

The Motherhood Pay Gap in Canada: Trends, Geographical Patterns and the Link with Family - Friendly Policies

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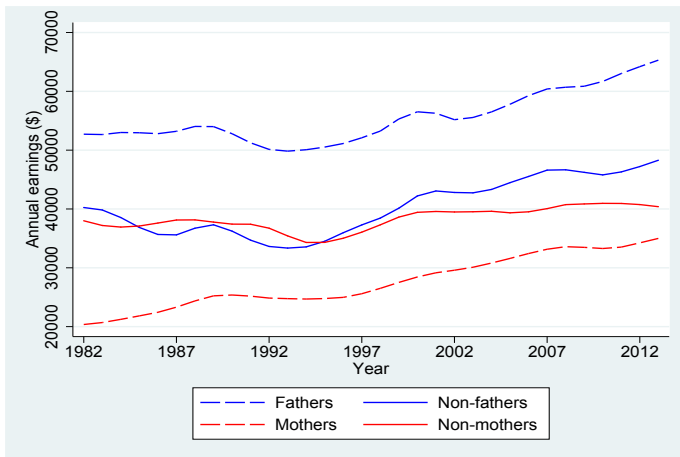
Gender Equality in the Workplace

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Link to the gender pay gap

- Reduction of the gender gap in earnings over time ... (*Goldin, 2016*)
- ... due to important demographic and social changes :
 - ▶ increase in women's participation in the labour market
 - ▶ educational progress of women
 - ▶ declining fertility rates
 - ▶ legislative and political changes
- Since 1990 convergence is stagnating (*Blau and Kahn, 2016*)
- Hypothesis of persistence of these gaps : "**parenthood**" (*Waldfogel, 1998*)

Parenthood is linked to persistent gender pay gap



Source : LISA (2012) and T1 Files (1982-2013) author's calculations

Note : earnings are in constant 2016 dollars and weighted with Statistics Canada sample weights

The Family Gap in pay

- Measures the wage differential between parents and non-parents
- Motherhood is associated with lower wages : Motherhood Penalty (Waldfogel, 1998)
- Fatherhood is associated with higher wages : Fatherhood Premium (Phipps et al., 2001)

Empirical evidence

- **United States** : Motherhood penalties of 7.5% for mothers with 2 children and more, but these gaps have decreased between 1977 and 2007 (Pal and Waldfogel, 2014)
- **France** : Motherhood pay gap of 4.4% and 10.1% for mothers of 2 and 3 children or more, respectively in the private sector. No significant pay gap in the public sector (Duvivier et al., 2014)
- **Denmark** : no significant penalty (Gupta et al. (2002))
- **Canada** :
 - ▶ Motherhood pay gap of 12.5 %, and no significant gap for those who return to the same job (Phipps et al.,2001)
 - ▶ Longitudinal analysis : motherhood penalties of 40% in the year of the childbirth that totally disappear after 7 years (Zhang, 2010)

Hypothesis for the motherhood pay gap

- Depreciation of human capital (*Phipps et al., 2001; Anderson et al., 2002*)
- Mothers choose more family-friendly employment (*Budig, 2014*)
- Mothers are less productive due to family responsibilities (*Phipps et al., 2001*)
- Employers' discrimination (*Correll et al., 2007*)
- Unobserved heterogeneity (*Waldfogel, 1998*)

Data

- Longitudinal and International Study of Adults (LISA)
 - ▶ Wave 1 (2012), Wave 2 (2014), Wave 3 (2016)
- Sample : permanent members (their future descendants and new household members)
- Core content : labour market, education/training/skills and family experiences
- Linked with several administrative data sources
 - ▶ T1FF : historical data of personal and family earnings, transfers, income and after tax income (1982-2015)
 - ▶ T4 : historical data of earnings and employers (2000-2015)

Sample

- Balanced panel of parents
 - ▶ observed every year between -5 and +10 years relatively to their first childbirth
 - ▶ first childbirth occurring between 1987 and 2005
 - ▶ first child between 20 and 40 y.o.
 - ▶ N= 3000 mothers and fathers distributed throughout all provinces

- Childless men and women
 - ▶ building counterfactuals using matching methods
 - ▶ N= 1 700 women and men without children

Methodology

Event study analysis (Kleven et. al. (2018)) :

$$1) Y_{it}^g = \sum_{\tau=-5}^{10} \beta_{\tau} \cdot I[\tau = t - YOB_i] + \sum_{\alpha} \beta_{\alpha} \cdot I[\alpha = Age_{it}] + \gamma_t + \alpha_i + \mu_{it} \quad (1)$$

Y_{it}^g : outcome of interest (in level) at time t for individual i of gender g

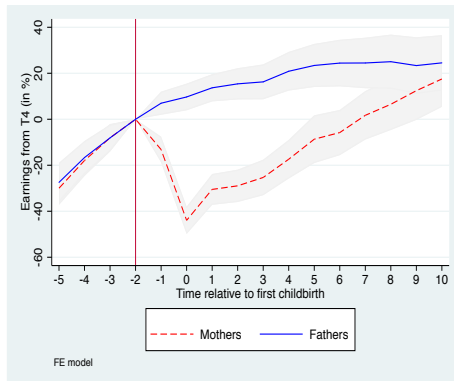
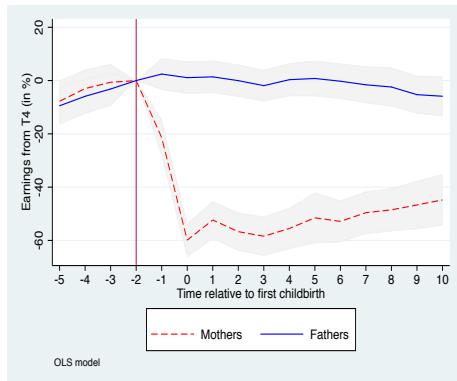
Omitted variable : $\tau = -2$

2) We convert the estimated coefficients into percentages :

$$P_{\tau}^g = \hat{\beta}_{\tau}^g / E[\hat{Y}_{it}^g | t] \quad (2)$$

Baseline model - mothers and fathers

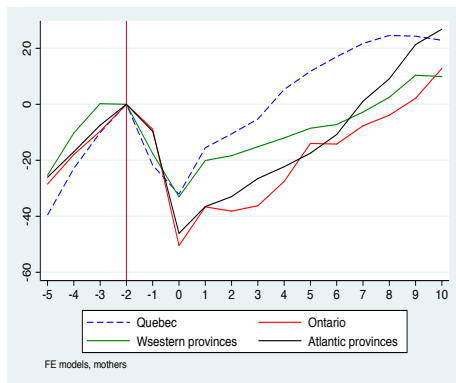
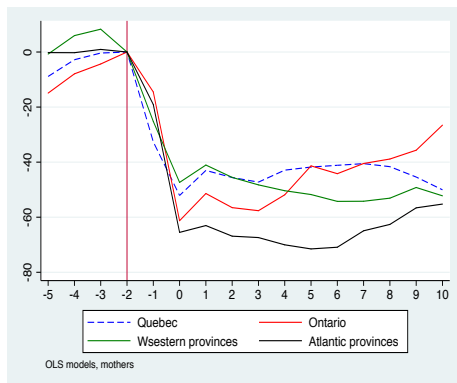
OLS and FE models



Source : LISA and T1FF Files (1982-2015), author's calculation

By regions

OLS and FE models

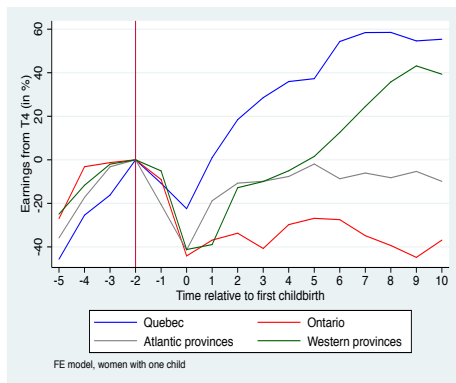
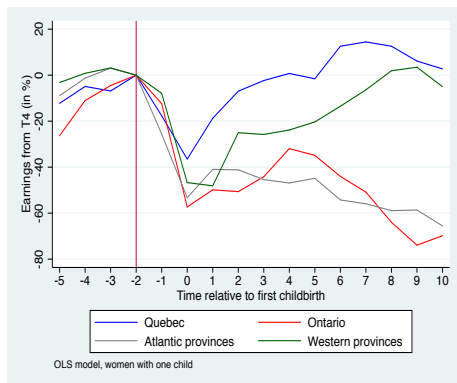


Source : author's calculation from LISA (2012;2014) and T1 Files (1982-2013)

Note : robust standard errors are in grey areas. Results are weighted with Statistics Canada sample weights.

By regions and mothers with one child

OLS model and FE model



Source : author's calculation from LISA (2012;2014) and T1 Files (1982-2013)

Note : robust standard errors are in grey areas. Results are weighted with Statistics Canada sample weights.

Family policies in Canada and Quebec

Canada :

- 1 2001 : Federal parental leave reform

Quebec :

- 1 1997 : Highly subsidized daycare
- 2 2006 : Higher parental leave benefits (QPIP)

Policy analysis : methodology

Simple-difference model

$$1) Y_{it} = \sum_{\tau=-5}^{10} \beta_{\tau} \cdot I[\tau = t - YOB_i] + Post_{2001} +$$

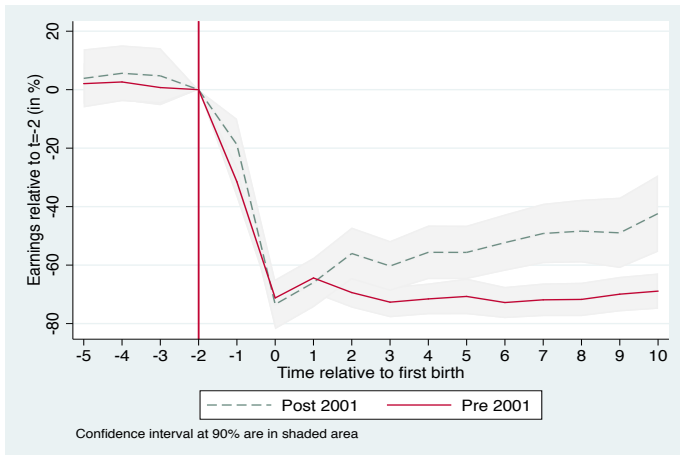
$$\sum_{j \neq -2} \beta_j \cdot I[j = t - YOB_i] * Post_{2001} + X_{it} + \mu_{it}$$

Difference-in-differences model :

$$2) Y_{it} = \sum_{\tau=-5}^{10} \beta_{\tau} \cdot I[\tau = t - YOB_i] + Post_{2001} * Quebec +$$

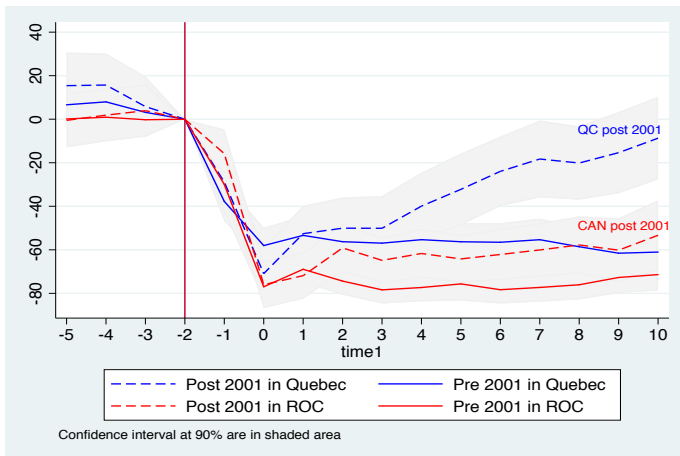
$$\sum_{j \neq -2} \beta_j \cdot I[j = t - YOB_i] * Post_{2001} * Quebec + X_{it} + \mu_{it}$$

Policy analysis in Canada



Source : LISA and T1FF Files (1982-2015), authors' calculations

Policy analysis in Quebec and in the RoC



Source : LISA and T1FF Files (1982-2015), authors' calculations

Conclusion

- Motherhood has a negative effect on women's wages
- Earnings trajectories of fathers are not affected by children
- Our results suggest that there are important differences between Quebec and the other regions of Canada
- Is there a link with the family-friendly policies in Quebec?
 - ▶ Family policies in Quebec allow mothers to balance work and family life

Thank you !



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