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The 2014 Gender Wage Gap in Ontario

Tammy Schirle, Department of Economics, Wilfrid Laurier University
and
Elizabeth Vickers, Department of Economics (MABE),
Wilfrid Laurier University

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By Tammy Schirle and Elizabeth Vickers

Department of Economics,

Wilfrid Laurier University

Waterloo, ON

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1. Introduction

In Ontario, the female-to-male earnings and wage ratios have steadily increased over time as women's average wages rise relative to men's (see Pay Equity Commission 2014). Baker and Drolet (2010) recently analyzed the available Canadian data for men and women aged 25-54 working full time and found the average gender wage ratio in Ontario increased from 0.76 (implying the average female wage was 76% of the average male wage) in 1981 to 0.85 in 2006-2008. A key finding in Baker and Drolet (2010) and Vincent (2013a, 2013b) is that while a large part of the male-female gap in average wages was once explained by differences in the average skills or job characteristics of men and women – for example which occupation or industry men and women typically worked in or their educational attainment – this is no longer the case. Instead, a larger portion of the gap is left 'unexplained'. The unexplained gap may represent gender differences in job characteristics we are unable to measure or systemic discriminatory practices that have resulted in women being paid less than their male counterparts.

In this report we provide 2014 estimates of the male-female gap in average hourly wages for private sector Ontario workers aged 20-59. We decompose the wage gap to determine the extent to which male-female differences in average hourly wages reflect differences in their observable skills or job characteristics (and can therefore be 'explained') and the extent to which male-female wage gap is unexplained.

2. Data source and sample

The analysis in this report uses the January-December 2014 Statistics Canada Labour Force Survey (LFS) Public Use Microdata Files. Conducted monthly since 1976, the LFS is Canada's main source for information about labour market activity and outcomes. The current survey collects information about individuals' employment status, wages, age, sex, education and province of residence. The survey also collects information about the main job held by individuals, including the nature of their

occupation, which industry they work in, whether they are private or public sector employees, and the length of time they have held their job.

Our sample includes men and women aged 20-59 in Ontario. This excludes young people who are often more focused on educational attainment and older workers who are often entering early retirement or phasing out of full time career employment. We exclude the self-employed since their hours and wages are determined differently from paid employees. We also exclude public sector workers, as we are primarily interested in the gender wage gap that persists in the private sector.

We assess the gap between the average hourly wages of men and the average hourly wages of women. When thinking about issues surrounding pay equity, hourly wages are generally thought to be a better measure of earnings because the measure allows us to examine what individuals are paid for performing similar work. Annual income or earnings is important when measuring the well-being of families, for example, but may differ by gender because of differences in both wage rates and hours worked over the year. While gender differences in employment and hours worked may reflect important concerns for employment equity, and gender equity within families more generally, this is not the primary concern for pay equity questions.

3. The gender wage gap and average characteristics of men and women in Ontario's private sector

In Table 1 we present average characteristics of men and women aged 20-59 working in Ontario's private sector in 2014. On average, men earned \$25.68 per hour while women earned \$20.88 per hour. In other words, the female-male wage ratio in 2014 was 0.814. Canada-wide, the comparable female-male wage ratio in 2014 was lower than in Ontario, at 0.786.

Pay equity is primarily concerned with ensuring individuals with comparable skills and job characteristics are paid equally, so we investigate whether there are gender

differences in average characteristics. In Table 1 we see that the average characteristics of men and women are often quite different. For example, the age distribution of male workers differs from that of women, reflecting a tendency for women to leave employment between the ages of 25 and 39 while their children are young. Women on average tend to be more educated than men, as 28% percent of women hold a university degree (BA or higher) while 25 percent of men hold a university degree and are more likely to end their formal education after high school graduation. We also see in Table 1 that working women are more likely located in Toronto than working men.

The remaining set of demographic characteristics in Table 1 reflects workers' family status. With respect to marital status, male workers are more likely to have never been married than female workers in Ontario (34% and 31% respectively). Working men are more likely than working women to have no children of their own in the household, reflecting a greater likelihood for women to be single parents or have primary custody of children following divorce. Furthermore, working women are less likely to have a child under 3 than men are, reflecting the decision of many mothers to leave the labour force when their children are young and returning to work when their children are older. While factors such as marital status and the presence of children are factors that employers may not directly take into account for an employment contract, they do affect men's and women's decisions to work and what types of jobs to take as they aim to balance work and family decisions.

Table 1. Average Characteristics of Employed Men and Women, Age 20-59

	Male	Female	Difference Male-Female
Hourly Wage	25.68	20.88	4.80
<i>Age (%)</i>			
20-24	15.5	16.1	-0.6
25-29	13.7	13.7	-0.1
30-34	12.5	11.9	0.6
35-39	11.5	11.1	0.4
40-44	11.9	12.0	-0.1
45-49	11.9	12.4	-0.4
50-54	13.0	12.8	0.2
55-59	10.0	10.1	0.0
<i>Education (%)</i>			
0-8	1.6	0.9	0.7
Some secondary	6.9	4.6	2.3
Grade 11 to 13, graduate	24.7	22.8	1.9
Some post secondary	8.0	8.2	-0.3
Post secondary certificate or diploma	33.4	35.6	-2.2
University: bachelors degree	17.7	20.7	-3.0
University: graduate degree	7.8	7.2	0.6
<i>Residence (%)</i>			
Toronto	46.4	49.5	-3.1
Other	53.6	50.6	3.1
<i>Marital Status (%)</i>			
Married	49.2	48.7	0.5
Living in common-law	10.9	10.7	0.2
Widowed	0.3	1.0	-0.7
Separated	2.3	3.8	-1.5
Divorced	3.1	5.0	-1.9
Single, never married	34.2	30.8	3.4
<i>Age of youngest child (%)</i>			
No children in household	60.1	57.0	3.1
<3	9.7	8.1	1.6
3-5	5.6	5.6	0.0
6-12	10.7	11.9	-1.2
13-15	4.1	5.1	-1.0
16-17	2.8	3.3	-0.5
18-24	7.0	9.0	-2.0

Source: Authors tabulations from Statistics Canada's LFS 2014

Note: Sample restricted to private sector paid employees in Ontario in 2014.

Table 2. Average Characteristics of Employed Men and Women, Aged 20-59

	Male	Female	Difference Male-Female
Hourly Wage	25.68	20.88	4.80
Usual hours worked	38.8	34.1	
<i>Usual hours worked (%)</i>			
Less than 10	0.7	1.8	-1.1
10-19.9	2.3	6.3	-4.0
20-29.9	4.3	11.7	-7.4
30-36.9	7.9	16.1	-8.2
37-42.9	61.8	50.1	11.8
43 or more	23.0	14.0	8.9
<i>Work Schedule</i>			
Full-time (30+ hours)	91.9	77.9	14.0
Part-time (1-29 hours)	8.1	22.1	-14.0
Tenure (months)	78.7	76.1	2.6
<i>Tenure (%)</i>			
11 months or less	18.1	17.4	0.7
1-4 years	31.8	32.4	-0.6
5-9 years	16.8	18.4	-1.5
10-19 years	15.2	15.1	0.1
20+ years	18.1	16.7	1.4

Source: Authors tabulations from Statistics Canada's LFS 2014

Note: Sample restricted to private sector paid employees in Ontario in 2014.

In Table 2 we present the average characteristics of men and women with respect to the main job they hold. We see that the average male worker and female worker are working full time hours (38.8 and 34.1 hours respectively), however men are more likely to work jobs with longer hours as 23% of men and 14% of women work 43 hours or more per week while women are much more likely to work part-time. With respect to the experience in their current job (tenure), there is not a large difference between men and women. Men, on average, have worked at their jobs 2.6 months longer than women.

In Tables 3 and 4 we describe the types of jobs that men and women are employed in, according to which industry and occupation categories characterize their job. Note that industry tends to characterize the employer's main activity while occupation

characterizes the employee's main activity; for example a receptionist with Toyota works in a manufacturing industry and in a clerical occupation.

In Table 3 we see some important differences in the industries in which we see men and women working. For example, 7.6% of men and less than 1% of women work in trade contracting industries. The gender differences in manufacturing categories appear small, but add up: 21.8% of men and 10% of women work in manufacturing. Women are more likely to work in retail trade than men (17 and 12% respectively). Women are much more likely to work in health care and social assistance (16%) and accommodation and food services (11%).

In Table 4 we also see important differences regarding the occupations in which we observe men and women working. For example, women are much more likely than men to work in clerical and administrative occupation, as paralegals or social services workers, or as cashiers, sales clerks, or occupations in food and beverage service. Men are more likely to hold positions in professional or technical occupations related to natural and applied sciences, construction trades and labourers, mechanics, and transportation equipment operators.

Intuitively, one expects such job characteristics described above to influence the wage that one receives from their employer. For example, one expects the average professional in the natural sciences has received more formal education and training than the average cashier and would therefore have a higher average wage. As such, if one wishes to understand why the average wages of men and women differ, one must account for the extent to which the differences in average job characteristics matter. This is the purpose of next sections (4 and 5) of this report.

Table 3. Industrial classification of jobs held by men and women, aged 20-59

Industry (%)	Male	Female	Diff.
Agriculture, Forestry/Logging, Fishing, Hunting & Trapping	0.91	0.72	0.19
Mining and Oil and Gas Extraction, Utilities	1.33	0.31	1.02
Prime Contracting	5.33	1.13	4.20
Trade Contracting	7.60	0.90	6.70
Food, Beverage & Tobacco Product Manufacturing	2.70	2.36	0.34
Textile/Textile Product Mills, Clothing & Leather & Allied Product Manufacturing	0.3	0.43	-0.13
Wood Product Manufacturing	0.69	0.25	0.44
Paper Manufacturing	0.71	0.34	0.37
Printing and Related Support Activities	0.56	0.46	0.10
Petroleum and Coal Products / Chemical Manufacturing	1.39	1.01	0.38
Plastics and Rubber Products Manufacturing	1.11	0.64	0.47
Non-Metallic Mineral Product Manufacturing	0.71	0.10	0.61
Primary Metal Manufacturing	1.25	0.25	1.00
Fabricated Metal Product Manufacturing	2.07	0.38	1.69
Machinery Manufacturing	1.88	0.41	1.47
Computer & Electronic Product, Electrical Equipment, Appliance & Component Manufacturing	1.49	0.87	0.62
Transportation Equipment Manufacturing	5.00	1.62	3.38
Furniture and Related Product Manufacturing	0.89	0.22	0.67
Miscellaneous Manufacturing	1.05	0.72	0.33
Wholesale Trade	6.02	3.32	2.70
Retail Trade	12.11	17.20	-5.09
Transportation	4.93	2.31	2.62
Warehousing and Storage	0.79	0.34	0.45
Finance	4.79	6.95	-2.16
Insurance Carriers & Related Activities and Funds & Other Financial Vehicles	1.20	2.77	-1.57
Real Estate	1.12	1.45	-0.33
Rental & Leasing Services and Owners & Lessors of Other Non-Financial Assets	0.40	0.25	0.15
Professional, Scientific and Technical Services	8.28	8.82	-0.54
Management, Administrative and Other Support	6.58	5.74	0.84
Educational Services	0.46	1.15	-0.69
Health Care and Social Assistance	1.69	15.98	-14.29
Information, Culture and Recreation	4.98	4.52	0.46
Accommodation and Food Services	5.86	10.78	-4.92
Other Services	3.85	5.33	-1.48

Source: Authors tabulations from Statistics Canada's LFS 2014

Note: Sample restricted to private sector paid employees in Ontario in 2014.

Table 4. Occupational classification of jobs held by men and women, aged 20-59

Occupation (%)	Male	Female	Diff.
Senior Management, Specialist Managers Occupations	3.90	2.68	1.22
Managers in Retail Trade, Food and Accommodation Services	1.24	1.30	-0.06
Other Managers N.E.C.	2.81	2.04	0.77
Professional Occupations in Business and Finance	3.26	4.11	-0.85
Finance and Insurance Administrative Occupations	0.93	2.43	-1.50
Secretaries	0.01	1.09	-1.08
Administrative and Regulatory Occupations	0.83	5.06	-4.23
Clerical Supervisors	1.28	1.81	-0.53
Clerical Occupations	5.55	13.99	-8.44
Professional Occupations in Natural and Applied Sciences	7.52	2.98	4.54
Technical Occupations Related to Natural and Applied Sciences	5.30	1.63	3.67
Professional Occupations in Health	0.32	0.73	-0.41
Nurse Supervisors and Registered Nurses	0.09	1.08	-0.99
Technical and Related Occupations in Health	0.36	1.93	-1.57
Assisting Occupations in Support of Health Services	0.32	4.13	-3.81
Judges, Lawyers, Psychologists, Social Workers, Ministers of Religion, and Policy and Program Officers	1.19	2.18	-0.99
Teachers and Professors	0.33	0.70	-0.37
Paralegals, Social Services Workers and Occupations in Education and Religion, N.E.C.	0.46	4.62	-4.16
Professional Occupations in Art and Culture	0.63	1.10	-0.47
Technical Occupations in Art, Culture, Recreation and Sport	1.24	1.52	-0.28
Sales and Service Supervisors	2.08	3.49	-1.41
Wholesale, Technical, Insurance, Real Estate Sales Specialists, and Retail, Wholesale and Grain Buyers	3.94	3.26	0.68
Retail Salespersons and Sales Clerks	3.00	5.53	-2.53
Cashiers	0.75	3.77	-3.02
Chefs and Cooks	1.96	1.16	0.80
Occupations in Food and Beverage Service	1.13	3.49	-2.36
Occupations in Protective Services	1.62	0.38	1.24
Occupations in Travel and Accommodation Including Attendants in Recreation and Sport	0.69	1.09	-0.40
Childcare and Home Support Workers	0.11	1.86	-1.75
Sales & Service Occupations N.E.C.	6.45	10.08	-3.63
Contractors and Supervisors in Trades and Transportation	1.77	0.21	1.56
Construction Trades	4.29	0.06	4.23
<i>Continued...</i>			

Table 4 continued.

Occupational classification of jobs held by men and women, aged 20-59

Occupation (%)	Male	Female	Diff.
Stationary Engineers, Power Station Operators and Electrical Trades and Telecommunications Occupations	2.24	0.07	2.17
Machinists, Metal Forming, Shaping and Erecting Occupations	2.54	0.12	2.42
Mechanics	4.65	0.10	4.55
Other Trades N.E.C.	1.37	0.28	1.09
Heavy Equipment and Crane Operators Including Drillers	1.15	0.02	1.13
Transportation Equipment Operators and Related Workers, Excl. Labourers	4.44	0.69	3.75
Trades Helpers, Construction, and Transportation Labourers and Related Occupations	5.27	0.82	4.45
Occupations Unique to Agriculture, Forestry, Mining, Oil and Gas and Fishing, Excluding Labourers	1.28	0.60	0.68
Primary Production Labourers	1.17	0.28	0.89
Supervisors in Manufacturing	1.63	0.47	1.16
Machine Operators in Manufacturing	4.27	2.13	2.14
Assemblers in Manufacturing	2.60	1.29	1.31
Labourers in Processing, Manufacturing and Utilities	2.02	1.65	0.37

Source: Authors tabulations from Statistics Canada's LFS 2014

Note: Sample restricted to private sector paid employees in Ontario in 2014.

4. Multivariate regression

To measure the extent to which various individual and job characteristics influence the hourly wage paid to an individual, we use a multivariate regression model estimated using ordinary least squares. Specifically, our estimating equation can be represented as

$$Wage_{ig} = \alpha_g + \beta_{1g}X_{1ig} + \beta_{2g}X_{2ig} + \varepsilon_{ig} \quad (1)$$

Where $Wage_g$ represents the hourly wage of individuals (i) with gender g (male or female) and we relate that wage to their characteristics X . Characteristics X_1 include a set of indicators for individuals' age, education, job experience (tenure), location

(Toronto), industry, occupation and usual hours of work.¹ These capture characteristics that we expect employers to account for most directly in determining employee compensation. Characteristics X_2 further include marital status, the size of the person's family and the age of their youngest child. These capture various aspects of the employment relationship, including challenges that individuals have in balancing work and home life that often affect women differently from men. The resulting coefficients and standard errors are presented in Table 5 (with coefficients and standard errors for industry and occupation variables provided in the appendix Table A1). Given the use of indicator variables in the regression, the coefficients (β_1 and β_2) describe the extent to which each characteristic is associated with a higher or lower wage than a person with the noted base category characteristic.

To understand the interpretation of the coefficients, consider the estimates in column 1 of Table 5 related to education. These coefficients are the result of estimating equation (1) using a sample of Ontario women and only including those characteristics X_1 . Specifically, consider that the coefficient associated with some secondary education is -0.52. This tells us that if we were to compare two women who have the same characteristics other than education (*holding all else constant* in terms of their age, tenure, location, usual hours, industry and occupation), the hourly wage of a woman with some secondary education (having attended high school but not graduated) is typically 52 cents lower than the hourly wage of a woman that graduated high school. Other education coefficients are also interpreted as a wage premium relative to someone who graduated high school (the base category). For example, *holding all else constant*, a woman with a bachelor's degree will earn \$1.89 per hour more than a high school graduate. Intuitively, such measures are often used by economists to help characterize the "return" to investing in different levels of education.

¹ We use the categories listed in Tables 1-4. In the regression an indicator variable, also known as a dummy variable, is set equal to 1 if the person's characteristics match that category and zero otherwise.

In the second column of Table 5, the characteristics accounted for is broader, as marital status, the age of young children, and family size is also accounted for (characteristics X_2). The magnitudes are slightly different as a result. Now, holding all else constant, a woman with some secondary education typically earns 63 cents less per hour than a woman who has graduated high school.

The full set of regression coefficients is provided for information, noting that the estimates in columns (1) and (3) are used in Schirle (2015). Comparing those results with estimates in columns (2) and (4) exemplify the importance of accounting for the additional characteristics (X_2) when studying hourly wages of men and women. As the latter estimates (columns 2 and 4) are used in the next section of this report, we will turn our focus to those estimates and compare results for men and women.

Consider first the estimate near the end of Table 5 for the “constant” term, which is the estimate for the term α_g in equation (1). Informally speaking, this offers us an average wage for our “base case” woman or man: a high school graduate, aged 20-24, outside Toronto, working less than 10 hours per week with less than a year’s experience on the job, in the retail trade industry, with an occupation as a retail sales person or sales clerk, legally married, with no children in the household. In this base case, for columns (2) and (4), it appears women earn slightly less than men although these differences are not significant in a statistical sense.

Then consider the estimates related to education in columns (2) and (4) of Table 5. We see that the additional wage for women with a university degree (relative to high school graduation) is quite comparable for men and women though women appear to earn a slightly larger premium for a graduate degree. The coefficients on post secondary education indicate a larger premium for men. This in part reflects differences in the fields of study typically pursued by men and women that are valued differently in the labour market. Finally, women appear to face slightly higher penalties for leaving high school prior to graduation.

Table 5. Regression results, Dependent variable is hourly wages

	Female		Male	
	(1)	(2)	(3)	(4)
Education (base: grade 11 to 13, graduate)				
0-8 years	-1.10 (0.40)	-1.18 (0.40)	-1.12 (0.34)	-1.20 (0.34)
Some secondary	-0.52 (0.18)	-0.63 (0.18)	-0.37 (0.18)	-0.33 (0.18)
Some post secondary	0.70 (0.15)	0.68 (0.15)	0.23 (0.18)	0.27 (0.18)
Post secondary cert. or dip.	0.73 (0.10)	0.64 (0.10)	1.28 (0.11)	1.20 (0.11)
University: bachelors degree	1.89 (0.12)	1.84 (0.12)	2.02 (0.14)	1.87 (0.14)
University: graduate degree	3.57 (0.16)	3.41 (0.16)	3.56 (0.19)	3.27 (0.19)
Age (base 20-24)				
25-29	0.55 (0.14)	0.17 (0.14)	2.38 (0.17)	1.97 (0.17)
30-34	1.70 (0.15)	0.88 (0.16)	4.71 (0.17)	3.70 (0.19)
35-39	3.37 (0.15)	2.57 (0.17)	5.46 (0.18)	4.08 (0.20)
40-44	3.39 (0.15)	2.78 (0.17)	6.19 (0.18)	4.67 (0.20)
45-49	3.28 (0.15)	2.93 (0.17)	6.82 (0.18)	5.19 (0.21)
50-54	3.27 (0.15)	2.97 (0.18)	5.86 (0.18)	4.26 (0.21)
55-59	2.72 (0.16)	2.38 (0.18)	6.10 (0.19)	4.62 (0.22)
Job tenure (base: <= 11 months)				
1-4 years	0.59 (0.10)	0.58 (0.10)	1.05 (0.12)	1.03 (0.12)
5-9 years	2.07 (0.12)	2.04 (0.12)	2.88 (0.14)	2.81 (0.14)
10-19 years	3.25 (0.13)	3.26 (0.13)	4.58 (0.15)	4.51 (0.15)
20 years or more	5.27 (0.17)	5.30 (0.17)	7.07 (0.18)	7.01 (0.18)
<i>Continued....</i>				

Table 5 continued. Regression results.

	Female		Male	
	(1)	(2)	(3)	(4)
Usual hours at main job (base 0-9.9)				
10-19.9	-0.65 (0.28)	-0.66 (0.28)	0.35 (0.52)	0.31 (0.52)
20-29.9	-0.46 (0.27)	-0.49 (0.26)	0.25 (0.49)	0.11 (0.49)
30-36.9	0.18 (0.26)	0.14 (0.26)	1.88 (0.48)	1.73 (0.48)
37-42.9	0.24 (0.26)	0.22 (0.26)	1.90 (0.47)	1.67 (0.47)
43 or more	-0.18 (0.30)	-0.22 (0.30)	0.55 (0.48)	0.28 (0.48)
CMA (base: does not live in Toronto)				
Toronto	0.24 (0.07)	0.38 (0.07)	-0.37 (0.09)	-0.27 (0.09)
Marital status (base: legally married)				
Living in common-law		-0.06 (0.12)		-0.96 (0.14)
Widowed		-0.72 (0.36)		-1.07 (0.79)
Separated		0.68 (0.19)		0.01 (0.29)
Divorced		-0.15 (0.17)		-1.18 (0.25)
Single, never married		-0.25 (0.11)		-1.60 (0.14)
# in economic family		-0.30 (0.03)		-0.19 (0.04)
<i>Continued...</i>				

Table 5 continued. Regression results.

	Female		Male	
	(1)	(2)	(3)	(4)
Age of youngest own child (base: no children)				
<3		1.51 (0.15)		0.81 (0.17)
3-5		1.61 (0.17)		0.51 (0.21)
6-12		1.04 (0.14)		1.22 (0.17)
13-15		-0.24 (0.18)		1.37 (0.23)
16-17		-0.08 (0.21)		1.22 (0.26)
18-24		0.37 (0.14)		0.81 (0.19)
Constant	9.81 (0.30)	10.97 (0.34)	9.21 (0.52)	11.53 (0.56)
Industry indicators	Yes	Yes	Yes	Yes
Occupation indicators	Yes	Yes	Yes	Yes
Number of observations	53695	53695	61608	61608
Source: Authors tabulations from Statistics Canada's LFS 2014				
Note: Standard errors are in parentheses. Sample restricted to private sector paid employees in Ontario in 2014. Each column of the table represents a separate regression: columns (1) and (3) only include the subset of characteristics X_I as specified in section 5. Standard errors are in parentheses. Coefficients for industry and occupation are presented in the appendix.				

With respect to age, the coefficients presented tell us how much more women and men earn than those aged 20-24, holding all else constant. We see that men enjoy slightly larger wage increases at early ages (up to age 35-39) than women do. The increase in wages with age reflect in part a financial return to the experience once has in the labour market across all jobs over time. Women may not, on average, have gained as much general experience as they are more likely to take time away from the labour market for family responsibilities. As such, aging is not as closely aligned with experience as it is for men. Importantly however, the gains in wage associated with age for women never catch up to the gains in wage that men experience with age. By age 55-59, men tend to earn 4.62 more than 20-24 year old men while women only earn 2.72 more than women age 20-24.

The additional wages associated with direct job experience are perhaps more interesting. For example, we see that men with more than 20 years experience at the same job will receive \$7.01 more than those with less than one year of experience. Women with more than 20 years experience, on the other hand, earn \$5.30 more than those with less than one year of experience. The gender differential in wage increases with job experience may reflect gender differences in the market value of opportunities for advancement and training that men and women typically encounter within their jobs.

The extent to which having a job with usual hours that represent part time or full time schedules relates to one's wages also shows important gender differences. For men, there is a clear gain in hourly wages associated with having a full time job (working 30-36 or 37-42 hours per week) relative to working less than 10 hours per week. For women, there appears to be a small positive gain in hourly wages associated with having a full-time job. However, in terms of statistical significance the positive coefficient is not meaningfully different from zero. Notably, neither men nor women who work more than 43 hours per week have hourly wages that are significantly different from those working less than 10 hours.

There appears to a differential between the wages of those living in Toronto (census metropolitan area), holding all else constant, relative to those living outside Toronto. Interestingly, however, women in Toronto receive a positive premium while men in Toronto receive a negative premium.

The remaining coefficients in Table 5 represent the extent to which one's family status is associated with one's wages. In interpreting these estimates it is important to recognize we do not see the wage opportunities of those who are not employed. For example, we see that having young children is associated with having a higher wage than those without children, for both men and women. For women, however, the larger estimates here will reflect an expectation that only women with the best wage

opportunities will enter employment when they have young children given the costs of child care. Without young children and the associated child care costs, women without children will work regardless of poor wage opportunities. As children get older (posing lower child care costs), we see that there is no longer a higher wage associated with having children for women (the negative coefficients are not statistically significant) while there are much higher wages associated with having children for men. This is consistent with literature showing women who have children tend to earn less than other women, while men who have children tend to earn more than men who have never had children (see Phipps, Burton and Lethbridge, 2001). The premium associated with having children has been closely associated with a marriage premium that men also appear to enjoy. That is also seen in these results, as men that are not legally married will typically have lower wages than men who are legally married.

5. Oaxaca-Blinder decomposition of the gender wage gap

In this section we are interested in more closely examining the difference between the average wages of men and women and identifying the extent to which the gap is associated with differences in the average characteristics of men and women (the ‘explained’) and the extent to which differences in these characteristics cannot explain the wage gap (the ‘unexplained’). In the following, we use Oaxaca-Blinder decomposition techniques to separately identify which part of the wage gap is explained and which part is unexplained.

We use the regression coefficients in Table 5 (columns 2 and 4) in preparing our decomposition of the wage gap. Using the notation in equation (1), the gender gap in average wages can be written as:

$$\begin{aligned} \overline{Wage}_M - \overline{Wage}_F &= (\bar{X}_{1M} - \bar{X}_{1F})\hat{\beta}_{1M} + (\bar{X}_{2M} - \bar{X}_{2F})\hat{\beta}_{2M} \\ &+ (\hat{\alpha}_M - \hat{\alpha}_F) + (\hat{\beta}_{1M} - \hat{\beta}_{1F})\bar{X}_{1M} + (\hat{\beta}_{2M} - \hat{\beta}_{2F})\bar{X}_{2M} \end{aligned} \quad (2)$$

where \overline{Wage}_g represents the average wage for gender g (male or female), \bar{X}_{1g} and \bar{X}_{2g} are average characteristics for gender g (see Tables 1-4), and $\hat{\alpha}_g, \hat{\beta}_{1g}, \hat{\beta}_{2g}$ are the estimated regression coefficients presented in Table 5 with $\hat{\alpha}_g$ representing the estimate of the constant term.

The first two terms on the right hand side of equation (2) $((\bar{X}_{1M} - \bar{X}_{1F})\hat{\beta}_{1M} + (\bar{X}_{2M} - \bar{X}_{2F})\hat{\beta}_{2M})$ represent the part of the wage gap that can be explained by a gap in average male and female characteristics. Notice this term can be broken up to illustrate the contribution of different characteristics to the overall gender wage gap.

The second set of terms on the right hand side of equation (2) $((\hat{\alpha}_M - \hat{\alpha}_F) + (\hat{\beta}_{1M} - \hat{\beta}_{1F})\bar{X}_{1M} + (\hat{\beta}_{2M} - \hat{\beta}_{2F})\bar{X}_{2M})$ represent the part of the wage gap that is unexplained. It is unexplained in the sense that differences in the coefficients do not have a readily available interpretation. Differences will generally represent one group receiving a higher wage premium for a given characteristic than the other group. However, the difference in coefficients represents many things and should be interpreted cautiously. For example, differences in the constant term $(\hat{\alpha}_M - \hat{\alpha}_F)$ represent both difference in average characteristics that are not accounted for in the analysis and discrimination in the labour market.

While the unexplained part of the wage gap can be decomposed further to understand the contribution of different characteristics, the methodology is extremely limited in this context. Given the use of several categorical variables in the regression analysis, detailed decomposition estimates of the unexplained will be heavily dependent on the categories defined as the base categories in the regression (see Fortin et al 2011 for the details of this problem). As such, we recommend against interpreting directly any detailed decomposition results for the unexplained portion of the wage gap. The detailed results are presented below for reference, but require careful and cautious interpretation that is unlikely to be very enlightening. Rather, we recommend more direct consideration of the differences in coefficients presented in section 4.

The decomposition results are presented in Table 6. The total gender wage gap in 2014 was \$4.80. Of this, observed gender differences in average characteristics can explain \$2.14 (or 44%) of the gender wage gap. As such, 55% remains unexplained.

The detailed decomposition results allow us to examine the explained component more closely. Consider first the contribution of differences in the industries and occupations that men and women typically work in. The fact that men and women tend to work in different industries can explain \$1.09 (or 23%) of the total wage gap. In other words, this suggests that if there were no differences between industries that men and women work in, the wage gap would be 23% smaller.

Table 6. Oaxaca-Blinder Decomposition Results

	Explained (A)	Explained (A/Gap)%	Unexplained (B)	Total (C=A+B)
Age	0.033	1	1.679	1.712
Education	-0.072	-2	0.181	0.109
Marital Status	-0.012	0	-0.575	-0.587
Age of Youngest Known Child	-0.031	-1	0.078	0.047
Economic Family Size	0.005	0	0.341	0.346
Toronto	0.007	0	-0.321	-0.314
Usual Hours Worked at Main Job	0.065	1	1.262	1.326
Tenure	0.064	1	0.657	0.721
Industry	1.087	23	-0.399	0.688
Occupations	0.991	21	-0.790	0.201
Constant	.	.	0.553	0.553
Total	\$2.137	44%	\$2.666	\$4.803

Source: Authors tabulations from Statistics Canada's LFS 2014

Gender differences in occupations also explain a large portion of the gender wage gap, representing 21% of the total gap. Together, gender differences in industry and occupation represent the entire explained portion of the wage gap.

Other factors play a fairly minor role and actually offset each other. For example, notice that the part of the gap explained by education is actually negative. Relating this to equation (2), this is due to the fact that on average women are more educated

than men, so that the difference in average education (male-female) is actually negative. If the two groups received the same wage premium for their education, we would expect women to be earning more than men on average given their higher education levels. In this sense, education ‘unexplains’ the positive wage gap.

The small differences in work schedules (whereby women are less likely working full time hours) and tenure (whereby women have slightly less experience in their jobs) can explain only a tiny fraction of the gender wage gap. Together, these explain only 2% of the gap.

Perhaps surprisingly, the differences between men and women in their family status do not play a large role either. We expect the ways in which family status affects wages will already be captured in work schedules, industry, and occupation differences.

We expect many issues related to women’s family status and roles in the family are captured by our unexplained components. For example, in Table 6 we see a large portion of the unexplained gap appears related to age and tenure (current job experience). Recall in the previous section that men appeared to earn large increases in their wages with age while the increases enjoyed by women were much smaller. Men also enjoyed larger increases in wages with job experience than women. Part of our unexplained gap is then capturing those things we cannot not measure with our available data. Here, the unexplained is partly capturing average differences in total work experience over one’s lifetime after accounting for departures from the labour force for family reasons. It also captures differences in men’s and women’s training and promotion opportunities on the job. Furthermore, tradeoffs made between higher wages and more flexible full-time work schedules may underlie the gender differences in wage premiums for full-time work. Moreover, a large part of the unexplained lies with our constant term (\$0.55). One point to emphasize here is that not all of the unexplained gap will necessarily represent discrimination against female employees.

Some of the unexplained gender gap will simply represent the gender differences in average characteristics that we are unable to measure with the available data.

It is also important to point out that offering industry and occupation as “explanations” for the gender wage gap is quite unsatisfactory. Occupational gender segregation remains an important policy issue in Canada.² Occupational segregation is often systemic, representing historical discriminatory practices and social constructs that prevented and continue to prevent women from entering certain fields of work. As such, “explaining” a large part of the gender wage gap with a history of discrimination leaves much to be desired.

6. Summary

This report offers a description of working men and women in Ontario’s private sector, an examination of the extent to which various characteristics affect men’s and women’s hourly wages, and a breakdown of what helps explain the gender difference in average wages. Key points include:

- In 2014, the average wage of Ontario women in the private sector was 81.4% of the average wage of Ontario men in the private sector.
- Although women tend to be more educated than men, women are more likely to take time away from the labour market when they have young children.
- Industrial and occupation gender segregation in Ontario’s private sector is prominent.
- 44% of the total gender gap in hourly wages can be attributed to gender differences in industry and occupation.
- Much of the gender gap remains unexplained, representing both unmeasured gender differences in work experience and job characteristics and discriminatory practices.

² For more information on occupational gender segregation in Canada, see Fortin and Huberman (2002) and Baker and Fortin (2001).

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Appendix 1: Industry and Occupation Regression Coefficients

Table A1. Regression results. Dependent variable is hourly wages

(Continuation of Table 5)	Female		Male	
	(1)	(2)	(3)	(4)
Industry (base: retail trade)				
Agriculture/forestry/fishing, hunting and trapping	-1.26 (0.71)	-1.03 (0.71)	-1.75 (0.63)	-1.83 (0.63)
Mining & oil & gas extration/Utilities	8.72 (0.64)	8.54 (0.64)	9.44 (0.43)	9.23 (0.42)
Prime contracting	2.59 (0.36)	2.79 (0.36)	5.10 (0.27)	5.05 (0.27)
Trade contracting	1.55 (0.40)	1.47 (0.40)	5.46 (0.26)	5.36 (0.26)
Food, beverage & tobacco product manufacturing	2.30 (0.28)	2.33 (0.28)	2.23 (0.31)	2.23 (0.31)
Textiles/ clothing & leather manufacturing	-0.63 (0.58)	-0.59 (0.58)	3.37 (0.79)	3.27 (0.78)
Wood product manufacturing	0.52 (0.71)	0.60 (0.70)	0.43 (0.52)	0.47 (0.52)
Paper manufacturing	4.16 (0.61)	4.07 (0.61)	4.02 (0.53)	3.96 (0.53)
Printing and related support activities	2.08 (0.55)	2.00 (0.55)	4.29 (0.58)	4.22 (0.58)
Petroleum & coal products/chemical manufacturing	3.88 (0.38)	3.82 (0.38)	4.63 (0.39)	4.54 (0.39)
Plastics and rubber products manufacturing	1.58 (0.49)	1.64 (0.49)	1.74 (0.43)	1.71 (0.43)
Non-metallic mineral product manufacturing	4.46 (1.06)	4.36 (1.06)	3.69 (0.51)	3.67 (0.51)
Primary metal manufacturing	4.90 (0.72)	4.98 (0.71)	5.24 (0.41)	5.16 (0.41)
Fabricated metal product manufacturing	2.70 (0.58)	2.49 (0.58)	1.58 (0.34)	1.55 (0.34)
Machinery manufacturing	1.60 (0.57)	1.60 (0.57)	2.23 (0.35)	2.12 (0.35)
Computer & electronic product/appliance & component manufacturing	1.48 (0.43)	1.48 (0.43)	4.22 (0.39)	4.15 (0.39)
Transportation equipment manufacturing	4.92	4.87	4.05	4.01

	(0.34)	(0.34)	(0.27)	(0.27)
Furniture and related product manufacturing	-0.36	-0.28	-0.56	-0.57
	(0.74)	(0.74)	(0.48)	(0.48)
Miscellaneous manufacturing	-0.31	-0.37	3.11	3.08
	(0.45)	(0.45)	(0.43)	(0.43)
Wholesale trade	3.54	3.52	2.11	2.03
	(0.25)	(0.25)	(0.25)	(0.25)
Transportation	2.47	2.50	2.45	2.44
	(0.29)	(0.29)	(0.26)	(0.26)
Wharehousing & storage	0.35	0.40	-0.22	-0.05
	(0.62)	(0.62)	(0.50)	(0.50)
Finance	3.86	3.79	2.83	2.95
	(0.20)	(0.20)	(0.27)	(0.27)
Insurance carriers & related activities & funds & other financial vehicles	6.35	6.25	6.55	6.54
	(0.26)	(0.26)	(0.41)	(0.41)
Real estate	2.10	2.14	0.78	0.76
	(0.32)	(0.32)	(0.42)	(0.42)
Rental & leasing services & owners & lessors of other non-financial assets	0.06	0.21	1.69	1.80
	(0.70)	(0.70)	(0.65)	(0.65)
Professional, scientific and technical services	3.56	3.56	2.64	2.65
	(0.19)	(0.19)	(0.24)	(0.24)
Management, administrative & other support	0.64	0.58	0.18	0.19
	(0.20)	(0.20)	(0.24)	(0.24)
Educational services	-0.38	-0.40	-1.51	-1.59
	(0.41)	(0.41)	(0.74)	(0.73)
Health care and social assistance	0.90	0.88	-0.66	-0.66
	(0.17)	(0.17)	(0.40)	(0.40)
Information, culture and recreation	0.41	0.42	0.99	0.92
	(0.22)	(0.22)	(0.26)	(0.26)
Accommodation & food services	-0.89	-0.91	-1.30	-1.28
	(0.17)	(0.17)	(0.26)	(0.26)
Other services	0.83	0.86	0.66	0.63
	(0.20)	(0.20)	(0.26)	(0.26)
Occupation (base: retail salespersons & sales clerks)				
Senior management occupations/specialist managers	20.92	20.74	21.01	20.81
	(0.30)	(0.30)	(0.36)	(0.36)
Managers in retail trade, food & accommodation services	8.49	8.49	10.82	10.78
	(0.36)	(0.36)	(0.44)	(0.44)
Other managers N.E.C.	20.77	20.70	19.42	19.22

	(0.32)	(0.32)	(0.38)	(0.38)
Professional occupations in business and finance	13.22	13.16	13.69	13.52
	(0.27)	(0.27)	(0.38)	(0.38)
Finance and insurance administrative occupations	4.18	4.08	3.01	2.97
	(0.31)	(0.31)	(0.53)	(0.53)
Secretaries	0.57	0.56	8.88	8.23
	(0.39)	(0.39)	(3.76)	(3.75)
Administrative & regulatory occupations	5.87	5.80	4.19	4.06
	(0.26)	(0.26)	(0.53)	(0.53)
Clerical supervisors	4.21	4.10	2.36	2.07
	(0.33)	(0.33)	(0.46)	(0.45)
Clerical occupations	1.55	1.51	-1.35	-1.35
	(0.22)	(0.22)	(0.33)	(0.33)
Professional occupations in natural and applied sciences	16.00	15.87	15.18	15.02
	(0.30)	(0.30)	(0.34)	(0.34)
Technical occupations related to natural and applied sciences	6.35	6.24	7.06	6.93
	(0.35)	(0.34)	(0.34)	(0.34)
Professional occupations in health	19.86	19.75	25.87	25.76
	(0.44)	(0.44)	(0.76)	(0.76)
Nurse supervisors and registered nurses	15.17	15.03	6.16	6.08
	(0.40)	(0.40)	(1.39)	(1.39)
Technical and related occupations in health	9.02	8.98	8.77	8.61
	(0.33)	(0.33)	(0.74)	(0.74)
Assisting occupations in support of health services	3.14	3.06	2.13	1.95
	(0.27)	(0.27)	(0.81)	(0.81)
Judges, lawyers, psychologists, social Workers, ministers of religion, and policy and program officers	14.02	13.92	12.44	12.32
	(0.32)	(0.32)	(0.48)	(0.48)
Teachers and professors	8.81	8.82	8.24	8.26
	(0.53)	(0.53)	(0.89)	(0.88)
Paralegals, social services workers and occupations in education and religion, N.E.C.	4.16	4.10	4.05	4.04
	(0.28)	(0.28)	(0.71)	(0.71)
Professional occupations in art and culture	9.61	9.53	11.13	11.10
	(0.40)	(0.40)	(0.60)	(0.60)
Technical occupations in art, culture, recreation and sport	5.39	5.25	6.32	6.39
	(0.36)	(0.36)	(0.50)	(0.50)
Sales and service supervisors	1.61	1.59	2.06	2.01
	(0.25)	(0.25)	(0.38)	(0.38)

Wholesale, technical, insurance, real estate sales specialists, and retail, wholesale and grain buyers	4.93 (0.29)	4.91 (0.29)	6.43 (0.37)	6.29 (0.37)
Cashiers	-0.88 (0.25)	-0.88 (0.24)	-1.92 (0.55)	-1.94 (0.54)
Chefs and Cooks	0.59 (0.39)	0.60 (0.39)	0.11 (0.45)	0.09 (0.45)
Occupations in food and beverage service	1.76 (0.29)	1.74 (0.29)	1.92 (0.52)	2.04 (0.52)
Occupations in protective services	2.20 (0.59)	2.34 (0.59)	-1.94 (0.45)	-2.03 (0.45)
Occupations in travel and accommodation including attendants in recreation and sport	3.20 (0.40)	3.17 (0.40)	-0.42 (0.60)	-0.16 (0.60)
Childcare and home support workers	-0.88 (0.34)	-0.88 (0.34)	-3.39 (1.30)	-3.04 (1.29)
Sales & service occupations N.E.C.	-0.37 (0.22)	-0.41 (0.22)	-1.17 (0.31)	-1.10 (0.31)
Contractors and supervisors in trades and transportation	8.51 (0.80)	8.26 (0.80)	5.16 (0.43)	4.98 (0.43)
Construction trades	4.04 (1.45)	3.88 (1.45)	3.06 (0.38)	2.97 (0.38)
Stationary engineers, power station operators and electrical trades and telecommunications occupations	10.86 (1.40)	10.72 (1.40)	4.78 (0.42)	4.69 (0.42)
Machinists, metal forming, shaping and erecting occupations	3.77 (1.03)	3.80 (1.03)	2.76 (0.40)	2.75 (0.40)
Mechanics	0.70 (1.23)	0.85 (1.23)	4.03 (0.34)	3.93 (0.34)
Other trades N.E.C.	0.18 (0.69)	0.26 (0.69)	-0.56 (0.46)	-0.57 (0.46)
Heavy equipment and crane operators including drillers	7.54 (2.25)	7.25 (2.24)	1.70 (0.51)	1.70 (0.51)
Transportation equipment operators and related workers, excl. labourers	-0.49 (0.51)	-0.60 (0.51)	-0.10 (0.36)	-0.12 (0.36)
Trades helpers, construction, and transportation labourers and related occupations	-1.91 (0.48)	-1.91 (0.48)	-0.47 (0.35)	-0.44 (0.35)
Occupations unique to agriculture (excludes	1.91	1.64	2.33	2.30

labourers)/occupations unique to forestry, mining, oil & gas extraction, & fishing (excludes labourers)	(0.77)	(0.77)	(0.62)	(0.62)
Primary production labourers	3.77	3.81	0.79	0.85
Supervisors in manufacturing	(0.78)	(0.78)	(0.54)	(0.54)
Machine operators in manufacturing	5.89	5.88	3.87	3.73
Assemblers in manufacturing	(0.56)	(0.56)	(0.44)	(0.44)
Labourers in processing, manufacturing and utilities	-0.68	-0.67	-1.69	-1.79
	(0.36)	(0.36)	(0.37)	(0.37)
	0.78	0.83	0.48	0.35
	(0.43)	(0.43)	(0.41)	(0.41)
	-2.39	-2.35	-2.98	-3.02
	(0.38)	(0.38)	(0.44)	(0.44)

Source: Authors tabulations from Statistics Canada's LFS 2014

Note: The set of industry and occupation coefficients in this table correspond to the regressions in Table 5. Standard errors are in parentheses. Sample restricted to private sector paid employees in Ontario in 2014. Each column of the table represents a separate regression: columns (1) and (3) only include the subset of characteristics X_I as specified in section 4. Standard errors are in parentheses.

Appendix 2: Alternative Decomposition Results

In this report we have offered the standard treatment of the gender wage gap in a Oaxaca-Blinder decomposition whereby the regression coefficients related to the “non-discriminating group” (men) are used as the reference point in the decomposition calculations (see equation 2 in section 5). In fact, there are several methodological alternatives. Interested readers should refer to Fortin et al. (2011) and Jann (2008). An important point to recognize is that the choice of reference group will influence the estimated ‘explained’ magnitudes in a very mechanical way. One alternative is to use pooled regression estimates in defining the reference coefficients in equation 2. For completeness, the results using the pooled estimator are presented in Table A2 below. While quantitatively slightly different estimates result, the qualitative results and relative magnitudes are not substantially different from those discussed in section 5 of this report.

Table A2. Alternative Oaxaca-Blinder Decomposition Results, Pooled Estimator.

	Explained	Unexplained	Total
Age	0.024	1.688	1.712
Education	-0.074	0.183	0.109
Marital Status	-0.007	-0.580	-0.587
Age of Youngest Known Child	-0.004	0.051	0.047
Family Size	0.007	0.339	0.346
Toronto	-0.001	-0.313	-0.314
Usual Hours Worked at Main Job	0.048	1.279	1.326
Tenure	0.060	0.660	0.721
Industry	0.828	-0.140	0.688
Occupation	0.968	-0.767	0.201
Constant	.	0.553	0.553
Total	1.849	2.401	4.803