Women on the Margins

Gendered Effects of Large Minimum Wage Changes

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Background

Why women?

Women in the workforce are more concentrated in **low-wage sectors**.

Marchand et al. (2023):

- women account for 61% of all minimum wage earners in Alberta
- about half of minimum wage workers were part-time employees
- 41% were the parents of at least one child under the age of eighteen

Council of Economic Advisers (2014):

- “women account for more than half (55 percent) of all workers who would benefit from increasing the (Federal) minimum wage” in the U.S.

Large minimum wage changes

Historically, most minimum wage changes have been relatively small in magnitude, resulting from increases tied to inflation.

In contrast, a recent set of **large minimum wage changes** were implemented in North America, motivated by the concept of a **$15 nominal minimum wage**.

- U.S. cities, such as New York City, Seattle, and San Francisco
- Alberta became the first state or province in North America to reach a $15 minimum wage on October 1st, 2018 (a 47% increase, over 3 years)
- followed soon after by British Columbia (2021) and Ontario (2022)

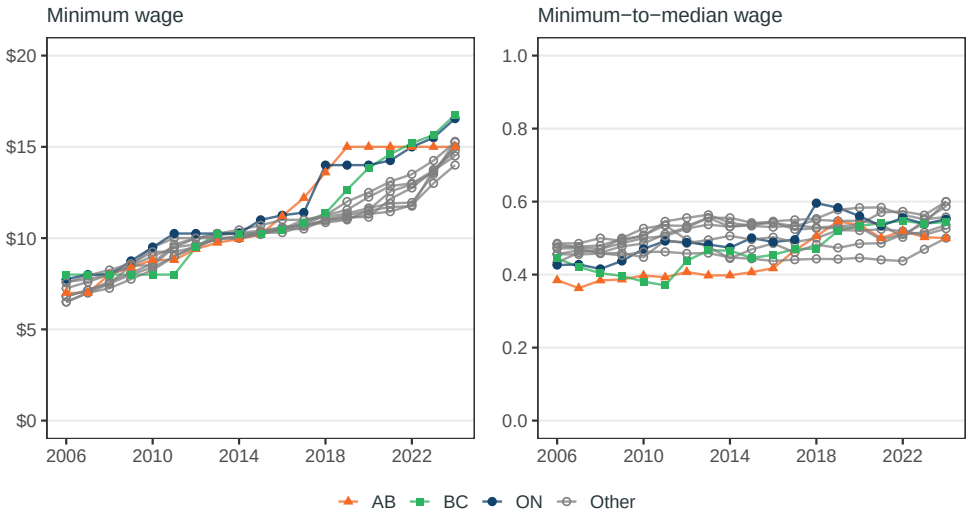
This paper

We study the effects of large minimum wage changes in Canada (at least $1) on **wages**, **employment**, and **hours worked**, focusing on the **gendered effects**.

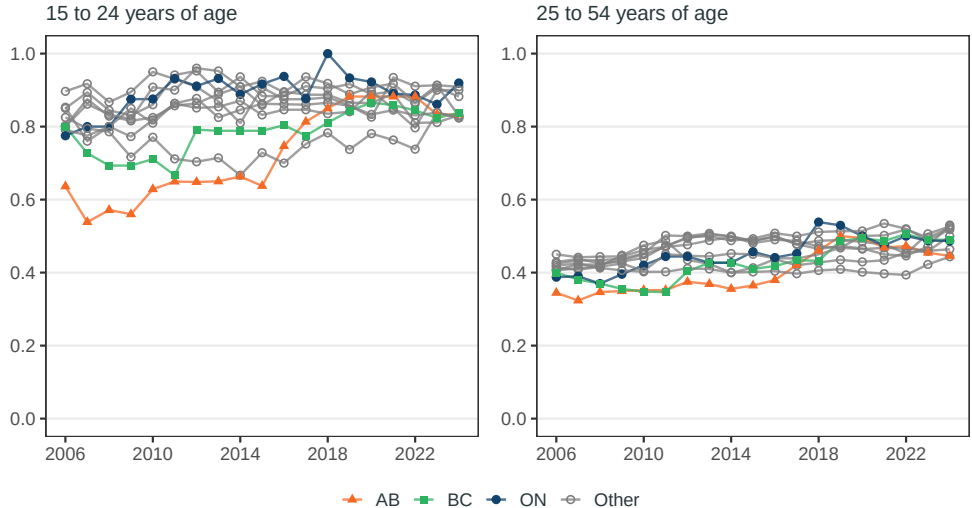
- we identify **seven different one dollar or more increases** across three provinces (Alberta, British Columbia, Ontario)
- **identification issues** abound (staggered adoption, on/off treatment, heterogeneous treatment effects)
- we find evidence that these large minimum wages do indeed have **differential effects** between men and women in Canada

Minimum wage policies in Canada

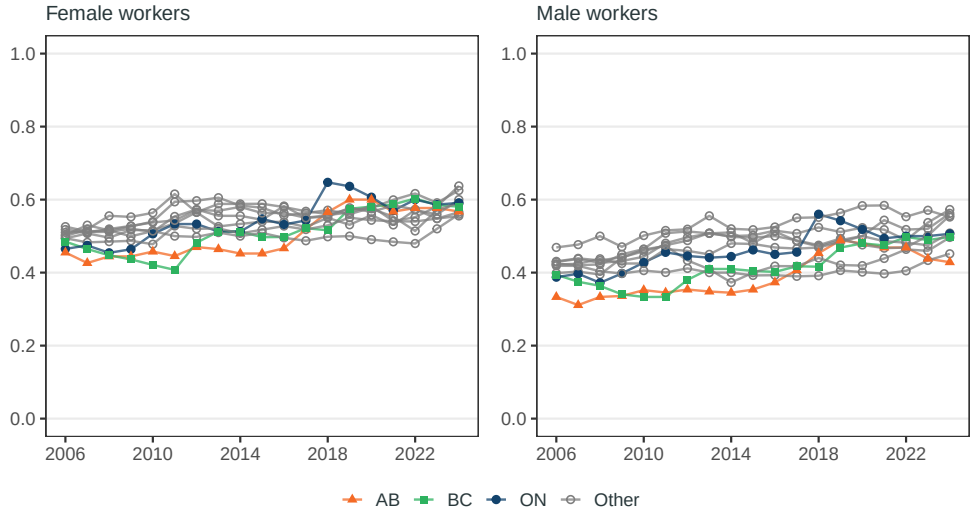
Minimum wages in Canada



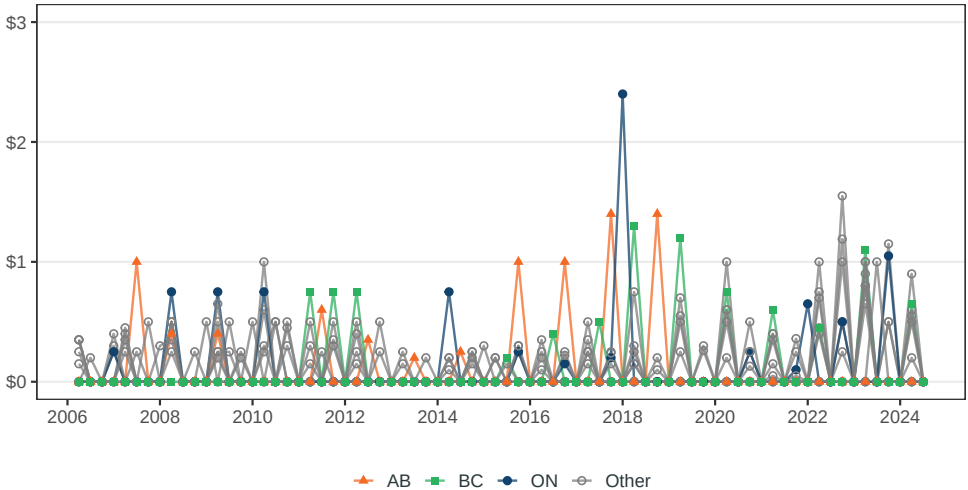
Minimum−to−median wage by province and age



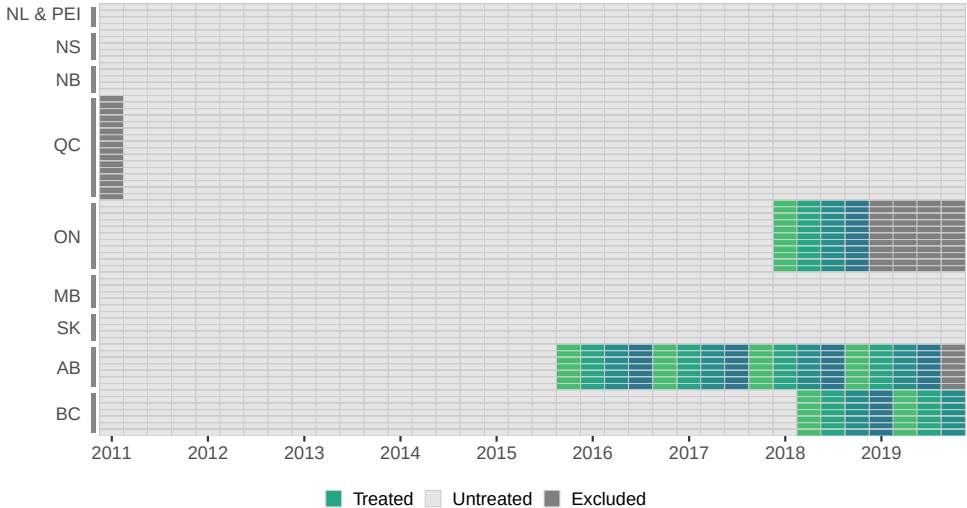
Minimum−to−median wage by province and gender



Minimum wages in Canada, change



Treatment status for event studies by province



Methods

IFE counterfactual estimator

We adopt the **interactive fixed effects (IFE)** counterfactual estimator of Xu (2017) and Liu et al. (2024).

$$y_{it}(0) = \alpha_i + \gamma_t + \boldsymbol{\lambda}_i' \boldsymbol{f}_t + \varepsilon_{it} \tag{1}$$

- $y_{it}(0)$: **outcome variable** for **untreated and not-yet-treated** observations
- α_i, γ_t: unit and time **fixed effects**
- $\boldsymbol{\lambda}_i$, $\boldsymbol{f}_t$: vector of **unobserved factors** and factor loadings
- goal: capture the cross-sectional dependence and common unobserved factors (Gobillon and Magnac, 2016)

IFE counterfactual estimator

The **causal quantity of interest** is the average treatment effect on the treated units (**ATT**).

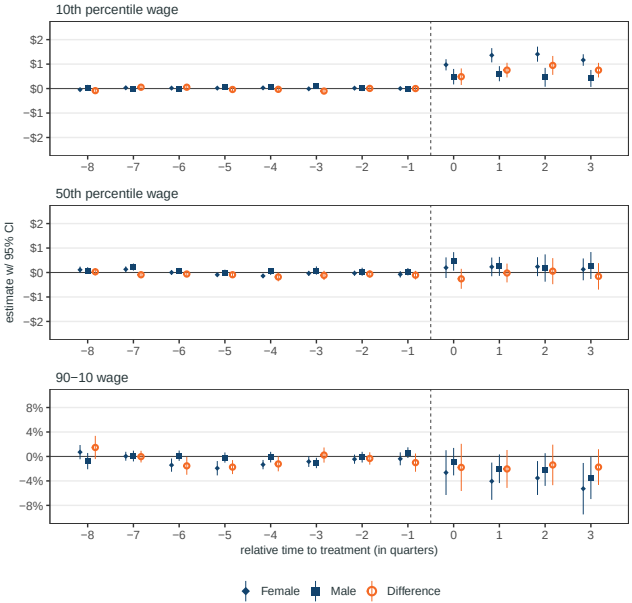
- predict counterfactual outcome $\hat{y}_{it}(0)$ for each treated observation
- estimate **individual treatment effects** δ_{it} for each treated observation

$$\hat{\delta}_{it} = y_{it} - \hat{y}_{it}(0)$$

- compute estimates of the quantities of interest (averages of $\hat{\delta}_{it}$)
- closely related method: matrix completion (MC) counterfactual estimator of Athey et al. (2021)

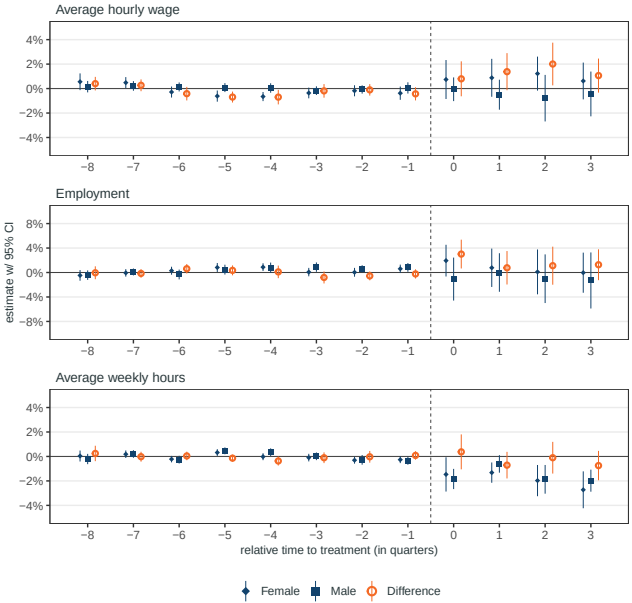
Results

Event study results: all industries, 15 years and over



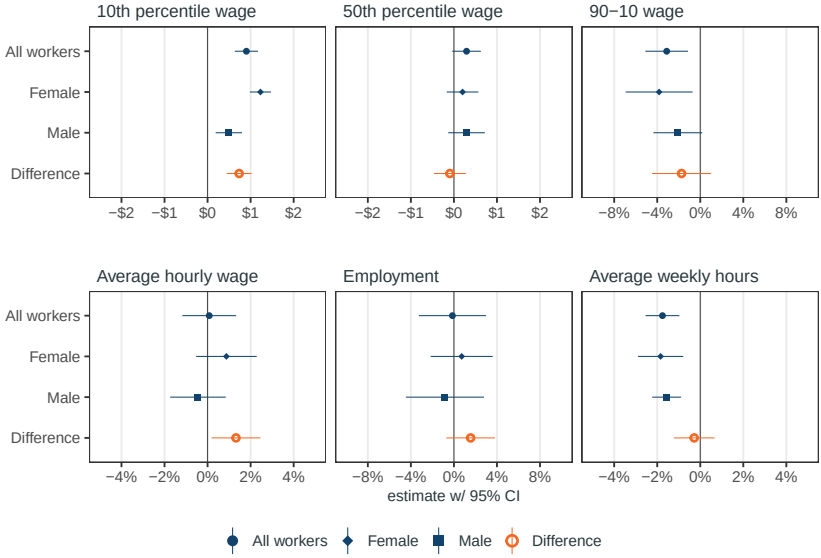
- positive response of **10th percentile wage**, larger for female workers
- no effect on **median wage**
- significant compression of **wage distribution**

Event study results: all industries, 15 years and over

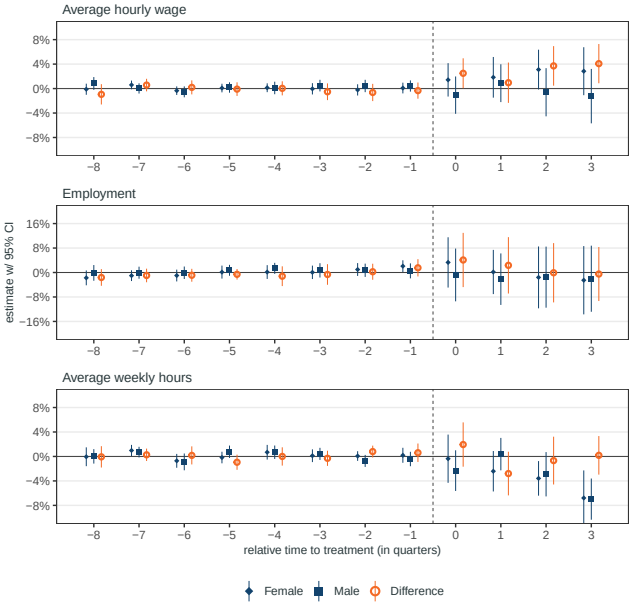


- positive effect on **average wage** of female workers
- no effect on **employment**
- negative effect on **weekly hours worked**

Average treatment effects: all industries, 15 years and over

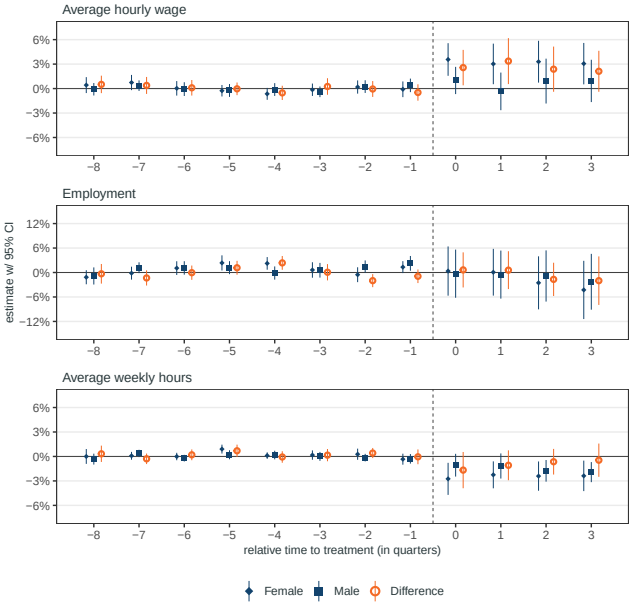


Event study results: all industries, 15 to 24 years of age



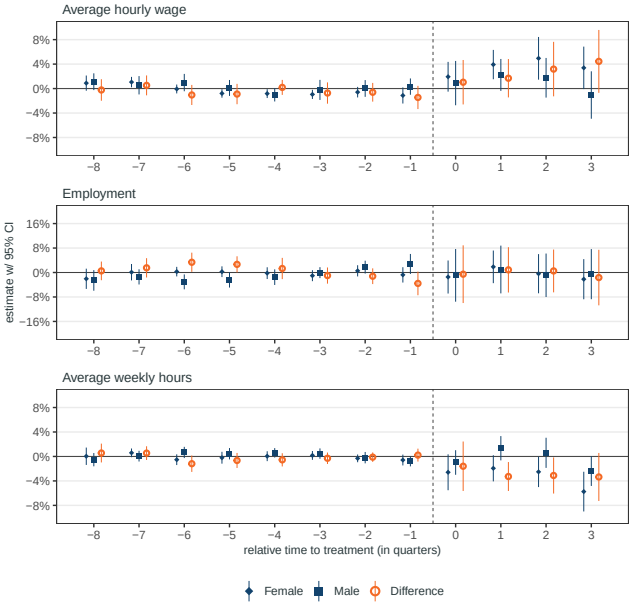
- positive effect on **average wage** of young female workers
- no effect on **employment**
- large negative effect on **weekly hours worked** of young workers

Event study results: all industries, 25 to 34 years of age



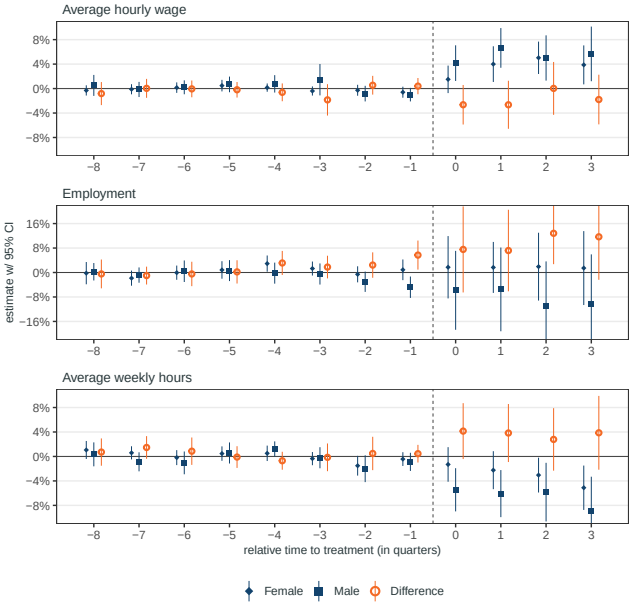
- positive effect on **average wage** of young(ish) female workers
- no effect on **employment**
- negative effect on **weekly hours worked**

Event study results: retail trade, 15 years and over



- positive effect on **average wage** of female retail trade workers
- no effect on **employment**
- negative effect on **weekly hours worked** of female workers

Event study results: accommodation and food services, 15 years and over



- positive effect on **average wage** of accommodation and food services workers
- large negative effect on **employment** of male workers (still not significant)
- negative effect on **weekly hours worked**, larger for male workers

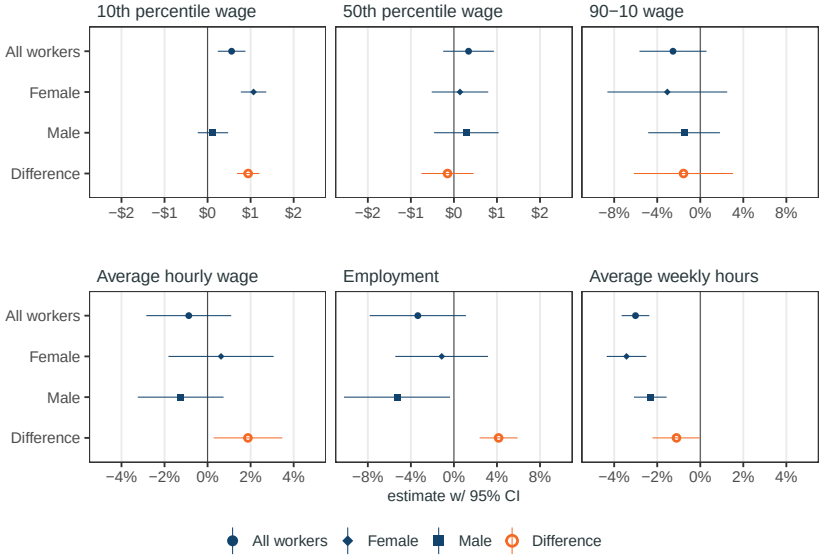
Summary

We find evidence of **differential effects** between men and women following large minimum wage changes in Canada.

- a positive effect on **wages**, larger for female workers
- a compression of the **wage distribution** of female workers
- no **employment** effects, but also no precision in the estimates (heterogeneity?)
- a negative effect on **hours worked**, typically larger for females
- low-wage industries exhibit large effects, but also substantial heterogeneity

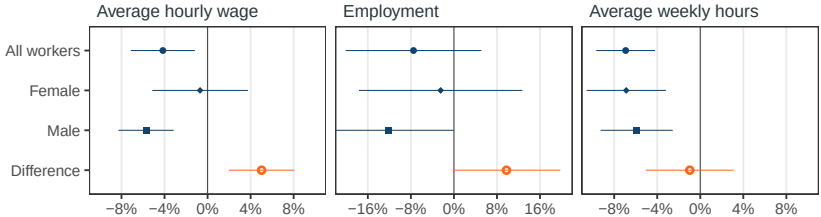
One more thing...

Average treatment effects: all industries, 15 years and over, AB

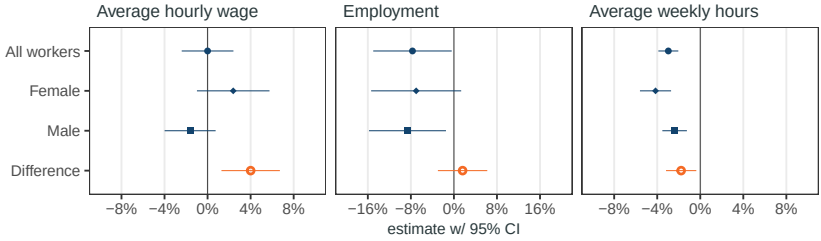


Average treatment effects: all industries, by age, AB

A: 15 to 24 years of age



B: 25 to 34 years of age



Appendix

References

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