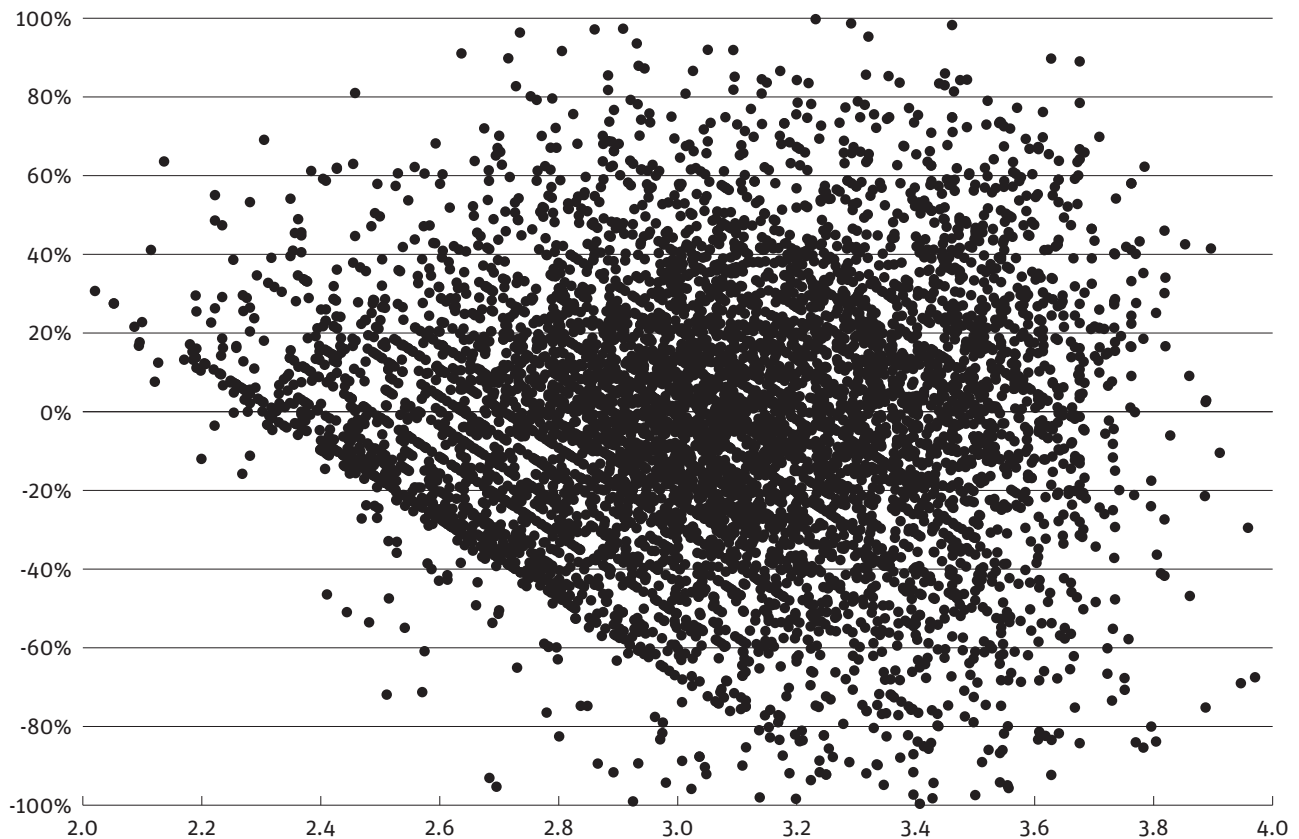
If two individuals selected at random from public sector and private sector, what are the chances that the public sector employee would be paid more? If the individuals were selected entirely at random, there is a 72% probability that the public sector employee would be paid more. However, if they were both in the same age group with a university degree then the probability drops to 60–65%. If the analysis excludes those with hourly wages under \$20 dollars then the percent is about 60%; excluding wages under \$25 and it drops to 55%. For those with a degree earning at least \$25 per hour, the figure is 51%. Since 50% is the result one would expect from coin-flipping, these figures indicate that, for people paid above \$20 an hour, there is essentially no public sector premium.

These percentages help to explain why there may be a general impression that public sector employees are paid more. They also demonstrate that some of this is due to the fact that public sector workers tend to be better educated and are older, which increases earnings. But the most important insight from this analysis is that only those who would receive very low pay working in the private sector can reliably be expected to be paid more in the public sector.

Conclusion

This analysis shows that there is a reward for public sector employment, which is enjoyed disproportionately by two groups: those who would otherwise be paid very low wages and women. This regression analysis suggests that for those at or above median wages there is no wage premium for public sector employment. Those benefitting from a public sector wage premium are, in general, not ‘fat cats’, but those who would be otherwise working poor.

FIGURE 3 Private Sector



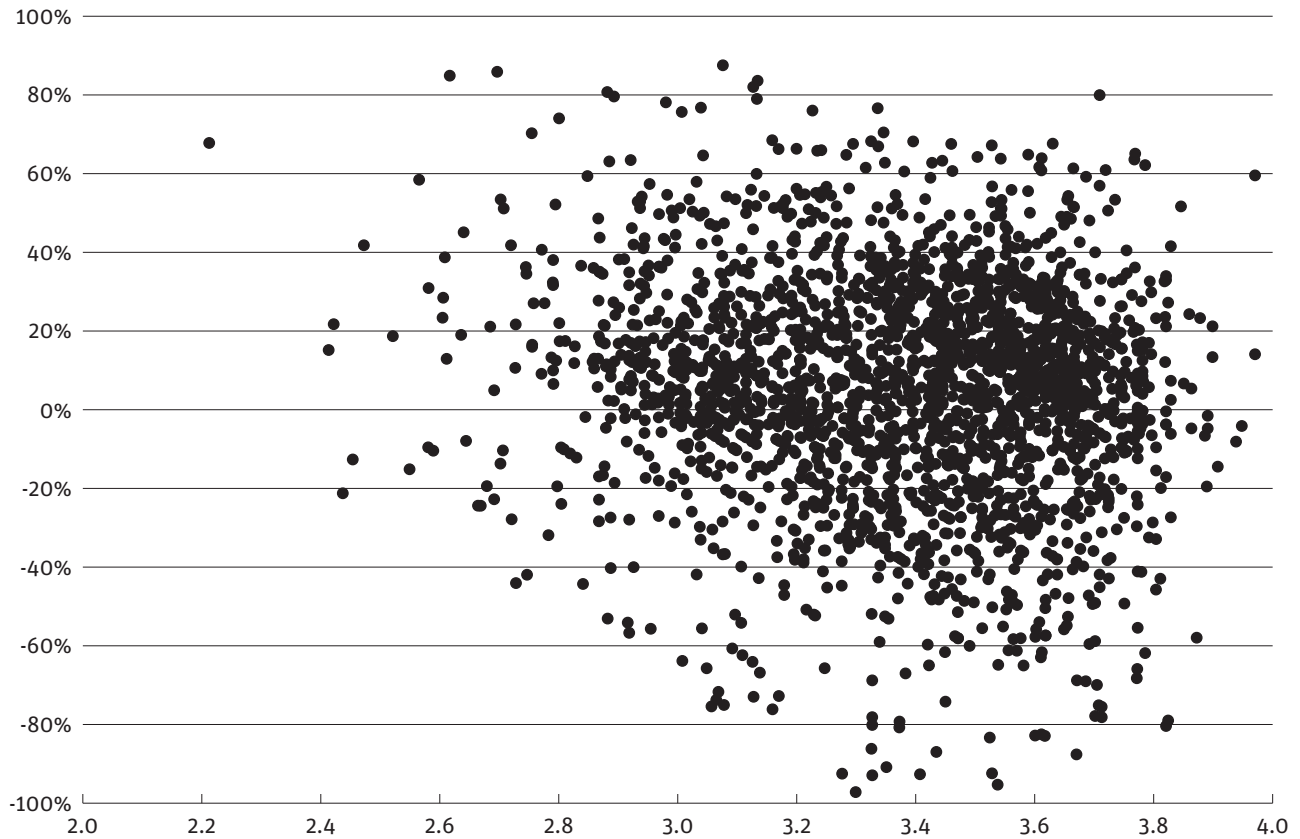
Annex

In *Figure 3* and *Figure 4*, the horizontal axis is log wages. The vertical axis shows the extent to which individuals are paid more or less than predicted by the regression line². Each mark is a respondent.

The charts illustrate a number of findings:

- There is a great deal of variation in the actual wages even amongst those with the same predicted wage. That is because our regression can only explain about half of all the variation using factors like age, education and occupation.
- Most individuals are *not* paid near what one would expect based on their demographic category (only 25% of respondents have wages within 10% of predicted values). There is a great deal of variation in wages not explained by the regression covariates.

FIGURE 4 Public Sector



- In the private sector there is an effective minimum wage of about \$10 per hour. Some individuals had predicted incomes below \$10 per hour but no one was actually paid at that rate (those actually reporting wages below \$10 per hour were excluded from the analysis).
- There are many more respondents in the private sector, compared to the public sector, where you would have expected a low wage based on their characteristics.

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Notes

1 It is important to emphasize the limitations inherent in using the Labour Force Survey for this kind of analysis. Sample sizes limit the occupational categories available in the published data. Long-form Census data are available in much greater detail and are much more reliable, as was pointed out by CUPE in its report “Battle of the Wages: Who gets paid more, public or private sector workers?” (CUPE, 2011). With the replacement of the Long Form Census with the National Household Survey in 2011, however, even the reliability of Census data for this type of analysis is called into question.

2 The regression adjusted for the following variables; Sex, Age Group, Education, Tenure, Firm Size, Unionization and Occupation. It did not adjust for public/private sector.



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