Differentials in Wage Equity Between the Public and Private Sectors

by

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Abstract

This study compares the wage rates for Canadian-born workers in the private sector to workers in the public sector. Utilizing 2006 Census of Canada data, I find that wage gaps for minority men in comparison to Caucasian men are generally smaller in the public sector. In contrast, I did not find statistically significant wage gaps between minority women and Caucasian women in either sector. Gender-wage gaps are substantial in both sectors but smaller in the public sector. Overall the public sector has a wage advantage when compared to the private sector, and the advantage is greater for some male minority groups and for Caucasian women than it is for Caucasian men. This suggests that some of the overall wage advantage of the public sector may be due to greater wage equity for its workers.

Keywords: wage equity, public sector, private sector, minorities, women

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I. Introduction

The existence of persistent wage premiums for public sector workers has long been a subject of contention in Canada. Several studies spanning from the 1960s consistently find that public sector employees make 5-20 percent more than their private sector counterparts (D. Macdonald, 2009, pp. 3-5). In addition to the higher wages, public sector employees enjoy many non-wage benefits such as health care and retirement plans, as well as greater job security. Some outlets suggest that these wage premiums offered to public sector workers are unfair, especially given that public sector workers are paid for by taxpayers' money. A 2013 article on the topic from Maclean's magazine warns that "bloated public sector payrolls" have bankrupted European governments and could have the same effect in Canada if not brought into check (N. Macdonald). In defense of the government wage premium, a 2009 study published by the National Wage Union of Public and General Employees concludes that any positive wage gaps associated with the public sector are due to the higher and more equitable compensation granted to women working in government (D. Macdonald, p. 13).

Many studies have looked into the wage advantages of the public sector, and gone as far as to break down the effects for men, and for women, but few have taken extra steps to consider that if pay equity is greater for women in the public sector that this may be the same case for other marginalized groups. As a multicultural country, Canada hasn't always had a history of protecting minority rights nor ensuring pay equity for visible minorities, and women. Although undeniable progress has been made in a movement towards pay equity, it is still possible to observe gender and minority wage gaps in many industries today. There are several potential explanations as to why we still see persistent wage gaps for minorities and women. One possible simple explanation is that these groups have a lower reservation wage, and therefore can be

induced to enter the workforce for a much lower premium than Canadian-Born Caucasian males, who can be considered the control group for this study.

Many pay equity legislations or frameworks have been introduced in Canada, both federally and provincially. Beginning in Manitoba in 1986, and spanning through the 1990s, these legislations mainly focus on equity pay rights within the public sector (Equal Pay Coalition, 2011). In 2003, the Canadian Federal government introduced the *Public Service Employment Act* in which it was acknowledged that while public servants would continue to be hired based on merit, that there was a benefit to ensuring ethnic and gender diversity of employment in the public sector. If legislations have had the desired effect, we might expect to see smaller wage differentials for minority groups, immigrants, and women who are employed in the public sector, than we see for those working in the private sector. However, it may be the case that it is more necessary to have equity legislation in not-for-profit sectors, such as government, because these sectors may have the advantage of being able to discriminate more freely without having to worry about loss of profit (Benjamin, Gunderson, Lemieux & Riddell, 2012, p. 344).

It is also important to be aware that equal pay legislation is not the only factor influencing income in the public sector, it is likely that policy decisions by left-wing governments would lead to a correlation between higher wages as well as employment diversity in government jobs. For this reason, my paper doesn't look specifically at wage differentials in different provinces to try to determine if stronger legislation leads to higher wages for minorities and women. Instead, I have elected to look at the more general picture of employment income in Canada, comparing wage gaps for women, minority groups and immigrants across the private and public sectors.

In 2015, Hou and Coulombe published their findings from a study that is very similar to that of my research. Their paper focused on wage gaps between Canadian-born minorities and non-

minorities, differentiating between the public and private sector. Their findings indicate that income gaps are indeed smaller for the visible minority groups in government jobs, than they were in private enterprises. My research looks to expand on their findings, by also looking at wage gaps between men and women in these two sectors and by looking directly at the wage effect of the public sector, with the expectation that I will find similar results.

My research seeks to study public-private wage differentials, once the wage equity gaps have been accounted for, to see if it is possible to tease out the wage advantage of the public sector, and to try to determine if it is possible that the wage gap between these two sectors is largely due to the relative equity of public sector wages for minorities and women. If this is the case, I would expect the wage gap between government and private enterprise for the counterfactual Caucasian males to be much smaller than the gaps for minority groups.

The main focus of this paper is to determine and quantify wage gaps for visible minority groups and women. I do not seek to determine the casual effect of equity legislation, because it would be extremely difficult extract that information with my data, without picking up other factors that have been impacted by these policies. This paper provides quantitative measures of the wage gaps experienced by the chosen subject groups, which may be a valuable tool in immigration and non-discrimination legislation.

II. Literature Review

A Comprehensive review of literature on this topic, requires research into two different areas: work in the field of visible minority wage gaps and work that has been done in comparing wages across the private and public sectors.

As mentioned in the introduction, comparisons wage gaps across the public and private sectors have been carried out by economists even prior to the implementation of equity pay

legislation. In 1979, Gunderson compared the wages of men in women, in both sectors and determined that there was a significant wage advantage for public service workers and that wage gaps are much smaller for women working in the public sector. Findings similar to those of Gunderson have been discovered in other countries with similar social and economic structure to Canada. However, a 2015 paper out of the UK suggests that the reduced wage gap for women in the public sector is not due to greater pay equity in the public sector, but to the fact that there are several female dominated industries, such as nursing and teaching, that fall under the public domain (Bradley, Green and Mangan, p 395). Although these findings are important to be aware of, when considering wage equity for visible minorities, an argument similar to that of Bradley et al. isn't as applicable considering that most researchers include at both men and women in their samples and control for occupation. In 2014, McInturff and Tulloch, used the 2011 National Household Survey to compare wage gaps in the public and private sectors; while this study is comprehensive, studying the effects on women, aboriginals and visible minorities, it fails to account for many economic factors that could also be influencing wages (pp 19-27).

The Largest problem with past papers that look at wage gaps for visible minorities is that many of these papers group Canadian-Born visible minorities together with immigrants belonging to visible minority groups (Hou and Coulombe, 2015 p. 31). In 2002, Swidinsky and Swidinsky were able to separate out Canadian-Born visible minorities and immigrants using 1996 census data, and determine that there was a large impact of visible minority status on men born in Canada, but only a small impact on women (pp. 630-634). Hou and Coloumbe choose to focus on only Canadian-born visible minorities, and found similar results to Swidinsky and Swidinsky. Hou and Coloumbe took their research one step further however, and looked separately at the public sector vs the private sector, and found that, for men in particular the

employment wage gap for minorities was much smaller in the public sector than in the private (2015, pp 30-41).

III. Description of data

My paper utilizes the public-use data files from the 2006 Census of Canada. I chose to focus my study on individuals with positive employment income and at least one week of work because I am looking specifically at reimbursement per week of employment. I chose to restrict my data to individuals between the ages of 25-64 because younger workers face different constraints in the workforce, and workers who choose to work past the usual age of retirement may cause selection bias in my sample. I also dropped any individuals from my dataset who didn't disclose their visible minority status due this specification being pivotal to my research. This study looks exclusively at individuals born in Canada in order tease out the effect of visible minority status and sex on income, without picking up on the many other factors faced by immigrants that may have an impact on wages. My project also seeks to look at distinctions between the public sector and the private sector, however, there is no specific distinction in the Census data as to what jobs are government employed and which are not. For this reason, I have selected three industries as defined by the North American Industry Classification System to serve as the Public Sector variable: Public Administration, Heath Care and Social Assistance, and Educational Services. Because I cannot break these industry classifications down further, there are some private sector workers (such as private school teachers) who are captures in this classification of "public", and some public sector workers (such as those working in waste management) that are classified as "private. This shortcoming is important to note because it may create bias in my study. The most likely source of this bias is that some higher paid private sector workers, such as private school teachers, who are captured in this classification "public"

sector, while some lower paid government paid employees such as bus drivers are captures as the "private" sector, causing a positive bias in terms of wages in the public sector.

IV. Empirical Strategy

In an attempt to isolate the wage effects of minority status, sex, and public sector employment, my model controls for a number of economic factors. Below are stylized representations of the OLS modes l use to narrow down an estimate the wage effects of the targeted factors of my project.

Equation I

$$\boldsymbol{Ln(Y) = \beta_1 + \beta_2 Occ + \beta_3 Mar + \beta_4 Prov + \beta_5 Educ + \beta_6 FT + \beta_7 Age + \beta_8 Child + \beta_9 CCAre + \beta_{10} VisMin + \mu}$$

where Ln(Y)= Natural Log of (Yearly Employment Income/Weeks Worked in a year)[1]

Occ-Series of dummy variables representing the two-digit occupational categories of the 2006 National Occupational Classification for Statistics

Mar- Series of dummy variables representing if the subject is Divorced, Married, Separated, Single, or Widowed.

Prov- Province of Employment

Education- Series of dummy variables representing the highest level of education obtained

FT- Dummy variable for if the subject worked mainly full-time or part-time weeks. Full time weeks defined as 30 or more hours worked.

Age- Age of Subject

Child- Grouping of five dummy variables included in calculation, presence of children aged 0-1, 2-5, 6-14, 15-25, and 25 or older.

[1] Although it would be optimal to look at hourly wages instead of weekly wages, the data doesn't provide this, instead I have information about the number of weeks worked and the yearly employment income which I used to estimate average weekly wages.

CCare- Hours spent looking after children, without pay

VisMin= Dummy Variable for if the individuals belonged to the target minority group. Focus was given first to all visible minorities, then the three largest visible minority groups, Chinese, South Asian and Black, then a compilation of all minority groups other than the three largest.

Equation II.

$$\boldsymbol{Ln(Y) = \beta_1 + \beta_2 Occ + \beta_3 Mar + \beta_4 Prov + \beta_5 Educ + \beta_6 FT + \beta_7 Age + \beta_8 Child + \beta_9 CCAre + \beta_{10} Public + \mu}$$

Public= Dummy variable, if individual belongs to the public sector

Equation I was used when I sought to isolate the effect of belonging to a visible minority on wage when sex and public/private sector were specified. Equation II I used to isolate the effect of belonging to the public sector, when sex and visible minority status were specified.

The primary challenge that comes with my model are the limitations that stem from the data provided, I cannot account for any non-wage benefits such as workplace satisfaction, job security or health care benefits. Nor can I account for any kind of extra ability or aptitude a worker may have that may impact their income. It may be the case, that the public sector pays a wage premium because it is generally hiring more productive workers than the private sector. With the data I have chosen to work with I also have no access to information about a worker's union status. Union status is a particularly significant omitted variable because economists have consistently found that union membership has an average positive impact on wage (Lemieux, 1998, P. 261). Due the the fact that all Canadian public sector workers are members of the Canadian Union of Public Employees, but many private sector workers do not belong to unions, I would expect the omitted variable of union status to create an upward bias on wages in the public sector. Another variable I have to work without is tenure, or permanent positions. Tenure

is a potential indicator of aptitude or ability for workers, however tenure can also lower productivity incentives for individuals who have already been granted it (Benjamin et al., 2011, pp. 193-194). I would expect individuals with tenure to earn a wage premium, although it is unclear whether omitting tenure will cause a definite bias towards either the public or the private sector.

Because of the many factors that I am unable to observe, I must emphasize that my project doesn't look to suggest any causal relationships between minority status and wage, but simply to observe the size of these gaps given the information that is available. It is possible to consider that minority status may be one of the many factors that are contributing to observed unexplained gaps.

To contrast the model with explained factors, I have also chosen to look at the raw gaps in wages between groups before accounting for these various economic factors, because this gives a sense of the gaps that these groups are actually experiencing in the employment market. That is to say, when accounting for the various economic factors in my first model, I essentially compare wages between two groups while accounting for the fact that on average one group may have, for example, more education than the other. When looking for the raw gaps, all of those factors are captured in the raw wage gap, and therefore it is as if I am comparing the expected wage of one individual from group 1, who has the expected value of all the economic factors for an average individual in group 1, and an individual from group 2 who has the expected value of all the economic factors for an average individual in group 2. This provides information about the actual gaps that we can observe in the real world. The difference between the raw gaps and the unexplained gaps, can be considered the "explained" wage gaps across different groups. The explained gaps capture what percent of the raw gaps are due to differences in expected value of

these variables for each group. For example, if one group, on average, has a higher level of education than another group, this will likely result in higher wages for the more educated group, all else equal. I use an Oaxaca[2] decomposition to isolate these differences and provide a breakdown of these explained gaps.

The explained gaps are broken up into six categories, education, age, occupation, full-time status, province, and family demographics. Education quantifies how much of the raw gap can be explained by different levels of education across the two groups being compared. Age shows the the percentage difference in wages that can be explained by different average ages across the groups. Occupation accounts for how much of differences in wages across the groups can be attributed to different jobs to the different professions individuals in these groups are choosing; It should be noted, that there may be some discrimination or other bars to entry that make working in higher paying occupations difficult for minority groups. Full-time status identifies the explained gap due to the portion of each group that are classified as full-time workers compared to those who work part time. Again, it should be noted that for women in particular there may be reasons that they have selected into part time work that may be due to discrimination or gender work paradigms. Province indicates how much of the difference in these wages is determined by the provincial location of the workers, for example groups that have a high percentage of their workforce in British Columbia may experience a negative provincial wage effect because BC has the lowest provincial minimum wage (Government of Canada, 2016).

The remaining difference, after accounting for the economic factors of Equation I Equation II are the "unexplained" wage gaps. The unexplained gaps capture the things my model is unable to account for such as aptitude, work ethic and discrimination. These unexplained gaps can give us

[2] For a detailed description of my use of the Oaxaca decomposition see Appendix A.

some information about the effect of visible minority status in the case of Equation I, and the effect of belonging to the public sector, in the case of Equation II, but it is important to note that it cannot isolate what precisely is causing these effects.

V. Results

i. DESCRIPTIVE STATISTICS

Table 1 provides some background information about the individuals in my sample. It is important to be aware the different groups in this sample are not homogeneous and cannot be treated as such. Table 1 is an important reference guide for the interpretations of my results in the following sections because it provides information about underlying statistics in the demographic groups of this study.

Table 1
Descriptive Statisitcs of Canadain-Born Workers

		% With University degree	% Full Time Workers	% Public Sector	Sample Size
Men	Caucasian	19.5	93.69	16.39	142,958
	All Minorities	37.86	89.95	18.15	3,135
	Chinese	52.84	92.16	19.17	918
	South Asian	46.44	92.39	20.76	631
	Black	19.2	87.15	18.32	786
	Other Minorities	32.24	88.25	14.75	800
Women	Caucasian	23.29	77.53	39.37	132,476
	All Minorities	44.11	81.82	37.27	3,008
	Chinese	55.89	81.74	35.78	816
	South Asian	51.47	83.65	36.83	581
	Black	28.77	81.78	40.00	845
	Other Minorities	42.94	80.55	36.16	766

Workers aged 25-64, with positive enployment income and 1 or more weeks worked
University Degree: Bachelors Degree or higher
Source: Statistics Canada 2006 Census

From Table 1 we can observe that on average, visible minority workers (with the exception of black males) have higher levels of education than Caucasian workers. We can also observe that a greater proportion of the male workforce are classified as full time workers than their female

counterparts. Females have a greater proportion of their labour force in the public sector, which can possibly be attributed to the many traditionally female professions that can be found in the public sector, such as administrative jobs, nursing and teaching. We can also see that as the groups get more specific, the size of my sample somewhat dwindles, this is valuable to keep in mind when looking at some of the statistically insignificant results of my output. Are the wage differences across groups statistically insignificant because there is no wage effect belonging to the target group, or simply because the sample does not have enough data to capture the differences? Table 1 is an important reference guide for the characteristics of the underlying work force population.

ii. MINORITY WAGE GAPS

Table 2 Wage Gaps For Canadian-Born Minorities

Expressed in Log Weekly Earnings	*Men*			*Women*		
Raw Wage Gaps	**All Sectors**	**Private**	**Public**	**All Sectors**	**Private**	**Public**
All Minorities	-0.087***	-0.104***	0.028	0.143***	0.208***	0.052
Chinese	0.113***	0.080*	0.218***	0.278***	0.366***	0.152**
South Asian	0.009	0.017	-0.069	0.203***	0.246***	0.149**
Black	-0.344***	-0.381***	-0.201***	-0.029	0.046	-0.146**
Other Minorities	-0.138***	-0.148***	-0.053	0.145***	0.177***	0.113*
	Men			*Women*		
Wage Gaps After Controlling for Economic Factors	**All Sectors**	**Private**	**Public**	**All Sectors**	**Private**	**Public**
All Minorities	-0.093***	-0.109***	-0.001	-0.01	-0.001	-0.030
Chinese	0.009	-0.012	0.047**	0.002	0.046	-0.084*
South Asian	-0.057**	-0.046	0.066	-0.021	0.057	0.033
Black	-0.134***	-0.163***	-0.029	-0.047	-0.05	-0.048
Other Minorities	-0.059**	-0.079**	0.085	0.022	0.037	-0.005

Note: *p<0.10, **P<0.05, ***P<0.01

Source: Statistics Canada 2006 Census

Table 2 uses Equation I to compare the natural log weekly earnings of self visible minority men to Caucasian men, then breaks down the gaps for the three largest visible minority groups in Canada. This is done in all sectors, then separately for the public and private sectors. The right section of the table does the same but in comparison to Caucasian women. The values

are expressed in differences in natural logs, and can be interpreted as an approximation of percentage differences in weekly earnings when multiplied by 100.

From these results, we can see that male minority groups as a whole, and in particular black men, seem to have unexplained wage gaps in the private sector, but much smaller and statistically insignificant gaps in the public sector. We can also observe that for women, there are no statistically significant unexplained wage gaps for visible minorities in either sector except for Chinese women in the public sector. From Table 1, it is apparent that there are significant differences in the raw wage gaps, and the unexplained wage gaps in almost every case, in order to interpret these differences. In table 3, I perform an Oaxaca decomposition which provides insight into how different levels of economic factors (e.g. Education) across groups, accounts for the raw wage gaps in Table 2.

Table 3 Explained Portion of Wage Gaps - Men

Expressed in Log Weekley Earnings

		Explained	Education	Age	Occupation	Full time Stati	Province	Family Demographics
All Sectors	All Minorities	-0.029	0.075	-0.029	0.014	-0.037	0.038	-0.090
	Chinese	0.104	0.131	-0.022	0.043	-0.015	0.050	-0.084
	South Asian	0.066	0.115	-0.037	0.048	-0.013	0.049	-0.096
	Black	-0.210	0.004	-0.025	-0.043	-0.065	0.012	-0.092
	Other Minorities	-0.078	0.049	-0.031	0.010	-0.054	0.038	-0.090
Private	All Minorities	-0.034	0.068	-0.018	0.008	-0.040	0.040	-0.093
	Chinese	0.092	0.118	-0.013	0.040	-0.018	0.055	-0.089
	South Asian	0.063	0.095	-0.022	0.043	-0.011	0.053	-0.095
	Black	-0.219	0.008	-0.016	-0.051	-0.073	0.010	-0.098
	Other Minorities	-0.069	0.047	-0.019	0.006	-0.054	0.042	-0.091
Public	All Minorities	-0.039	0.101	-0.088	0.017	-0.020	0.020	-0.069
	Chinese	0.115	0.181	-0.075	0.042	0.001	0.020	-0.054
	South Asian	-0.003	0.173	-0.129	0.032	-0.017	0.028	-0.090
	Black	-0.171	-0.021	-0.062	-0.017	-0.022	0.014	-0.064
	Other Minorities	-0.138	0.056	-0.052	-0.002	0.000	-0.006	-0.134

Source: Statistics Canada 2006 Census

Table 4 Explained Portion of Wage Gaps - Women

Expressed in Log Weekly Earnings

		Explained	Education	Age	Occupation	Full time Status	Province	Family Demographics
All Sectors	All Minorities	0.153	0.104	-0.050	0.052	0.032	0.033	-0.020
	Chinese	0.277	0.152	-0.037	0.100	0.032	0.042	-0.012
	South Asian	0.223	0.152	-0.067	0.074	0.046	0.042	-0.024
	Black	0.017	0.040	-0.044	0.001	0.032	0.014	-0.025
	Other Minorities	0.123	0.091	-0.052	0.042	0.023	0.039	-0.021
Private	All Minorities	0.209	0.094	-0.026	0.082	0.043	0.035	-0.012
	Chinese	0.320	0.130	-0.019	0.134	0.042	0.044	-0.011
	South Asian	0.303	0.140	-0.034	0.122	0.051	0.044	-0.020
	Black	0.095	0.046	-0.022	0.032	0.050	0.016	-0.026
	Other Minorities	0.140	0.072	-0.026	0.049	0.031	0.038	-0.022
Public	All Minorities	0.082	0.111	-0.075	0.020	0.016	9.888	-0.019
	Chinese	0.236	0.177	-0.053	0.075	0.015	0.033	-0.012
	South Asian	0.116	0.151	-0.105	0.021	0.037	0.037	-0.026
	Black	-0.098	0.014	-0.070	-0.043	0.008	0.014	-0.021
	Other Minorities	0.119	0.130	-0.080	0.036	0.010	0.038	-0.017

Source: Statistics Canada 2006 Census

The gaps in Tables 3 and 4 (multiplied by 100) can be considered as the approximate percentage difference in weekly wages between all minority groups or the specified minority group and Caucasian men (Table 3) or women (Table 4). These explained differences are due to the different levels in these factors that each group has, on average. For example, Chinese women have, on average, higher levels of education than Caucasian women, which increases their average expected wages by about 15 percent in all sectors, this is slightly offset by the fact that the population of working Chinese women is younger than that of Caucasian women, reducing expected wages of Chinese women by about 4 percent. From Tables 3 and 4, it is immediately observable, is that education is one of the larger explained factors influencing wage for both men and women and that full time status also plays a significant role.

iii. GENDER WAGE GAPS

Table 6 Gender-Wage Gaps

Raw Gaps

Gaps Expressed in Log Weekly Earnings

	All Sectors	**Private**	**Public**
All Women	-0.412***	-0.491***	-0.425***
All Minorities	-0.272***	-0.288***	-0.374***
Chinese	-0.137***	-0.130***	-0.275***
South Asian	-0.213***	-0.250***	-0.277**
Black	-0.445***	-0.450***	-0.572***
Other Minorities	-0.271***	-0.319***	-0.313***

Unexplained Gaps

Gaps Expressed in Log Weekly Earnings

	All Sectors	**Private**	**Public**
All Women	-0.273***	-0.297***	-0.174***
All Minorities	-0.201***	-0.211***	-0.126***
Chinese	-0.175***	-0.165***	-0.133***
South Asian	-0.251***	-0.251***	-0.055
Black	-0.250***	-0.261***	-0.197***
Other Minorities	-0.165***	-0.175***	-0.068

Gaps expressed in difference from non-minority male earnings

**p<0.10, **P<0.05, ***P<0.01*

Source: Statsitics Canada 2006 Census

Table 6 uses a slightly amended version of Equation 1 to compare the wages of women of different visible minority status to Caucasian men, in both the private and public sectors. In this case, the variable VisMin becomes Sex, and all other data points except Caucasian men, and women in the target group are dropped from the dataset. Each value in the table are the approximate percentage difference in wage the listed groups experience in comparison to non minority males.

Table 7 Explained Portion of Wage Gaps, Gender Wage Gap

Expressed in Log Weekly Earnings

		Explained	Education	Age	Occupation	Full time Status	Province	Family Demographics
All Sectors	All Women	-0.140	0.024	-0.002	-0.033	-0.135	0.008	-0.001
	All Minority Women	-0.071	0.095	-0.029	-0.002	-0.118	0.043	-0.061
	Chinese Women	0.038	0.134	-0.021	0.031	-0.119	0.059	-0.045
	South Asian Women	0.004	0.132	-0.038	0.016	-0.100	0.056	-0.070
	Black Women	-0.195	0.043	-0.025	-0.037	-0.119	0.016	-0.074
	Other Minority Women	-0.105	0.083	-0.131	-0.012	-0.001	0.047	-0.092
Private	All Women	-0.194	0.002	-0.002	-0.059	-0.141	0.007	-0.002
	All Minority Women	-0.078	0.080	-0.018	-0.017	-0.106	0.046	-0.062
	Chinese	0.320	0.112	-0.014	0.025	-0.108	0.066	-0.046
	South Asian	0.001	0.118	-0.023	0.014	-0.096	0.059	-0.072
	Black	-0.190	0.038	-0.015	-0.056	-0.097	0.015	-0.075
	Other Minority Women	-0.143	0.058	-0.018	-0.042	-0.121	0.045	-0.065
Public	All Women	-0.251	-0.034	-0.011	-0.095	-0.114	0.005	-0.003
	All Minority Women	-0.248	0.042	-0.092	-0.048	-0.125	0.029	-0.054
	Chinese	-0.141	0.089	-0.069	-0.016	-0.128	0.026	-0.043
	South Asian	-0.223	0.071	-0.126	-0.043	-0.097	0.033	-0.061
	Black	-0.375	-0.027	-0.086	-0.085	-0.139	0.026	-0.065
	Other Minority Women	-0.245	0.047	-0.098	-0.036	-0.136	0.030	-0.052

Source: Statsitics Canada 2006 Census

Table 7 shows the explained differences between the raw wages gap and the unexplained wage gaps. From Table 1 is is possible to observe that all the groups of women in the data set have a higher percentage of workers with university degrees than Caucasian men. We see the direct result of this in that women generally experience positive explained gaps due to education levels. The negative explained portion of the gender wage gaps appear to, not surprisingly, be mainly due to full time status and family demographics.

iv. PUBLIC- PRIVATE WAGE GAPS

Table 8: Private-Public Sector Wage Gap
Effect of Public Sector on Income
Gaps Expressed in Log Weekly Earnings

Raw Wage Gaps			
Men		Women	
Caucasian	0.230***	Caucasian	0.300***
All Minorities	0.328***	All Minorities	0.144***
Chinese	0.369***	Chinese	0.086
South Asian	0.144*	South Asian	0.203**
Black	0.411***	Black	0.108
Other Minorities	0.325***	Other Minorities	0.236***
Wage Gaps After Controlling for Economic Factors			
Men		Women	
White	0.0657***	White	0.087***
All Minorities	0.119***	All Minorities	0.052
Chinese	0.057	Chinese	-0.116
South Asian	-0.005	South Asian	0.097
Black	0.299***	Black	0.148*
Other Minorities	0.174**	Other Minorities	0.078

*p<0.10, **P<0.05, ***P<0.01

Source: Statistics Canada 2006 Census

Table 8 shows the results of running Equation II to determine the wage advantage of working in the public sector. Even in the case of Caucasian males, there is a significant "unexplained" wage advantage of working in the public sector, however this advantage is greater for Caucasian women and for some minority groups.

Table 9 Explained Portion of Wage Gaps, Public-Private Wage Gaps
Expressed in Log Weekly Earnings

		Explained	Education	Age	Occupation	Full time Status	Province	Family Demographics
Men	Caucasian	0.164	0.128	0.004	0.035	-0.013	-0.002	0.014
	All Minorities	0.210	0.136	0.016	0.025	0.005	0.000	0.028
	Chinese	0.312	0.158	0.004	0.077	0.005	0.024	0.045
	South Asian	0.149	0.081	0.004	0.075	-0.012	-0.004	0.006
	Black	0.112	0.077	0.006	-0.029	0.026	-0.020	0.051
	Other Minorities	0.151	0.152	0.039	-0.051	-0.008	-0.004	0.023
Women	Caucasian	0.213	0.120	0.004	0.094	-0.003	-0.002	0.000
	All Minority	0.092	0.075	0.016	0.042	-0.032	-0.007	-0.001
	Chinese	0.201	0.036	0.027	0.177	-0.038	-0.011	0.010
	South Asian	0.105	0.065	0.020	0.024	-0.013	0.012	-0.001
	Black	-0.040	0.071	0.007	-0.054	-0.052	-0.013	0.001
	Other Minorities	0.158	0.132	0.016	0.039	-0.022	-0.001	-0.006

Source: Statistics Canada 2006 Census

Table 9 shows the breakdown of explained wage gaps between the public and private sector. On average, the public sector appears to employ workers who are more highly educated than those working in the private sector, and the occupations in the public sector generally seem to pay more. Interestingly, the private sector appears to employ more full-time workers than the public sector, which is surprising due to the unionization of the public sector.

VI. Discussion

These results, indicate that there is some unexplained factor in the pubic sector that pushes unexplained wage gaps for minority groups and women closer to the wages of Caucasian males. These results do not definitively confirm that wage/pay equity legislations result in higher wages for women and minority groups; although they do provide some evidence to support the idea. The use of the different Equations I and II allow for a comprehensive look at the wage gaps across minority groups, as well as between sectors, and provide some insight into what is happening in the labour force.

When observing raw gaps, Table 8 indicates there is a statistically significant wage premium of working in the public sector for all groups except for Chinese women and for black women. However, we can see that much of this premium can be explained by higher levels of

education for workers in the public sector. While isn't possible to measure any difference in aptitude between workers a possible proxy to consider consider is education. There may be some connection between higher levels of education and aptitude or trainability of employees (Stasio, 2014, p.796). However this seems to be mainly captured by the explained gaps, because otherwise we would see the more highly educated groups, such as both Chinese men and women enjoying large wage premiums in the public sector.

Unionization of the government workers may provide some explanation as to why wages are higher overall for workers in the public sector. Unions also generally protect the seniority and rights of its workers, so it is less likely that, for example a woman would loose her job for taking a maternity leave. This means that unions may be part of the reason why there does seem to be greater pay equity in the public sector, they may hold the government as an employer accountable to its pay equity legislation.

As it is possible to observe from Table 2, in the case of men, unexplained wage gaps are much smaller or not statistically significant in the public sector in comparison to the private sector. In the cases where the gaps are not statistically significant it is possible that a larger sample size is needed. However, the results for the public sector indicate that results in the public sector suggest that there is no unexplained gap in these cases or that there are no extra unaccounted for factors (including discrimination) contributing to difference in wage between Caucasian men and visible minority men. For women, there are no statistically significant differences between minority women and Caucasian women in either sector (except for Chinese women in the public sector, but this is only significant at a 10% level). This result seems surprising and likely requires to be looked into further with more data. If, however, we are to accept that there are no statistically significant differences between women; one possible

explanation is that the effect of being a woman already has such a large impact on wage (as evidenced by Table 6) that the additional effect of belonging to a visible minority group is negligible.

VII. Conclusions

It is possible to observe (from Table 8) a wage premium for working in the public sector that is paid to all Caucasian men and women, black men, and all other visible minority men save for Chinese and South Asian. This wage gap is unexplained after accounting for occupation, education, marital status and a number of other economic factors. The wage premium for women, black men, and other minority men, is larger than the wage premium for Caucasian men, meaning that it is possible to argue that some of the wage premium offered by the public sector, is because this sector provides better pay to women and minorities than the private sector.

When comparing minority male workers to Caucasian male workers in the same sector (Table 2), my research indicates that visible minorities as a group, as well as black males, and other minority males (excluding black, South Asian, and Chinese) experience unexplained wage gaps in the private sector that are not statistically significant in the public sector, while South Asian males don't experience any statistically significant unexplained gaps in either sector, and Chinese men actually experience no statistically significant unexplained wage gap in the private sector, but do in the public sector.

In contrast, minority women don't experience statistically significant unexplained wage gaps in comparison to Caucasian women in either sector, except for Chinese women, who do experience a wage gap in the private sector (although this is only significant at the 10% level). When comparing women to Caucasian men, however, I am able to observe smaller or

statistically insignificant gaps in the public sector, for groups that have large gaps in the private sector.

My results suggest that there is indeed a wage premium of working in the public sector for all workers, but that there is a larger premium for some of the workers who experience large wage gaps in the private sector. These findings suggest that some of the overall wage premium of the public sector may be due to greater wage equity in the public sector.

References

Benjamin, D., Gunderson, M., Lemieux, T. and Riddell, C. (2011). Labour Market Economics, 7th Edition. Toronto, ON: McGraw-Hill Ryerson

Bradley, S., Green, C., and Mangan, J. Gender Wage Gaps Within a Public Sector: Evidence from Personnel Data. (2015). *The Manchester School.* 83(4) 379-397. http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/manc.12061/epdf

Fortin, N., Lemieux, T., and Firpo, S. (2010). Decomposition Methods in Economics. *NBER Working Paper.* June 2010 (16045). Retrieved from http://faculty.arts.ubc.ca/nfortin/w16045.pdf

Government of Canada. (2016). Current and Forthcoming Minimum Hourly Wage Rates for Experienced Adult Workers in Canada. *Minimum Wage Database.* Retrieved from http://srv116.services.gc.ca/dimt-wid/sm-mw/rpt1.aspx

Gunderson, M. (1979). Earnings Differentials between to Public and Private Sectors. *The Canadian Journal of Economics, 12.* 228-242. http://www.jstor.org/stable/134598?seq=11#page_scan_tab_contents

Hou, F., & Coulombe, S. (2010). Earnings gaps for canadian-born visible minorities in the public and private sectors. *Canadian Public Policy / Analyse De Politiques, 36*(1), 29-43. doi:10.3138/cpp.36.1.29

Lemieux, T. (1998). Estimating the effects of unions on wage inequality in a panel data model with comparative advantage and nonrandom selection. *Journal of Labor Economics, 16*(2), 261-291. doi:10.1086/209889

Macdonald, D. (2009). An Examination of the Public Sector Wage Premium in Canada: A Critique of the 2008 Study by the Canadian Federation of Independent Business (CFIB)

Called Wage Watch: A Comparison of Public and Private Sector Wages. Nepean, ON: National Union of Public and General Employees. Retrieved from http://www.ebrary.com

Macdonald, N. (2013). The $100,000 club: Who's really making big money these days. *Maclean's Magazine.* Retrieved from http://www.macleans.ca/economy/business/the-new-upper-class

McInturff, K. E., 1968, Tulloch, P., Canadian Centre for Policy Alternatives, & Canadian Electronic Library (Firm). (2015;2014;). Narrowing the gap: The difference that public sector wages make. Ottawa, Ontario: *Canadian Centre for Policy Alternatives/ Centre canadien de politiques alternatives.*

Oaxaca, R. L., & Ransom, M. R. (1999). Identification in detailed wage decompositions. *The Review of Economics and Statistics, 81*(1), 154-157

"Other Provinces". *Equal Pay Coalition.* 3 Sept. 2011. Web 4 Nov. 2015. Retrieved from http://www.equalpaycoalition.org/history/other-provinces/

Public Service Employment Act (2003). Assented to on November 7th, 2003. The Government of Canada, Justice Laws Website. Retrieved from http://laws-lois.justice.gc.ca/eng/acts/p-33.01/page-1.html#h-2

Statistics Canada (2011). Immigration and Ethnocultural Diversity in Canada. Statistics Canada Catalogue no. 99-010-X. Ottawa. Version updated December 22, 2015. Ottawa. https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.cfm (January 26th, 2016).

Swidinsky, R. and Swidinksy, M.(2002). The Relative Earnings of Visible Minorities in Canada: New Evidence from the 1996 Census. *Industrial Relations.* 57(4). 630-559

http://search.proquest.com.ezproxy.library.uvic.ca/docview/224275257/fulltextPDF/34F97F94B1FF4062PQ/1?accountid=14846

Appendix A: Oaxaca Decomposition

The Oaxaca method is used to decompose differences in mean wage across two groups. Often one groups is the target group and one is the control group.

$W_{Ctl} = CX_{Ctl} + \mu$
$W_{tgt} = TX_{tgt} + \mu$

Where $X_{ctl\ and}\ X_{tgt}$ are the average economic characteristics for each group, while C and T are the estimated rates of return on these characteristics for each group (generally depicted as β when only dealing with one group).

Oaxaca Decomposition:

$$W_{tgt} - W_{Ctl} = TX_{tgt} - CX_{Ctl}$$
$$= TX_{tgt} - TX_{Ctl} - CX_{Ctl} + TX_{Ctl}$$
$$= T\left(X_{tgt} - X_{Ctl}\right) + (C + T)X_{Ctl}$$
$$= \Delta_{exp} + \Delta_{unexp}$$

Where Δ_{exp} is the composition or explained effect, which is the differences between the control groups and the target group due to different averages levels of economics characteristics across the different groups. And Δ_{unexp} is the wage structure or unexplained effect which is caused by different returns to X between the two groups, or differences between C and T.

(Fortin, Lemieux, & Faro, 2010, p. 37).