



# The Gender Wage Gap in Canada: 1998 to 2018

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# Overview

- Relevance
- Research questions
- Data and methods
- Results
- Summary
- Opportunities for future research

## Relevance

Recent studies in Canada, the United States, the United Kingdom, and Europe have indicated that the gender wage gap has narrowed

Canada: in 2018, women earned **\$0.87** for every dollar earned by men

Given that women in Canada have:

- surpassed men in educational attainment
- diversified their fields of study at post-secondary institutions
- increased their representation in higher-status occupations

...the persistence of gender-based wage inequality warrants continued attention

# Research questions

1. How did the gender wage gap in 2018 compare with the gap in 1998?
2. What factors contributed to the narrowing of the gender wage gap between 1998 and 2018?
3. What factors explained the remaining gender wage gap in 2018, and did these factors differ from those that explained the gap in 1998?

# Data and methods

- Hourly wages from the Labour Force Survey (LFS)
- Full- and part-time employees aged 25 to 54
- Blinder-Oaxaca decomposition
  - a common statistical method used to determine how much of a wage gap between two groups can be explained by various control factors

## The gender wage gap decreased between 1998 and 2018

Wages and wage gap for core-aged (25 to 54) employees, 2018 constant dollars, 1998 to 2018

	Average real hourly wages		Wage gap	
	Men	Women	(\$)	(%)
1998	\$27.51	\$22.34	\$5.17	18.8%
2018	\$31.05	\$26.92	\$4.13	13.3%
<b>Change over time</b>				
1998 to 2018	+12.9%	+20.5%	-\$1.04	-5.5 percentage points

Source: Statistics Canada, Labour Force Survey, authors' calculations

## What drove the narrowing of the gender wage gap between 1998 and 2018?

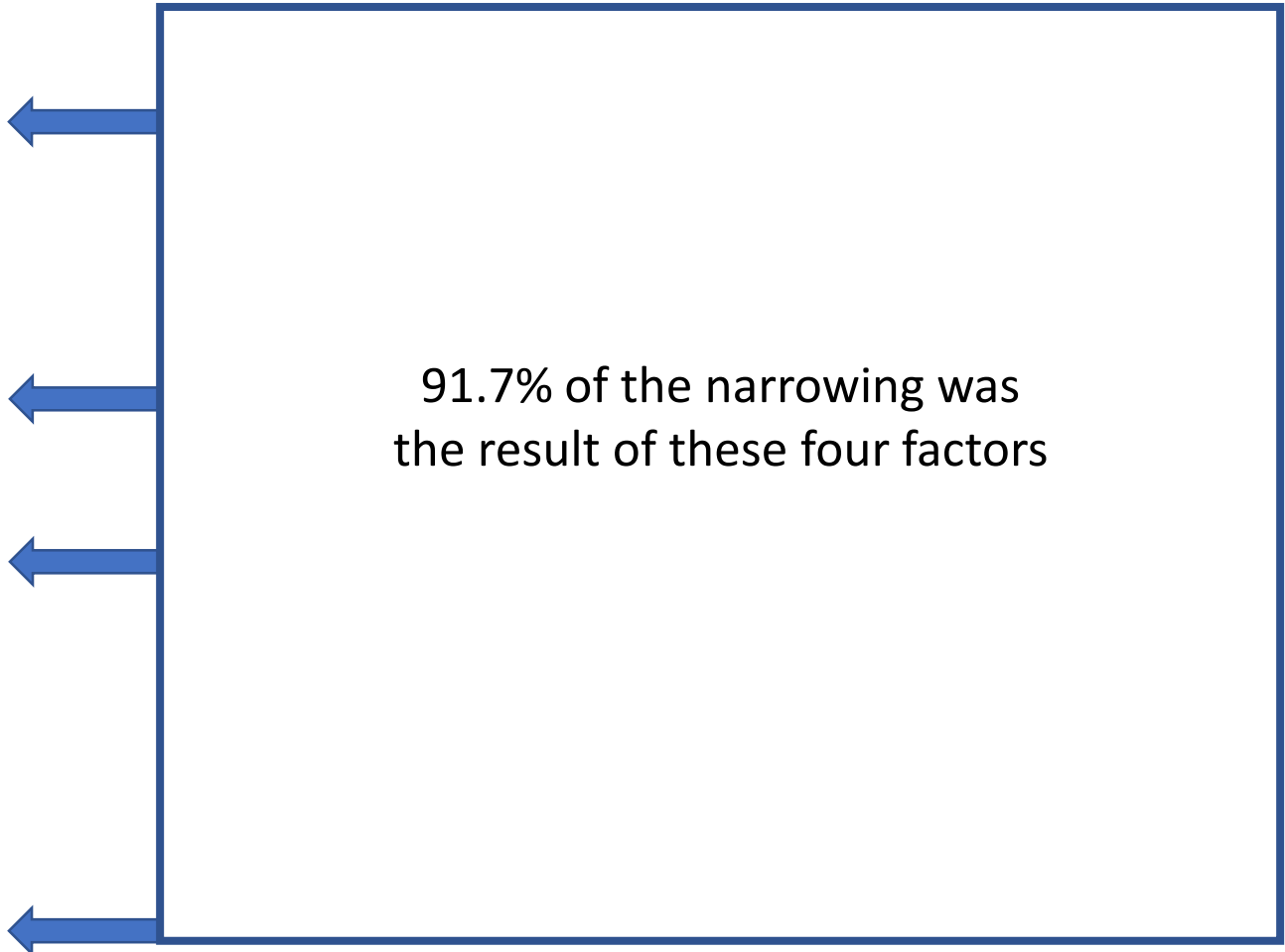
To answer this question, we perform a dynamic Blinder-Oaxaca decomposition. This separates the change in the gender wage gap into two portions:

1. **Explained** by relative changes in the characteristics of men and women over time:
  - **Human capital** (education, job tenure)
  - **Job attributes** (part-time vs. full-time, public vs. private sector, union coverage, firm size)
  - **Occupation and industry of work**
  - **Demographics** (age, province, children, marital status)
2. **Unexplained**



# Accounting for the narrowing of the gender wage gap, percentages, 1998 to 2018

<b>Total explained portion</b> (sum of effects of variables below)	<b>56.6</b>
<b>Human capital</b>	<b>18.2</b>
Education	12.7
Job tenure	5.5
<b>Job attributes</b>	<b>22.1</b>
Part-time	4.8
Public sector	4.8
Union	9.3
Firm size	3.1
<b>Occupation and industry</b>	<b>18.4</b>
Occupation	26.3
Industry	-8.0
<b>Demographics</b>	<b>-2.1</b>
Age	-1.9
Province	-3.3
Children	1.4
Marital status	1.6
<b>Total unexplained portion</b>	<b>43.4</b>



91.7% of the narrowing was the result of these four factors

Source: Statistics Canada, Labour Force Survey, authors' calculations <sup>7</sup>



## Change in occupational distribution a key contributor to the narrowing

<b>Total explained portion</b> (sum of effects of variables below)	<b>56.6</b>
<i>Human capital</i>	<b>18.2</b>
Education	12.7
Job tenure	5.5
<i>Job attributes</i>	<b>22.1</b>
Part-time	4.8
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Firm size	3.1
<i>Occupation and industry</i>	<b>18.4</b>
<b>Occupation</b>	<b>26.3</b>
Industry	-8.0
<i>Demographics</i>	<b>-2.1</b>
Age	-1.9
Province	-3.3
Children	1.4
Marital status	1.6
<b>Total unexplained portion</b>	<b>43.4</b>

26.3% of the narrowing came from changes in women's and men's occupations of work

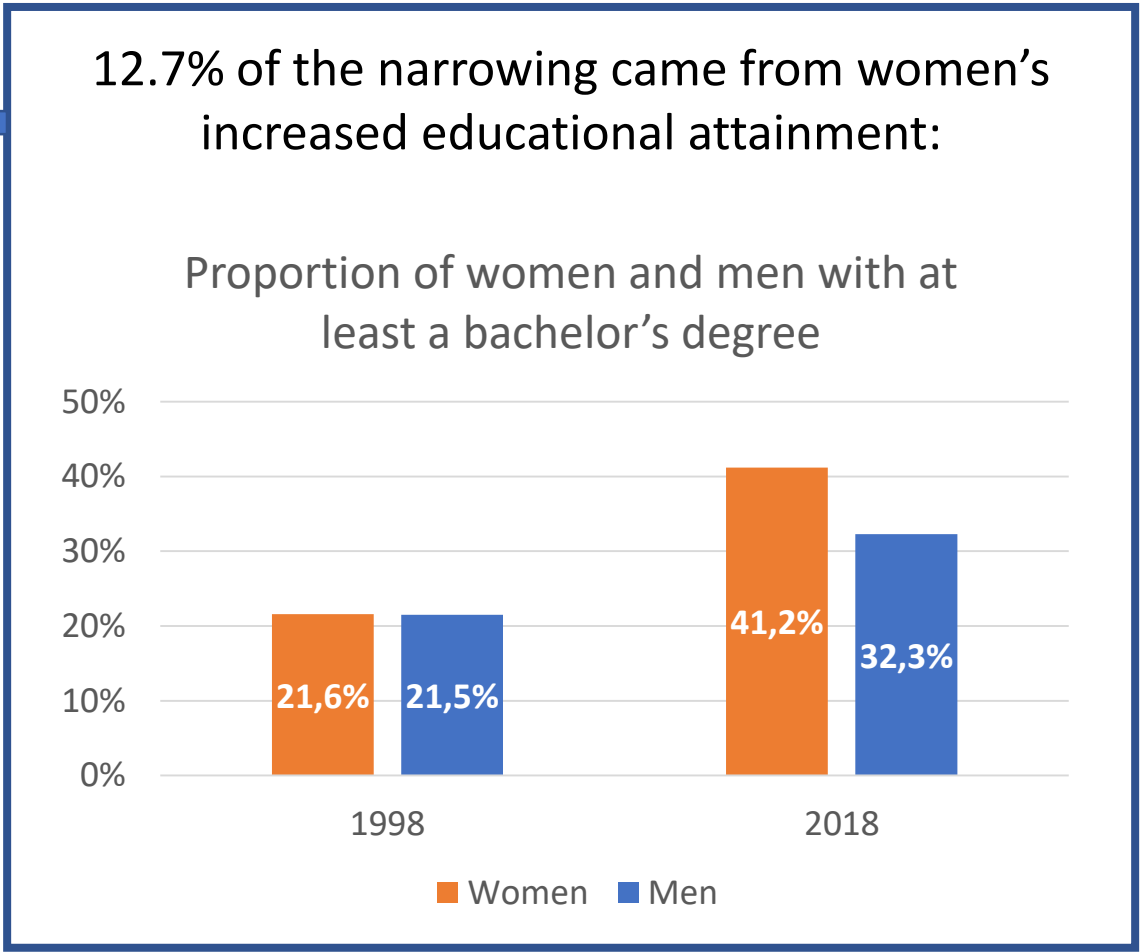
In particular, a larger share of core-aged women worked in these higher-paying professional occupations in 2018:

- Law and social, community and government services
  - Education services
  - Business and finance

Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>8</sup>

# Women's educational attainment helped to narrow gap

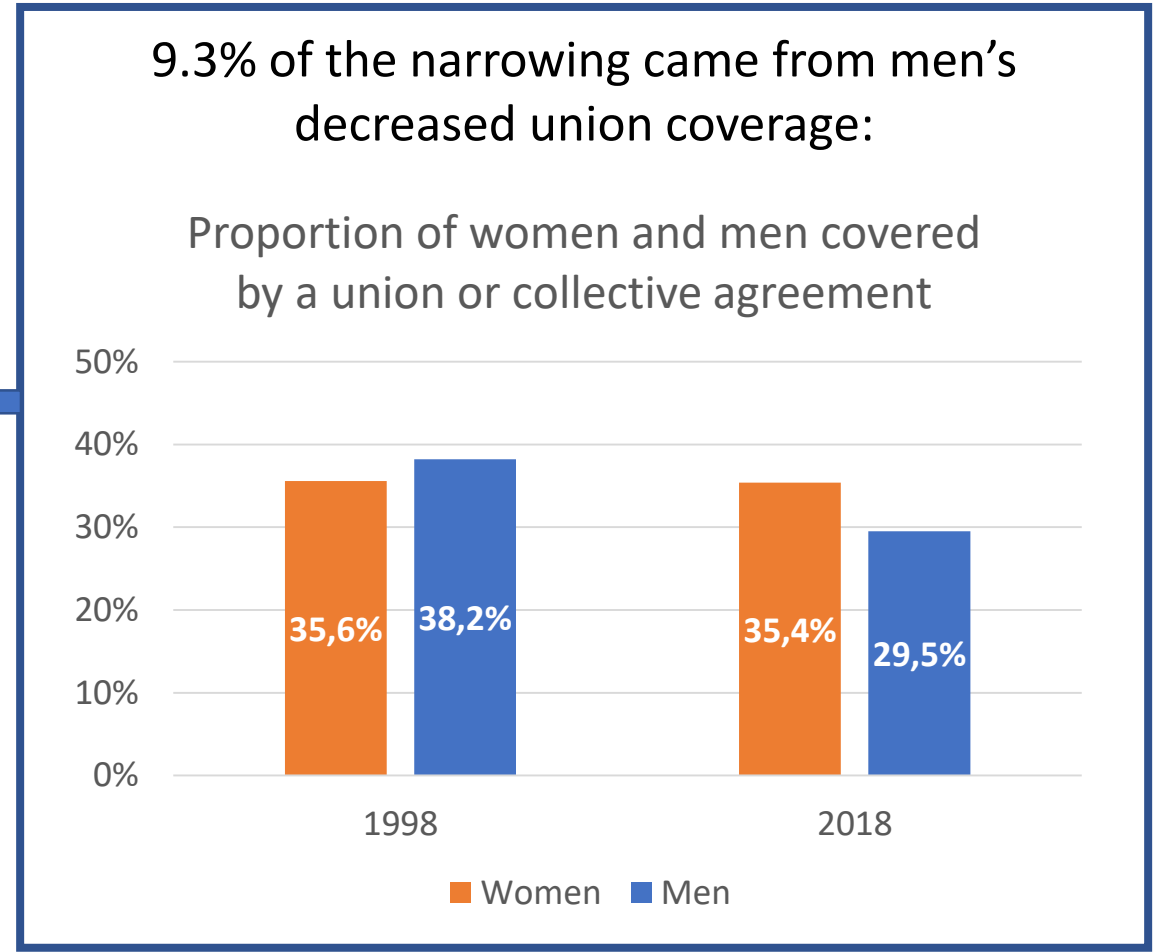
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Age	-1.9
Province	-3.3
Children	1.4
Marital status	1.6
<b>Total unexplained portion</b>	<b>43.4</b>



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>9</sup>

# Men's decreased union coverage also had narrowing effect

<b>Total explained portion</b> (sum of effects of variables below)	<b>56.6</b>
<i>Human capital</i>	<b>18.2</b>
Education	12.7
Job tenure	5.5
<i>Job attributes</i>	<b>22.1</b>
Part-time	4.8
Public sector	4.8
<b>Union</b>	<b>9.3</b>
Firm size	3.1
<i>Occupation and industry</i>	<b>18.4</b>
Occupation	26.3
Industry	-8.0
<i>Demographics</i>	<b>-2.1</b>
Age	-1.9
Province	-3.3
Children	1.4
Marital status	1.6
<b>Total unexplained portion</b>	<b>43.4</b>



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>10</sup>

# Large portion of narrowing unexplained by control variables

<b>Total explained portion</b> (sum of effects of variables below)	<b>56.6</b>
<i>Human capital</i>	<b>18.2</b>
Education	12.7
Job tenure	5.5
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Industry	-8.0
<i>Demographics</i>	<b>-2.1</b>
Age	-1.9
Province	-3.3
Children	1.4
Marital status	1.6
<b>Total unexplained portion</b>	<b>43.4</b>

43.4% of the narrowing was unexplained

This could mean changes occurred in:

1. Measurable wage-related characteristics that could not be included in this study
  - Work experience
  - Field of study
  - Etc.
2. Unobservable wage-related characteristics
  - Gender biases
  - Discrimination
  - Etc.



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>1</sup>

## What explained the remaining gender wage gap (\$4.13) in 2018?

To answer this question, we now perform a static Blinder-Oaxaca decomposition. This separates the gap itself into two portions:

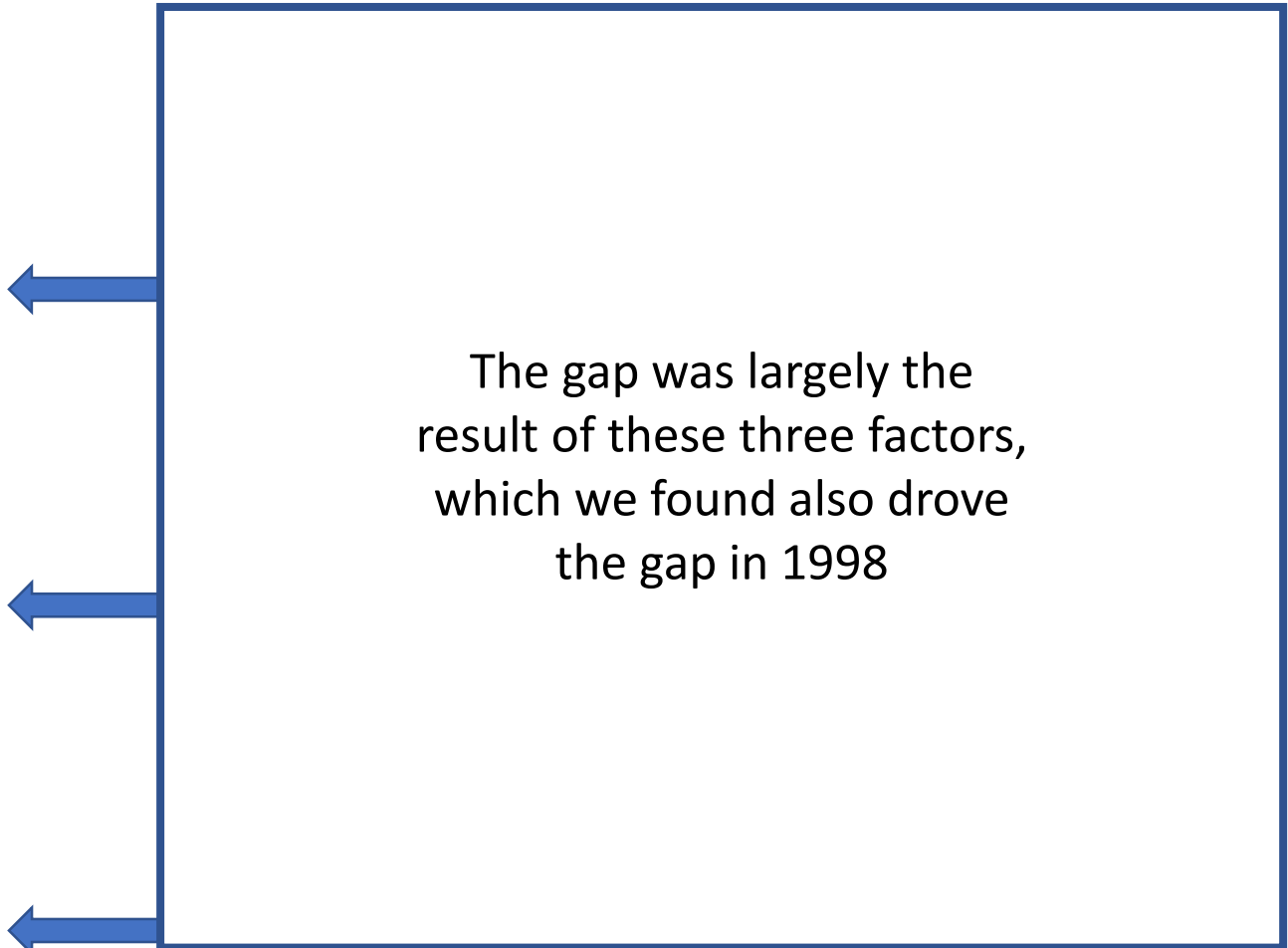
1. **Explained** by differences between men and women in terms of:

- **Human capital** (education, job tenure)
- **Job attributes** (part-time vs. full-time, public vs. private sector, union coverage, firm size)
- **Occupation and industry of work**
- **Demographics** (age, province, children, marital status)

2. **Unexplained**

# Explaining the gender wage gap, percentages, 2018

<b>Total explained portion (sum of effects of variables below)</b>	<b>36.6</b>
<b>Human capital</b>	<b>-6.1</b>
Education	-4.8
Job tenure	-1.3
<b>Job attributes</b>	<b>-0.7</b>
Part-time	9.2
Public sector	-5.3
Union	-3.4
Firm size	-1.1
<b>Occupation and industry</b>	<b>44.8</b>
Occupation	5.1
Industry	39.7
<b>Demographics</b>	<b>-1.6</b>
Age	-0.3
Province	1.0
Children	-0.8
Marital status	-1.5
<b>Total unexplained portion</b>	<b>63.4</b>



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>13</sup>

# Industrial distribution a key contributor to the gap in 2018

<b>Total explained portion (sum of effects of variables below)</b>	<b>36.6</b>
<i>Human capital</i>	<i>-6.1</i>
Education	-4.8
Job tenure	-1.3
<i>Job attributes</i>	<i>-0.7</i>
Part-time	9.2
Public sector	-5.3
Union	-3.4
Firm size	-1.1
<i>Occupation and industry</i>	<i>44.8</i>
Occupation	5.1
<b>Industry</b>	<b>39.7</b>
<i>Demographics</i>	<i>-1.6</i>
Age	-0.3
Province	1.0
Children	-0.8
Marital status	-1.5
<b>Total unexplained portion</b>	<b>63.4</b>

39.7% of the gap was explained by differences between women and men in their industries of work

In particular, three high-paying and male-dominated sectors drove the gender wage gap:

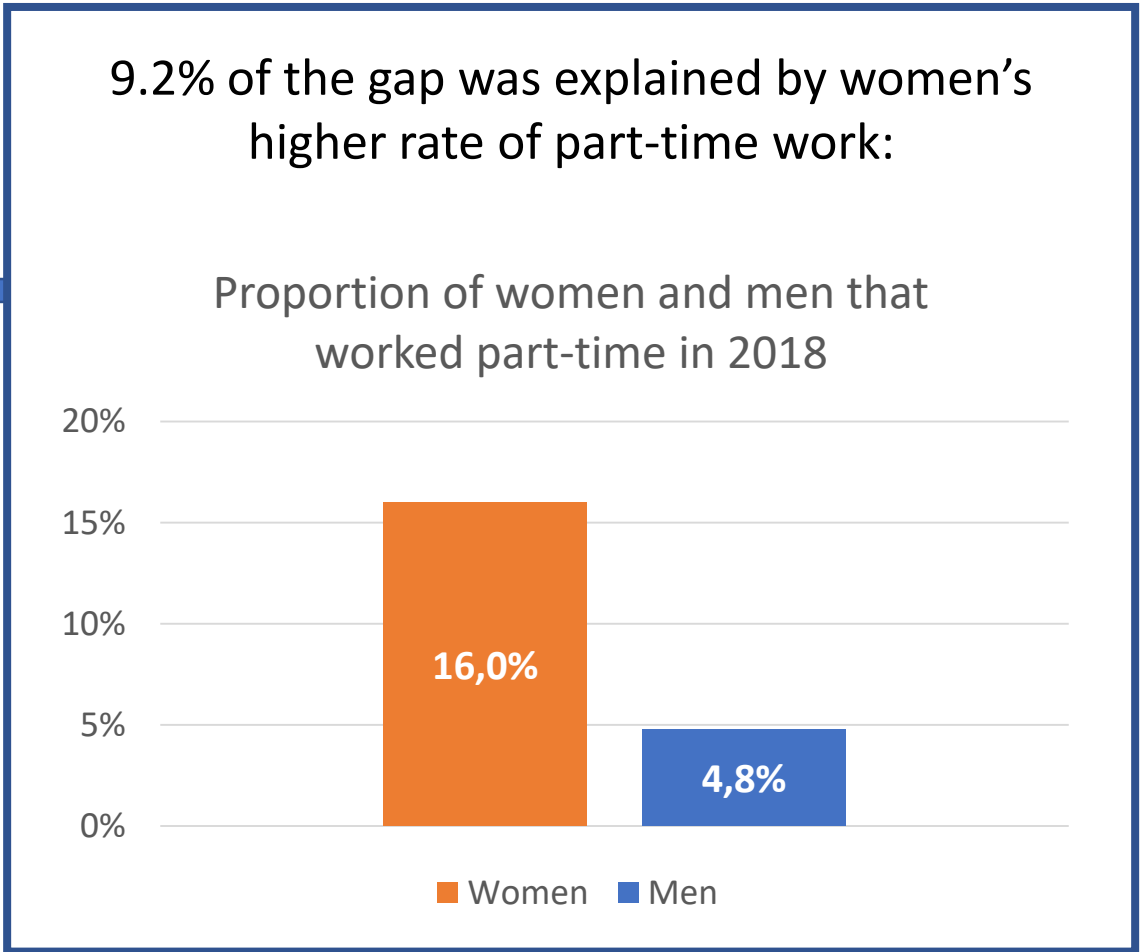
- Construction
- Manufacturing
- Mining, quarrying, and oil and gas extraction



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>14</sup>

# Part-time employment contributed to the gap in 2018

<b>Total explained portion (sum of effects of variables below)</b>	<b>36.6</b>
<i>Human capital</i>	
Education	-4.8
Job tenure	-1.3
<i>Job attributes</i>	
<b>Part-time</b>	<b>9.2</b>
Public sector	-5.3
Union	-3.4
Firm size	-1.1
<i>Occupation and industry</i>	
Occupation	5.1
Industry	39.7
<i>Demographics</i>	
Age	-0.3
Province	1.0
Children	-0.8
Marital status	-1.5
<b>Total unexplained portion</b>	<b>63.4</b>



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>15</sup>



# Large portion of remaining gap in 2018 unexplained

<b>Total explained portion (sum of effects of variables below)</b>	<b>36.6</b>
<i>Human capital</i>	<i>-6.1</i>
Education	-4.8
Job tenure	-1.3
<i>Job attributes</i>	<i>-0.7</i>
Part-time	9.2
Public sector	-5.3
Union	-3.4
Firm size	-1.1
<i>Occupation and industry</i>	<i>44.8</i>
Occupation	5.1
Industry	39.7
<i>Demographics</i>	<i>-1.6</i>
Age	-0.3
Province	1.0
Children	-0.8
Marital status	-1.5
<b>Total unexplained portion</b>	<b>63.4</b>

63.4% of the gap was unexplained

This part of the gap may have been due to:

1. Measurable wage-related characteristics that could not be included in this study
  - Work experience
  - Field of study
  - Etc.
2. Unobservable wage-related characteristics
  - Gender biases
  - Discrimination
  - Etc.



Source: Statistics Canada, Labour Force Survey, authors' calculations<sup>16</sup>

## Gender differences in occupation and industry were an important factor across all provinces with a wage gap in 2018

	NL	NS	PEI	NB	QC	ON	MB	SK	AB	BC
Average hourly wages, men	\$29.16	\$26.81	\$24.33	\$25.83	\$28.71	\$31.43	\$27.96	\$31.92	\$35.99	\$31.73
Average hourly wages, women	\$26.72	\$24.30	\$24.18	\$23.91	\$25.85	\$27.60	\$24.72	\$27.04	\$29.67	\$25.83
<b>Gender wage gap</b>	<b>\$2.44</b>	<b>\$2.51</b>	-	<b>\$1.92</b>	<b>\$2.86</b>	<b>\$3.83</b>	<b>\$3.24</b>	<b>\$4.88</b>	<b>\$6.32</b>	<b>\$5.90</b>
<b>Gender wage gap (%)</b>	<b>8.4</b>	<b>9.4</b>	-	<b>7.4</b>	<b>10.0</b>	<b>12.2</b>	<b>11.6</b>	<b>15.3</b>	<b>17.6</b>	<b>18.6</b>
<b>Total explained portion (%)</b>	<b>47.1</b>	<b>6.5</b>	-	<b>13.0</b>	<b>22.1</b>	<b>29.1</b>	<b>20.0</b>	<b>44.4</b>	<b>58.0</b>	<b>52.3</b>
Human capital	-15.3	-11.7	-	-18.8	-11.7	-6.5	-2.0	-5.5	-4.0	-1.0
Job attributes	-10.6	-15.0	-	-15.9	-7.9	-1.8	-1.7	7.0	0.3	6.0
Occupation and industry	74.3	39.5	-	58.1	44.3	39.7	28.3	45.1	64.6	48.7
Demographics	-1.3	-6.2	-	-10.3	-2.6	-2.3	-4.7	-2.2	-2.9	-1.5
<b>Total unexplained portion (%)</b>	<b>52.9</b>	<b>93.5</b>	-	<b>87.0</b>	<b>77.9</b>	<b>70.9</b>	<b>80.0</b>	<b>55.6</b>	<b>42.0</b>	<b>47.7</b>

Source: Statistics Canada, Labour Force Survey, authors' calculations

## Summary (1/2)

- As of 2018, the gender gap in hourly wages among employees aged 25 to 54 was 13.3% (\$4.13), down 5.5 percentage points from 1998
- The narrowing in the gender wage gap between 1998 and 2018 was largely explained by:
  - changes in the distribution of men and women across occupations
  - women's increased educational attainment
  - the decline in the share of men in unionized employment

## Summary (2/2)

- The two largest factors explaining the remaining gender wage gap in 2018 (and 1998) were:
  - the distribution of women and men across industries
  - women's overrepresentation in part-time work
- Nearly two thirds of the gap in 2018 was unexplained. This could be due to factors that were beyond the scope of this study (e.g., work experience) or unobservable factors (e.g., any gender-related biases)

## Some opportunities for future research

- Explore the gender wage gap among specific sub-groups
- Examine the gender wage gap in detail by industry or occupation
- Incorporate work history/experience and field of study into the models

## Questions or comments

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