Top Earnings Inequality and the Gender Pay Gap: Prospects for Convergence

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Top Earnings Inequality and the Gender Pay Gap: Canada, Sweden, and the United Kingdom

and with the collaboration of
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Statistics Canada   Statistique Canada

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# Top Earnings Inequality and the Gender Pay Gap: Prospects for Convergence

o   Earnings Inequality and the Gender Pay Gap: Canada, Sweden, and the United Kingdom", (with B. Bell and M. Boehm), *Labour Economics*, 47 (August 2017): 107–123.

o   "Increasing Earnings Inequality and the Gender Pay Gap in Canada: Prospects for Convergence," Viewpoint article for the *Canadian Journal of Economics,* first draft, June 2018.

o   "Earnings Inequality and the Gender Pay Gap in Canada: The Role of Women's Under-representation Among Top Earners," (with A. Bonikowska, and M. Drolet), article prepared for *Economic Insights*, Statistics Canada, first draft, October 2017.

Increasing Top Income Shares

Top 1% Income Shares Across Six Countries

Source: WID (2018) and CANSIM
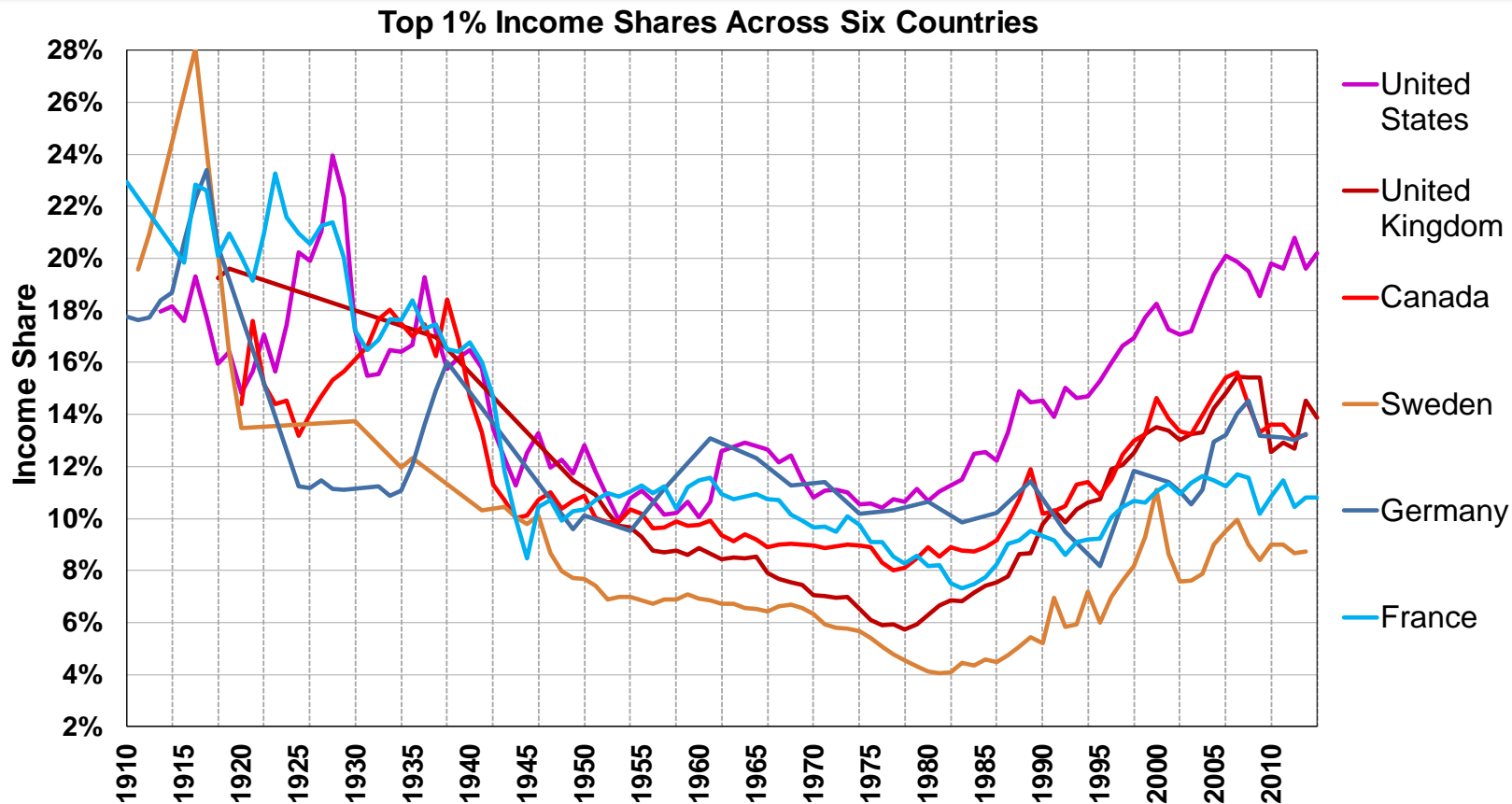
Largest Increases in Top Income Shares in Countries with Long Standing High Share of Women in LF

Women's Share of the Labour Force

Legend: United States, United Kingdom, Canada, Sweden, Germany, France
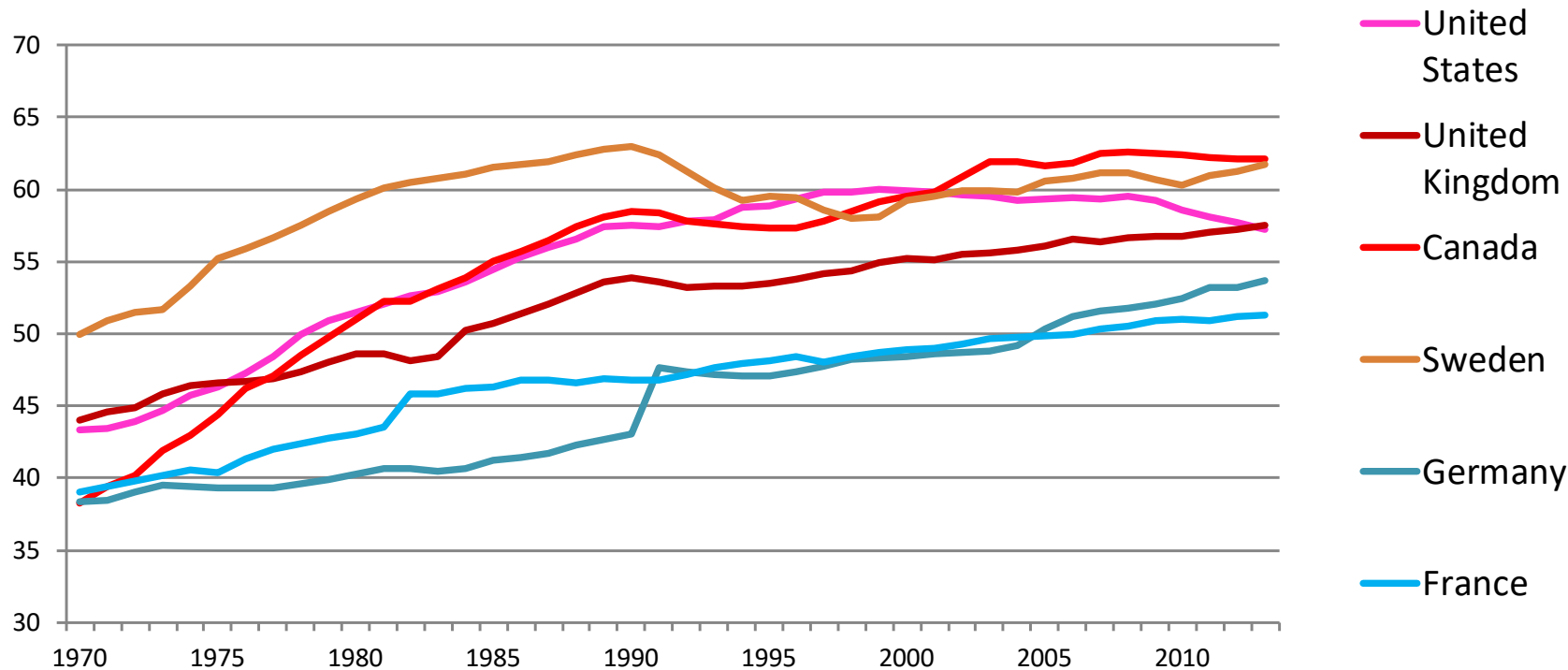
Little Presence among Canadian Top Earners

- In 2014, the percentage of women on Canadian Boards was about 21% in 2014.

- In 2015, women held 8.5 per cent of the highest-paid positions in Canada's top 100 listed companies, but this represents only 45 women.

- In 2017, among Canada's 100 top earning CEOs Nancy Southern the current CEO of Canadian Utilities and of ATCO Ltd., a global conglomerate with operations in utilities, logistics and energy and daughter of founder Ron Southern, was the only women listed (McFarland, G&M, June 12 2017)

PROGRESS HIGHLIGHTS
Increasing the Representation of Women on Canadian Boards
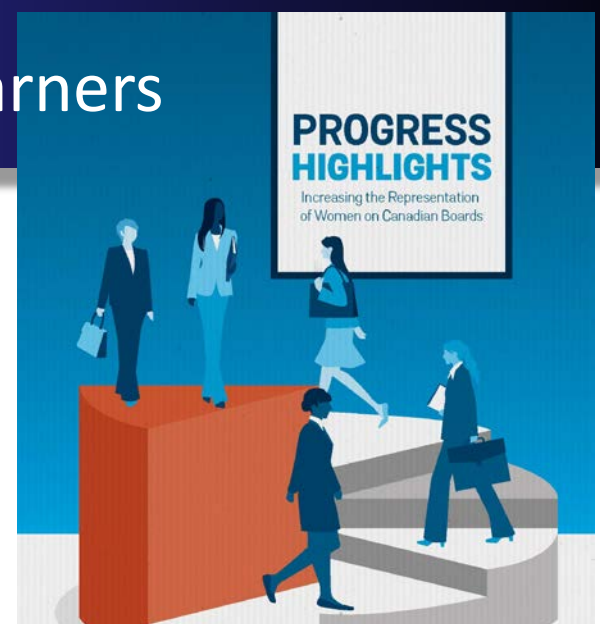
The Report, "**Good for Business: A Plan to Promote More Women on Canadian Boards**" laid out aspirational goals for Canada's public and private sectors, most notably, a national goal of 30% women on boards by 2019, as well as a number of **best practices** in use to successfully advance more women into board positions.

Increasing Earnings Inequality in Top Incomes and the Gender Pay Gap

Questions of interest:

1) What are the consequences of the under-representation of women in top jobs for the overall gender pay gap?

2) How is it contributing to the slowdown in the convergence of female/male pay?

3) What public policies and private practices are effective to improve this under-representation?

   A. What can we learn from Women-on-Boards (WOB) quotas?

   B. Have Quebec's Pay Equity and family friendly policies been effective at reducing the gender pay gap in this context?

Why Focus on the Average Gender Pay Gap?

- The focus on the **average** gender pay gap is justified by both the public attention and the ensuing public policies that use it as target.

- But the results presented today will show that the **average** pay gap should not be the sole focus of concern.

- This message seems to have caught the attention of British Law makers

- New reporting requirements were implemented in the United Kingdom in April 2018, where firms with more have 250 employees have to post six (6) measures of the gender pay gap:

  - the mean and median gender pay gap, the mean and median **bonus gender pay gap**, the **proportion** of males and females receiving **a bonus payment**, and the **proportion** of males and females in each **pay quartile**.

Increasing Earnings Inequality in Top Incomes and the Gender Pay Gap

- When residual inequality experienced stupendous increases in the 1980s, Blau and Kahn (1997) coined the term "swimming upstream" to characterize women's pursuit of pay equality in the face of countervailing currents.

- Have recent increases in top incomes lead to similar effects, therefore accounting for the slower progress in the gender pay and growing unexplained (by traditional factors) share?

Data

- Appeal to administrative/income tax data to capture the highest incomes

- Use all earnings data from income tax data available in three vintages of Canadian Longitudinal Worker Files (LWF) 10% sample: 1978 to 1989, 1983 to 2010, and 1989 to 2015

- Utilize similar annual earnings from administrative data from Sweden (LISA, 1990-2013) and for the United Kingdom (ASHE, 1999-2015)

- To include additional covariates, the analysis is supplemented by hourly wage data from public use Canadian (CAN-LFS, 1997-2016/17) and UK Labour Force Survey (UK-LFS, 1993-2015)

- Focus on workers 25 to 64 years old, exclude self-employment income and too low earners.

Methods: Impact of the Under-representation of Women

- Follow up on the approach used in the analysis of earnings inequality in top incomes (Piketty, Saez, and co-authors) to characterize top earners

- Partition earning distributions of men and women combined into four centile groupings (bottom 90%, next 9%, next 0.9%, and top 0.1%)

- Use the following two approaches

1. An accounting identity to apportion the part of the gender pay coming from each grouping

2a. Positional ranks to construct a proxy of vertical segregation at the top of the earnings distribution (Fortin and Lemieux, 1998; Bayer and Charles, 2016)

2b. Apply reweighing techniques *à la* DiNardo, Fortin and Lemieux (1996) [DFL] to construct counterfactual gender pay gaps

Methods: Impact of Gender Equality Policies

- Analyzes of policies aimed at improving gender equality appeal to classic Differences-in-Differences (DD and DDD) techniques

- In the case of WOB, compare changes in share of women on boards and in senior management "before" and "after" the introduction of quotas (12 countries) and disclosure rules (7 countries) to that of 12 other control countries

- In the case of Quebec's policies, short-run and longer-run changes in the female wage penalty are compared to changes across alternative choices of control provinces (yielding similar results)

Findings: Impact of Under-representation of Women

1) Accounting Identity Exercise

- Canadian Public Use LFS shows that the portion of the average gender hourly wage gap coming from the top 10% had increased from 73% to 79% over the 1997 to 2017 period
  - Share accounted for by the top 1% increase from 18% to 20%
- Canadian LWF shows that shows that the portion of the average gender annual earnings gap coming from the top 10% had increased from 81% to 86% from 2000 to 2015
  - Share accounted for by the top 1% is larger, but saw smaller increase from 30% to 31%

<u>2) Counterfactual Exercises:</u>

- In Canada, Sweden, and the United Kingdom, the under-representation of women in partitions of the top decile accounts for a predominant and growing share of the gender pay gap.

  - By itself, this under-representation accounts for 45% (circa 1990) to 58% (circa 2010) of the gender earnings gap in the three countries

  - Pitted against traditional explanatory factors, it stills account for 36% (circa 2000) to 48% (circa 2015) of gap (Sweden and UK), from 17% (circa 1985) to 37% (circa 2010) in Canada

Findings: Policy Analyses

- Analysis of the impact of quotas for "Women on Boards" in cross-country fixed effects DD models show direct effects of 50% on the WOB share, but no significant trickle down effects

- Analysis of Quebec Pay Equity (circa 2001) and family friendly policies (circa 2006) show no significant short-term impact (2003-2005) of the policies

- But a longer term impact (2014-2016) of 2 log points starting from a female penalty of about a 16 log points in the "before" period (1997-2000).

- However these effects need to be attributed onto the combination of several family friendly policies.

Outline

1) Introduction

2) Factors in the historical progress in the gender pay gap

   a) Cohort effects in evolution of female/male labour force participation and the gender gap

   b) Evolution of female shares across top percentiles of the overall distribution of wage and earnings

   c) Evolution of female/male average wage and earnings ratios across the earnings group of

3) Accounting Exercise and Counterfactuals

4) Policy Analyzes and Discussion

- Substantial gender convergence in LFP

- But leveling-off of women's LFP after 2005, except in Quebec
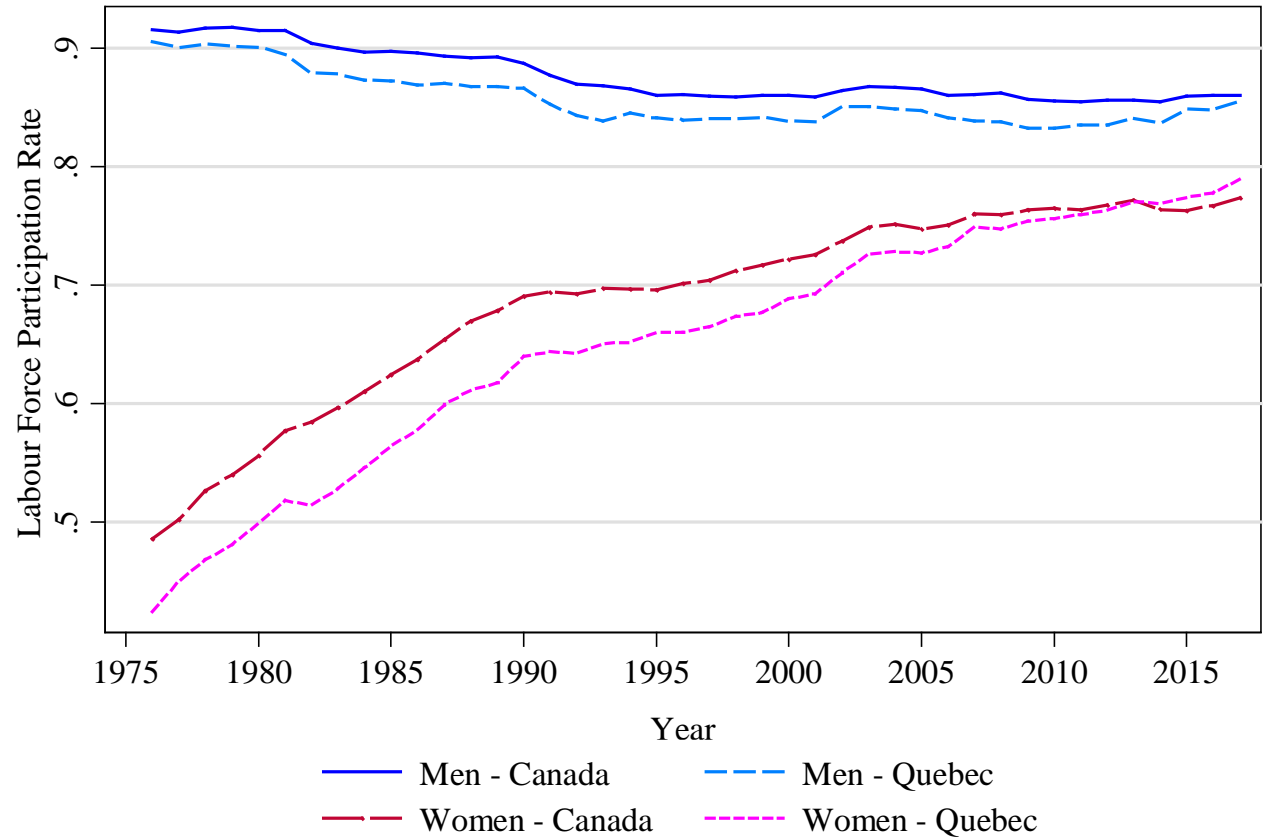
Data Source: Statistics Canada, Public Use Labour Force Surveys, 1976-2017.

Generational Effects in the Growth of Women's LFP

Canada - Women's Labour Force Participation by Synthetic Birth Cohort
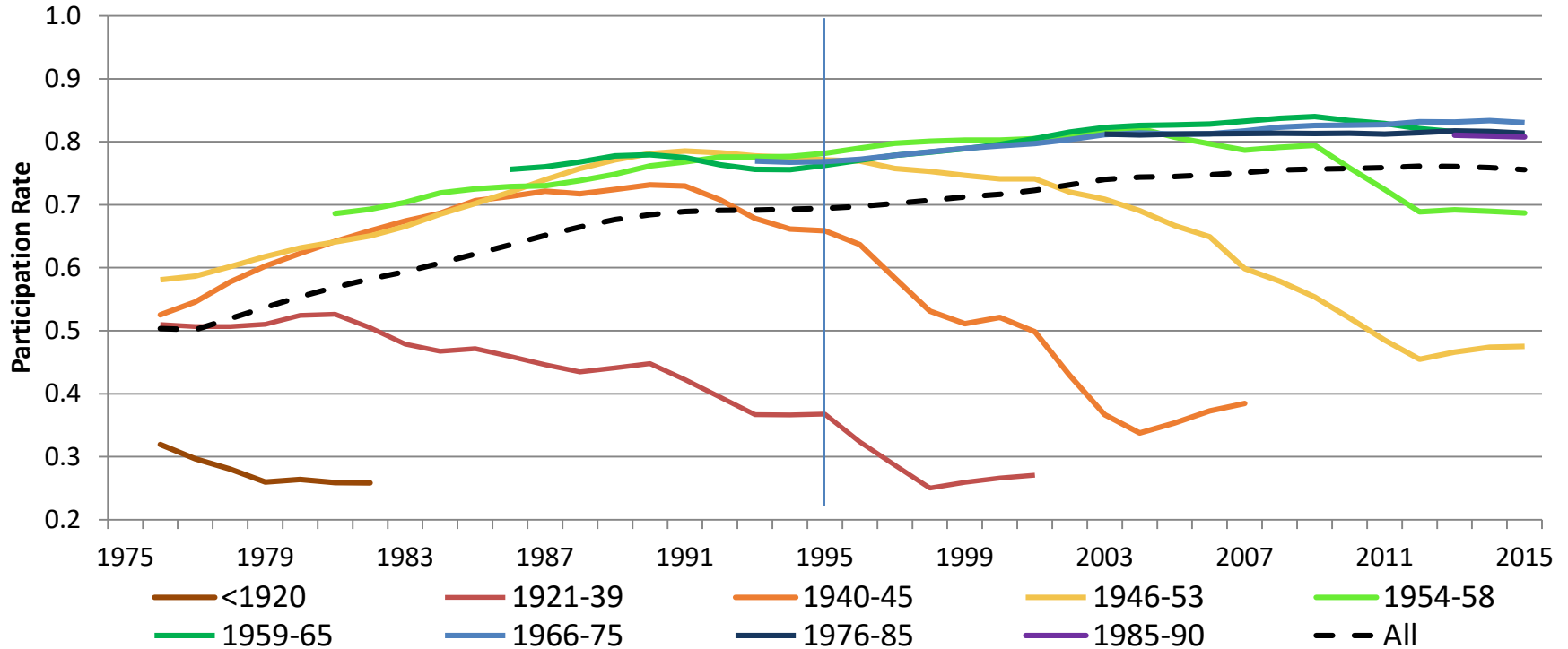
# The Women's Liberation Movement of the 1960s and The "Pill"

- Goldin and Katz (2002) and Bailey (2006) point out to important changes in women's LFP occurring in the 1960's

- Women born after the mid-1950s had access to reliable contraception and were able to pursue higher education without fear of interruption

- Married women, who before were more likely `secondary workers' after kids entered in school, now engaged in life-long careers

- Accompanied by a decline in traditional gender roles attitudes which stabilized in the mid-1990s in the U.S. (Fortin, 2015)

- Mulligan and Rubinstein (2013) argue that the closing of the gender pay gap is largely due to changing selection of women into the labour market

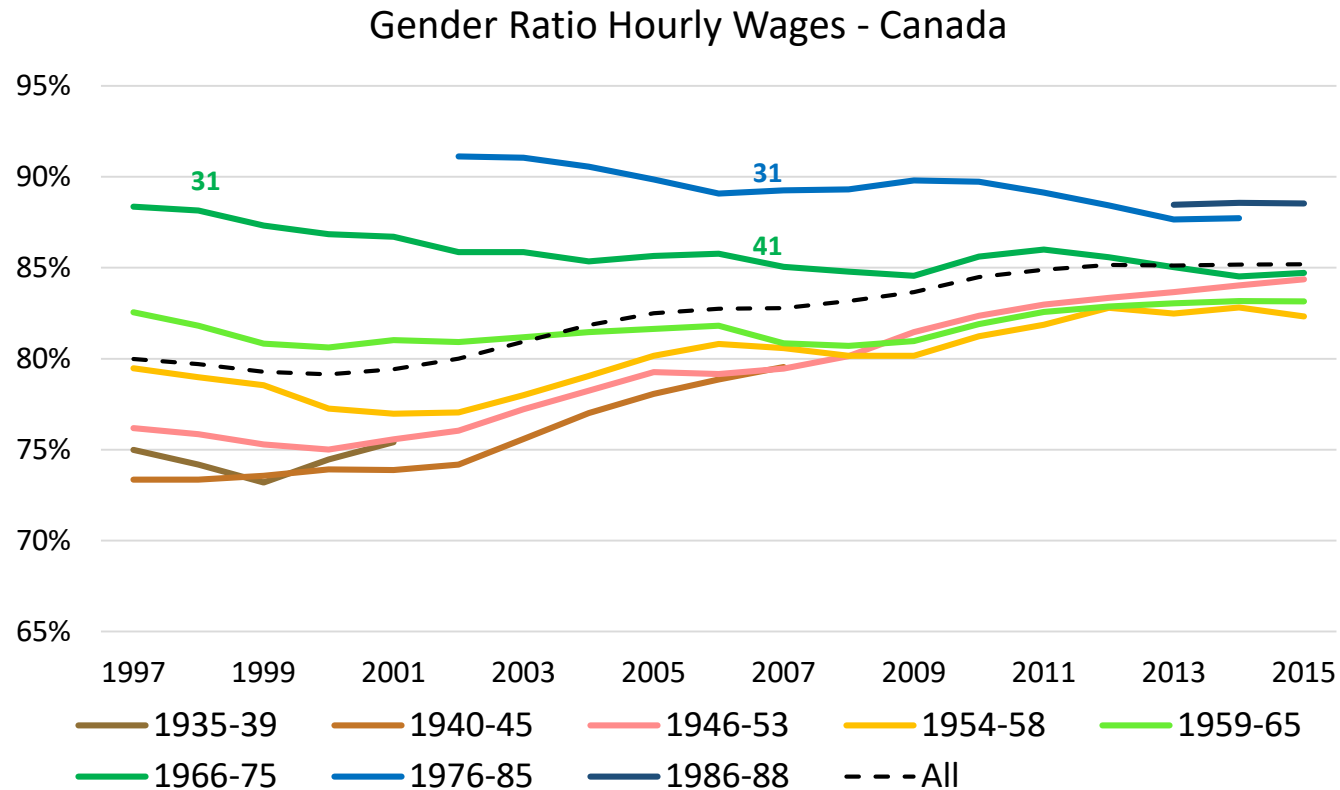# Generational Effects in the Growth of Women's LFP
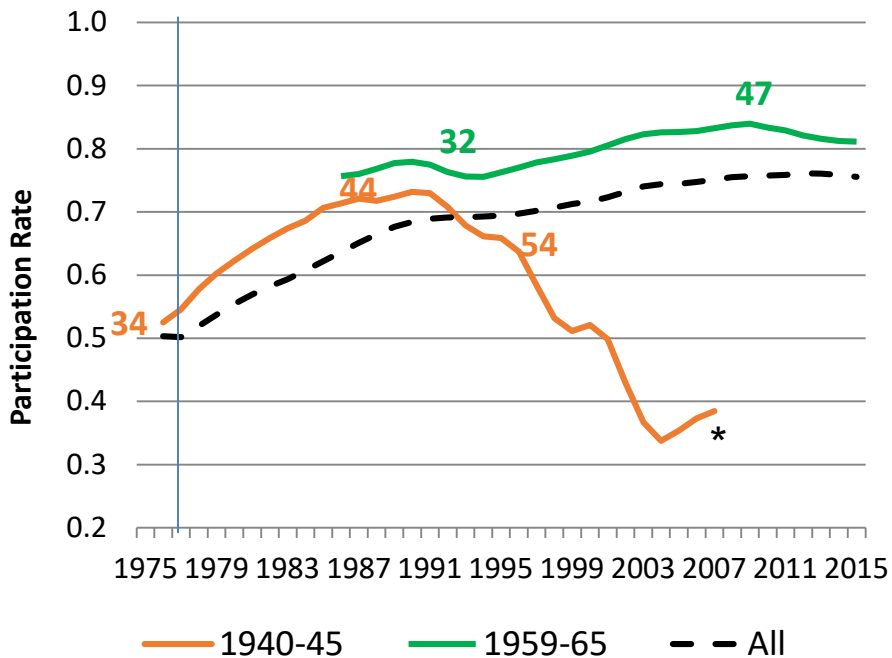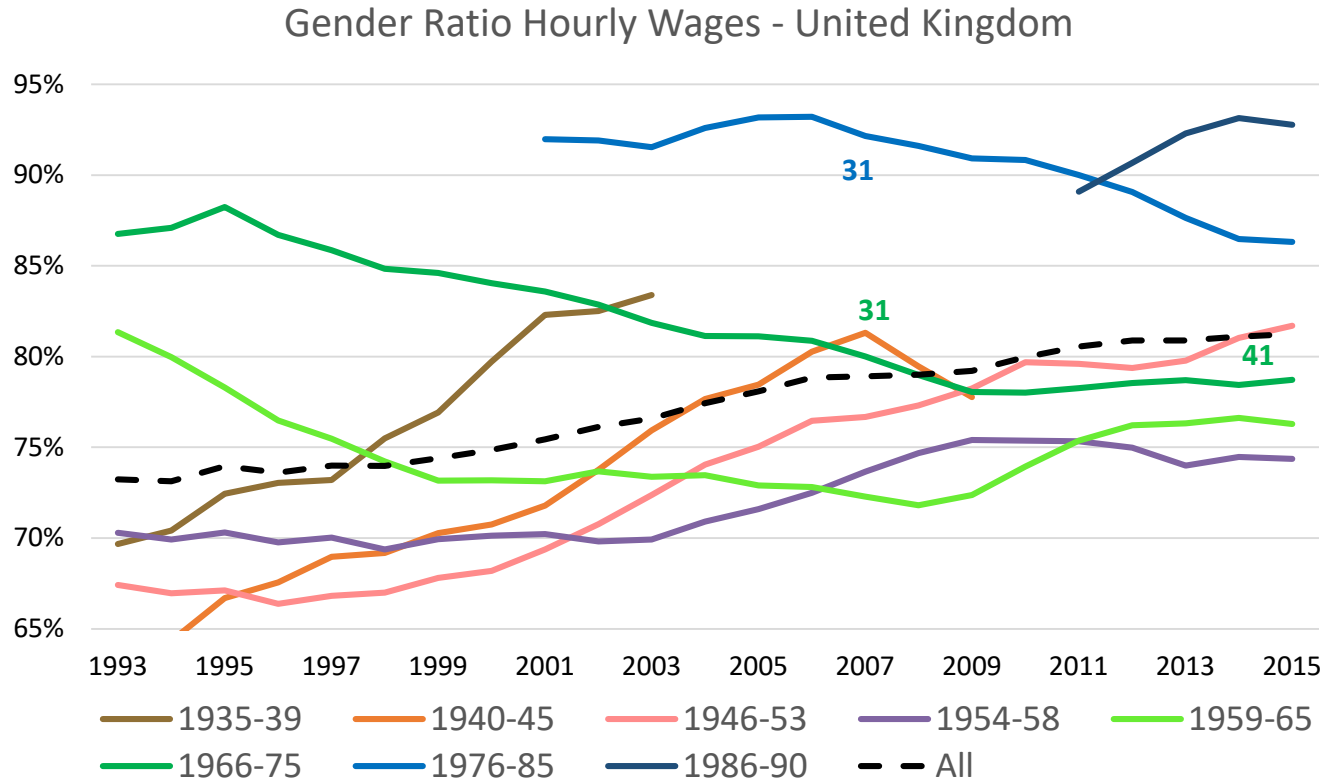

Canada

United Kingdom
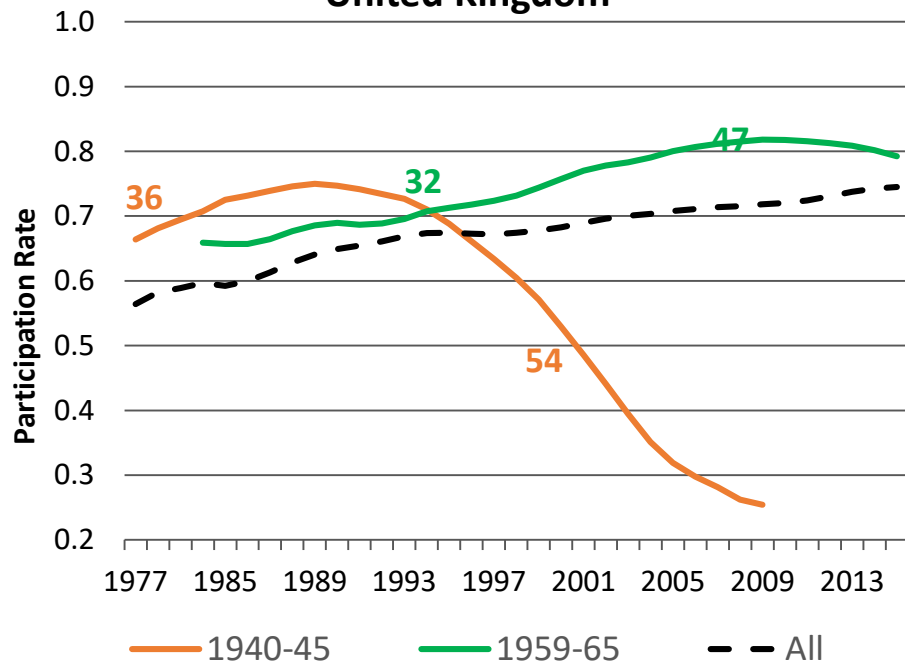
Source: Canadian and UK-LFS public use files, ages 25 to 64 year * Due to attrition in age groupings

Generational Effects in the Gender Ratio in Hourly Wages

Gender Ratio Hourly Wages - Canada

Generational Effects in the Gender Ratio in Hourly Wages

Gender Ratio Hourly Wages - United Kingdom

Legend: 1935-39, 1940-45, 1946-53, 1954-58, 1959-65, 1966-75, 1976-85, 1986-90, All

Different measures of the gender pay gap

- **"Hourly Wage" ratio** is the preferred measure to consider whether employers treat women fairly and should be used in statements

  "women earn 85 cents out (86 öre/82p) of every $1 (1kr/£1) men earn"

- **"Annual (Weekly) Earnings of Full-Time Workers" ratio**

  ≈ **70%** in Canada and ≈ **64%*** in the UK

- Because many women working full-time full-year work less hours a week than men mixes the number of hours worked with hourly pay

- But for the very top income groups, the "All Annual Earnings" measure is the only one available (from tax data)

- **"Annual Earnings" ratio** ≈ **65%** in Canada, ≈ **74%** in Sweden, and **62%*** in the UK

- It gives a better idea of costs of women's lower labour supply or impact of bonuses

Source: Sweden: Eurostat (2015); *UK: Dias, Elming and Joyce (2016)

Generational Effects in the Gender Pay Gap

Gender Annual Earnings Ratio by Birth Cohorts - Canada

Legend: 1935-39, 1940-45, 1946-53, 1954-58, 1959-65, 1966-75, 1976-85, 1985-88, All
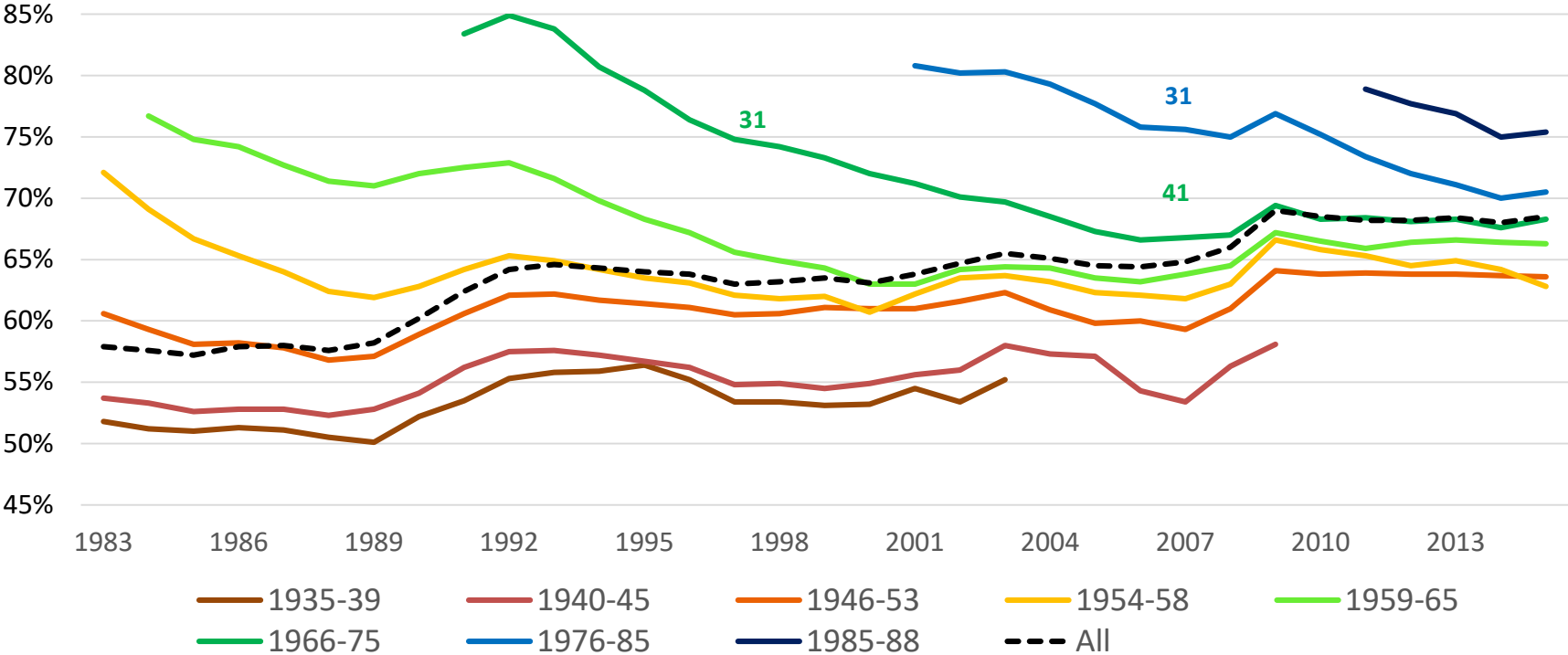
Standard Decomposition of the Gender Pay Gap

- The Oaxaca -Blinder decomposition starts with gender-specific OLS regressions of individual characteristics on (log) wages:

$$Y_g = X_g' \beta_g + \varepsilon_g, \text{g} = \text{m}, \text{f}$$

- Constructs a counterfactual wage such as "what would be the average wage of women if they had the same characteristics as men"

$$\overline{Y_f^m} = \overline{X_m'} \beta_f = quantities_m \times price_f$$

- Divides the average gender pay gap into "explained" and "unexplained" part

$$\bar{Y}_m - \bar{Y}_f = (\overline{Y_f^m} - \bar{Y}_f) + (\bar{Y}_m - \overline{Y_f^m}) = \underbrace{(\overline{X_m'} - \overline{X_f'})\beta_f}_{\text{explained}} + \underbrace{\overline{X_m'}(\beta_m - \beta_f)}_{\text{unexplained}}$$

Continued Gender Convergence?

- According to the Mincer-Polachek hypothesis (1974), gender differences in labor market experience are the key determinants of the gender wage gap.

- Blau and Kahn (2016) found that declining gender differences in actual labor market experience in the United States accounted for 18-31 % of wage convergence between men and women over the 1980-2000 period.

- But as a share of the gender gap in both years, the unexplained portion has actually increased from 71% in 1980 to 85% in 2010.

- For Canada, Baker and Drolet (2010) also report some progress in the unexplained gap from 0.163 log points in 1981 to 0.141 log points in 2008.

- But this represents an increase, from 1981 (61%) to 2008 (85%), in the share of gap that is unexplained by education, occupation and industry.

Gender Gap in Top Incomes

- Follow Guvenen, Kaplan, and Song (2014) in using the thresholds of the wage and earnings distribution for men and women combined

- Depart from the traditional literature on the glass ceiling which compares the pay gap at percentiles of the gender-specific distributions

- Depart from most of the literature which uses the logarithm of wages or earnings in order to emphasize the top end

- Allow for the computation of an accounting identity to partition the gender pay gap by income groups

- Allow for the construction of counterfactuals to study the under-representation of women in top income groups
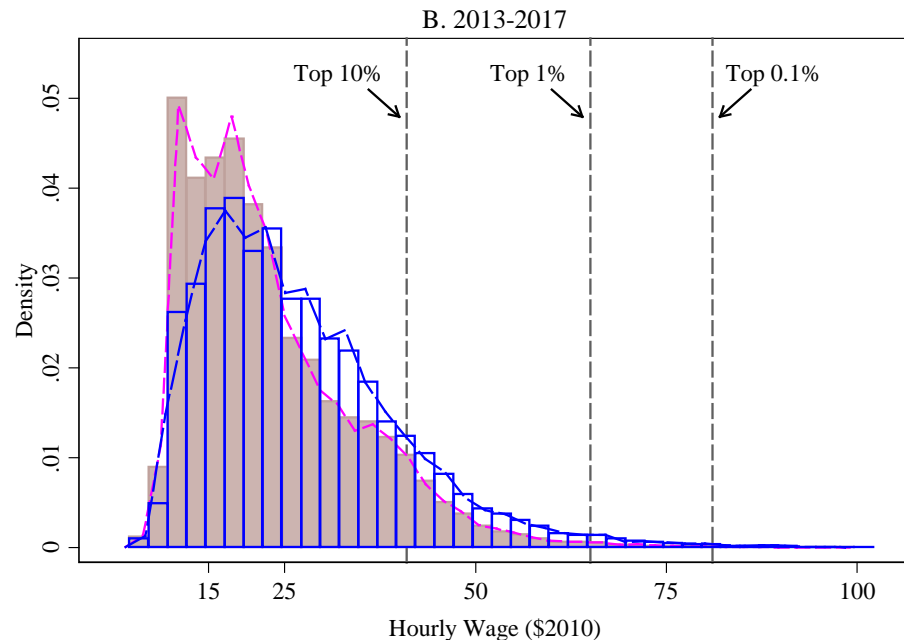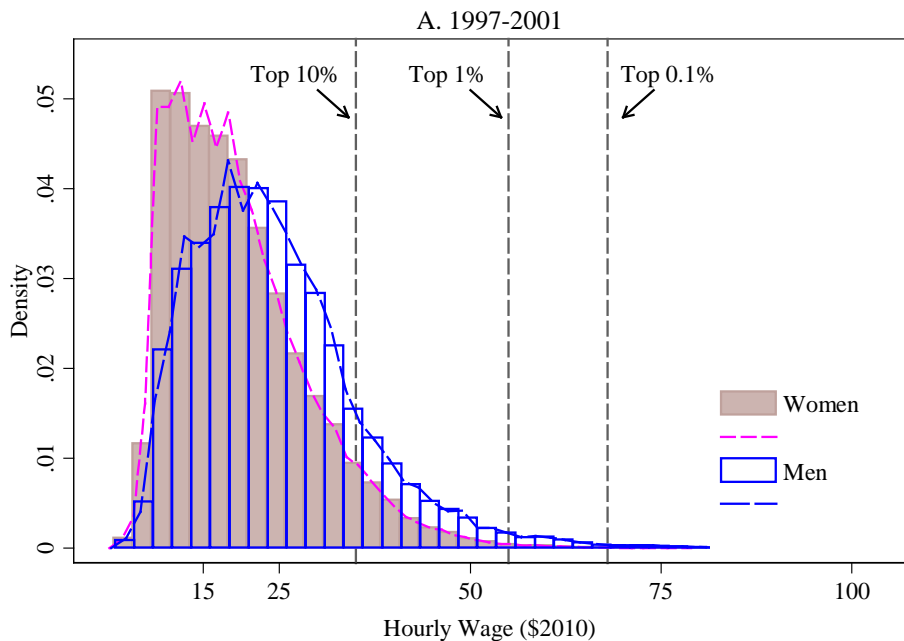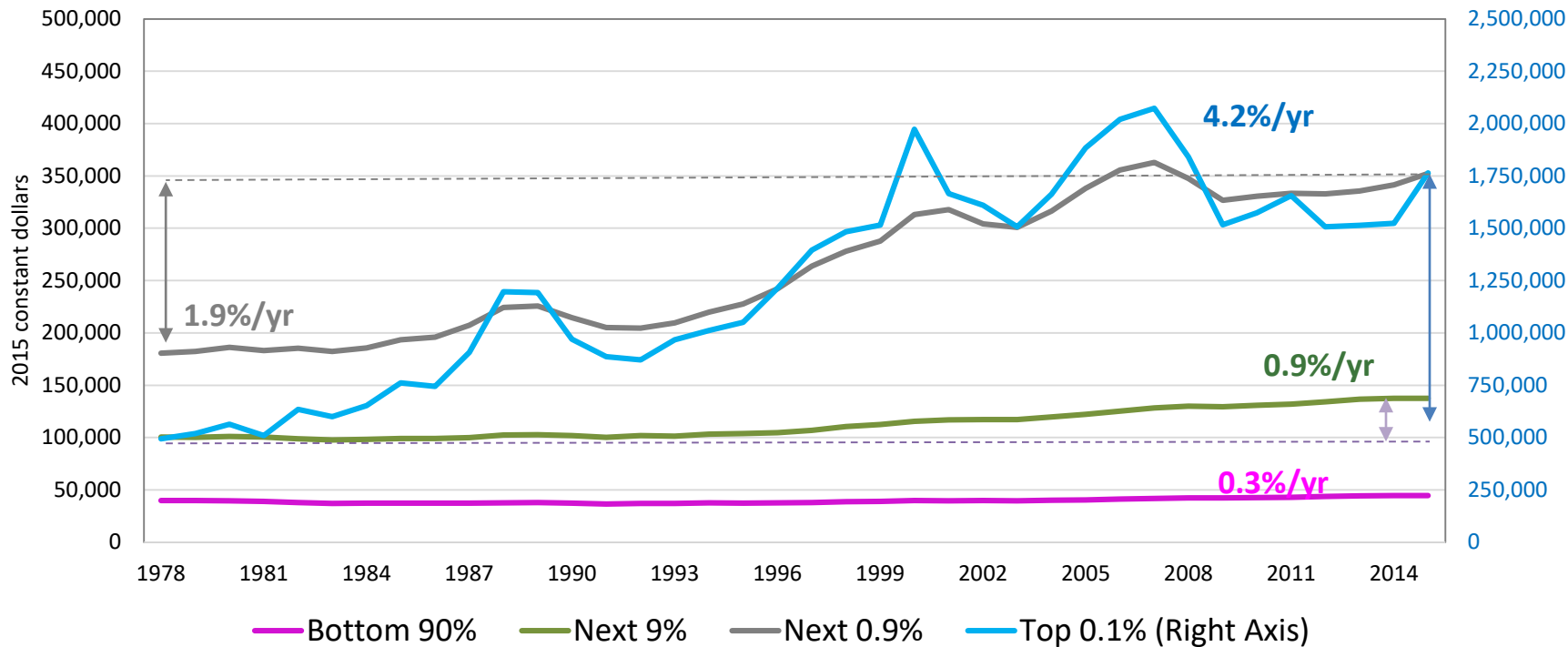
Source: Fortin (2017), LFS 1997-2017, 25-64 years old, Hourly wage from the main job

Larger Increases for Top Earners in Canada

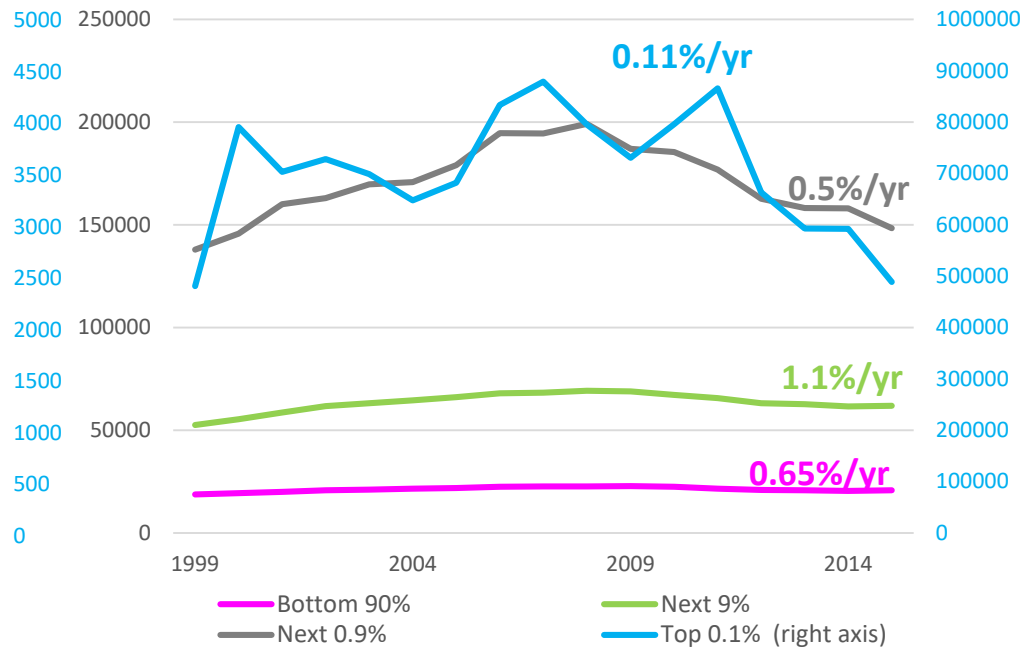**Canadian Average Real Annual Earnings ($CAN 2015)**

Legend: Bottom 90% — Next 9% — Next 0.9% — Top 0.1% (Right Axis)

Annotations: 1.9%/yr, 4.2%/yr, 0.9%/yr, 0.3%/yr

Higher Growth in the Bottom in Sweden
Slower Growth at the Top in the UK

Swedish Annual Average Earnings (SEK 2010)

3.1%/yr

5.8%/yr

2.3%/yr
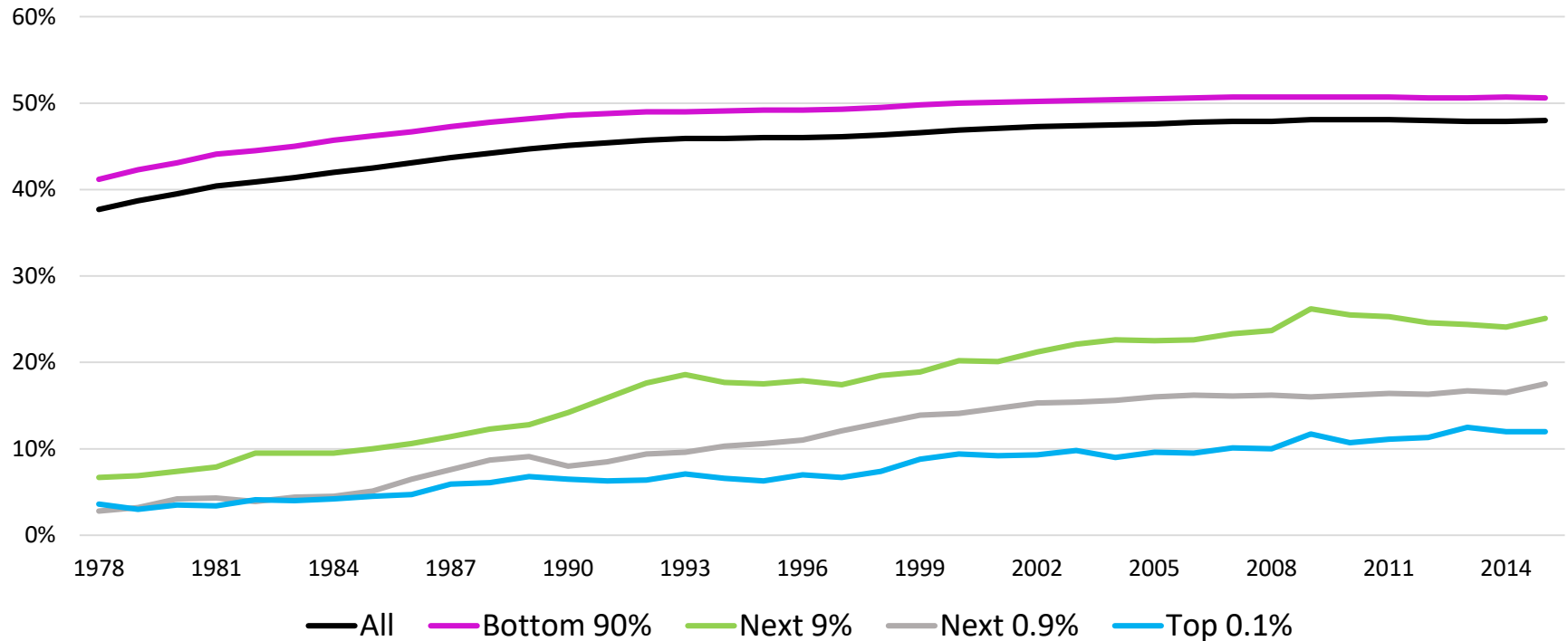
1.8%/yr

- Bottom 90%
- Next 9%
- Next 0.9%
- Top 0.1% (right axis)
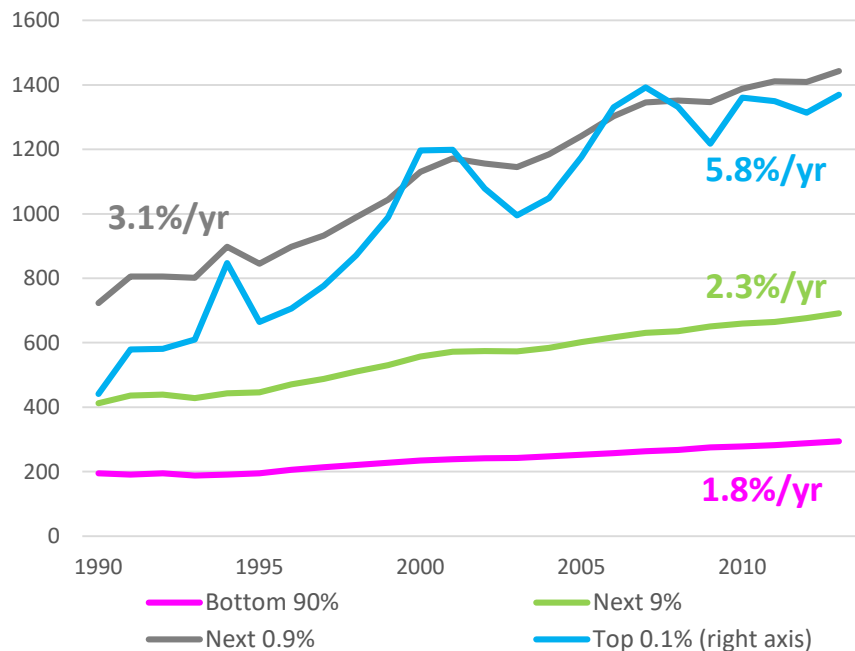
United Kingdom – Average Annual Earnings (£2010)

0.11%/yr

0.5%/yr

1.1%/yr

0.65%/yr

- Bottom 90%
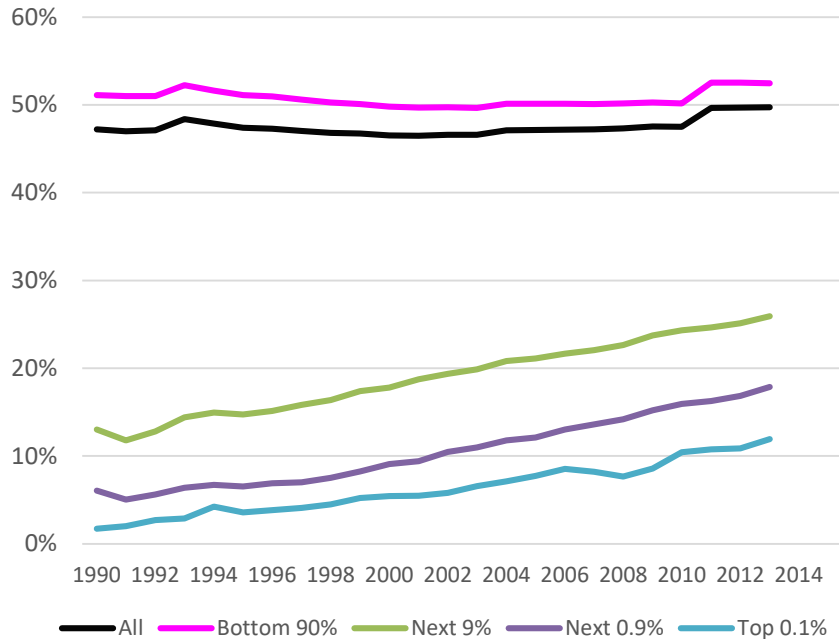- Next 9%
- Next 0.9%
- Top 0.1% (right axis)

Source: Fortin, Bell, and Boehm (2017)

Slow Convergence in Share of Women among Top Earners in Canada

Percentage of Women in Earnings Groups -Canada

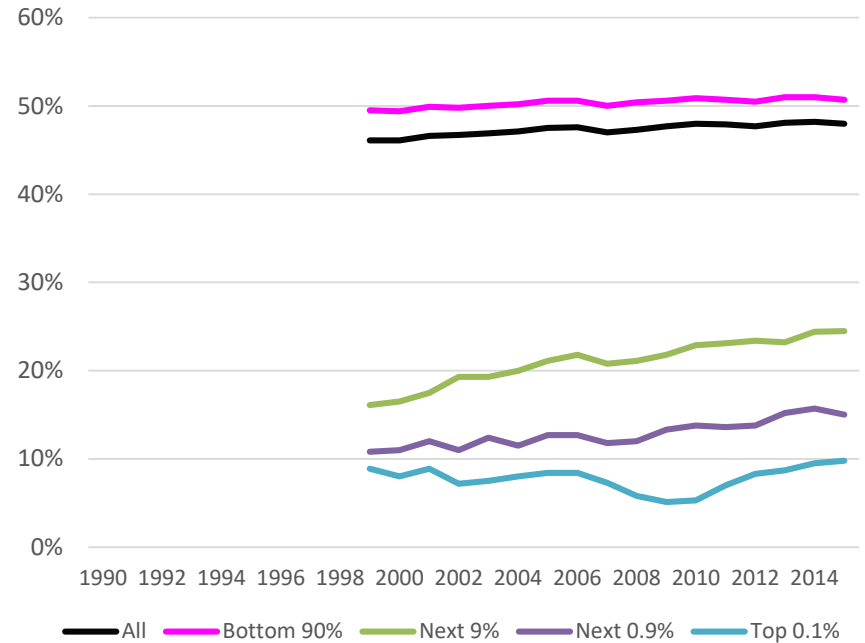Legend: All, Bottom 90%, Next 9%, Next 0.9%, Top 0.1%

Similar Trends in Female Shares in Sweden and the UK

Percentage of Women in Earnings Groups - Sweden

Percentage of Women in Earnings Groups – United Kingdom

Legend: All, Bottom 90%, Next 9%, Next 0.9%, Top 0.1%
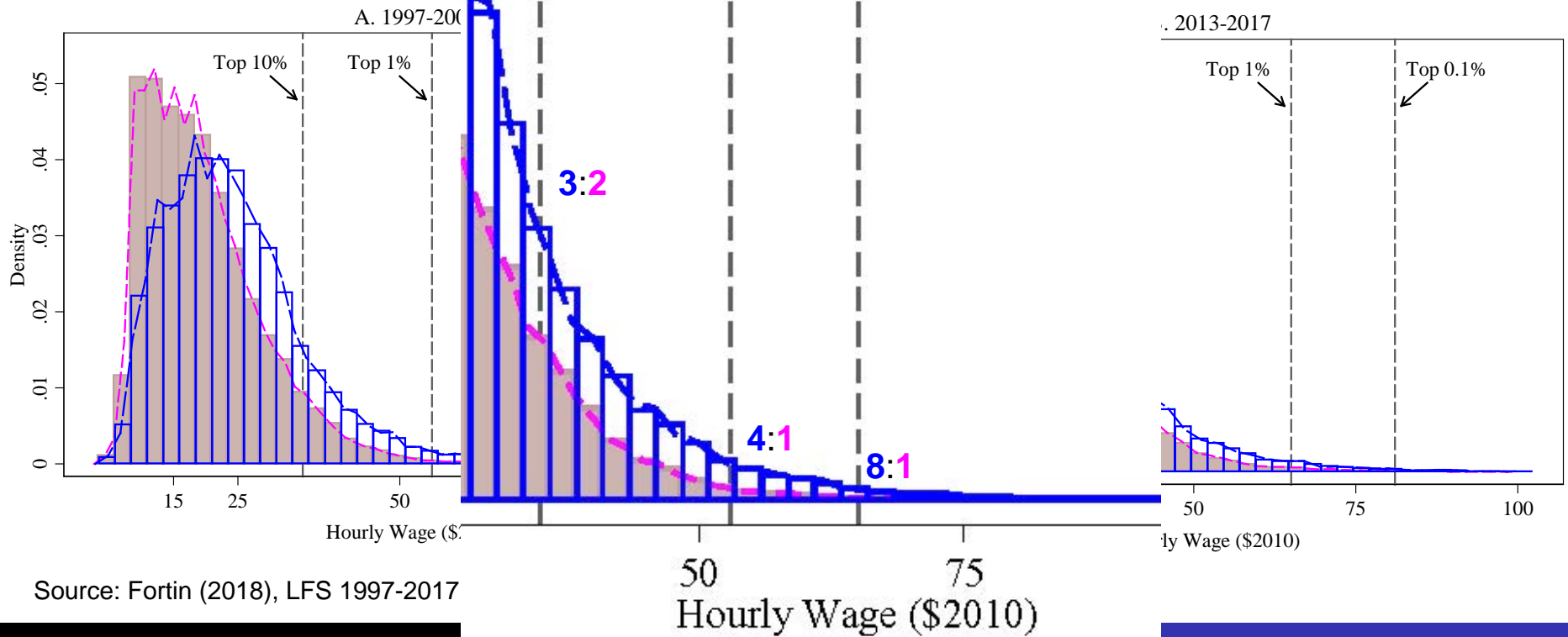
Source: Fortin (2018), LFS 1997-2017

Overall gender pay ratio less favorable than in bottom 90%

Female-Male Annual Earnings Ratios within Earnings Groups - Canada

Legend: All, Bottom 90%, Next 9%, Next 0.9%, Top 0.1% (3-yr MA)
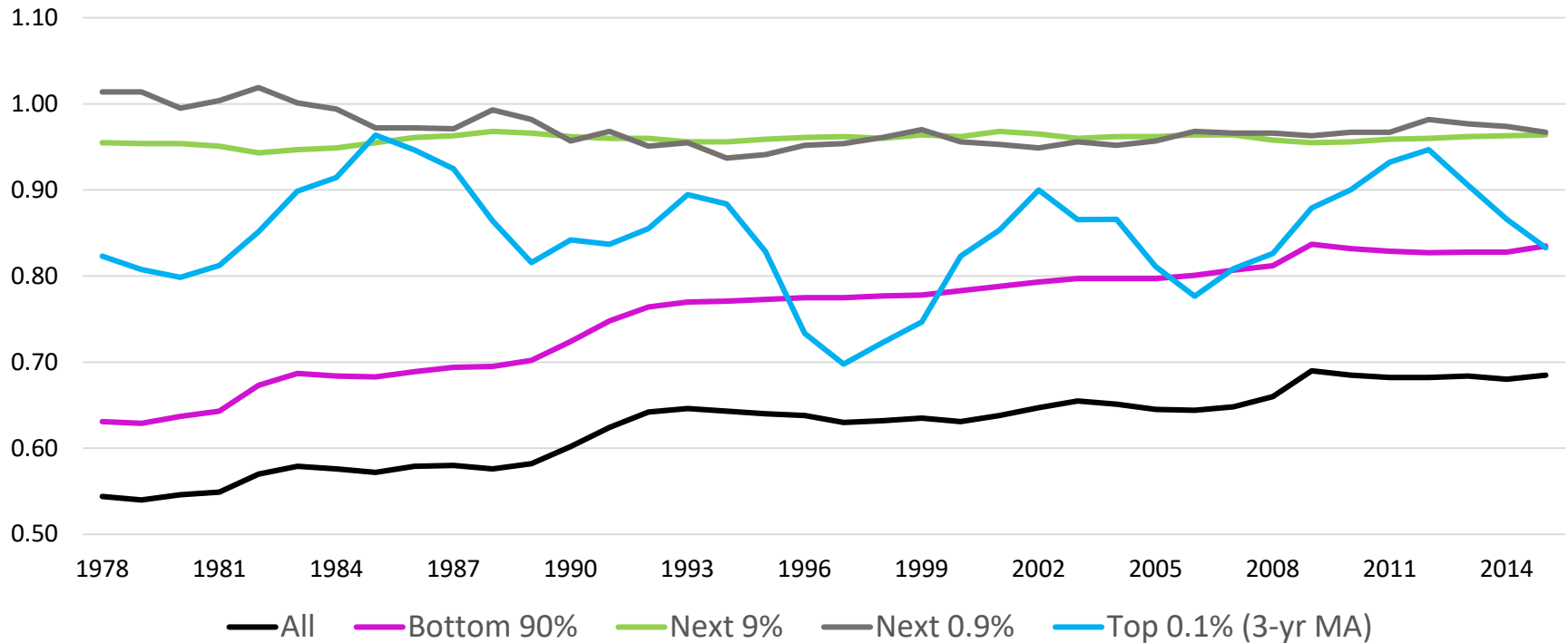
Similar Differences in Ratios in Sweden and the UK
No Upward Trend in Gender Earnings Ratio in Top 0.1%

Female-Male Earnings Ratios - Sweden

Female-Male Earnings Ratios - United Kingdom

Legend: All — Bottom 90% — Next 9% — Next 0.9% — Top 0.1%

Source: Fortin, Bell, and Boehm (2017)), workers ages 25 to 64, LISA data for Sweden, ASHE data for the UK.

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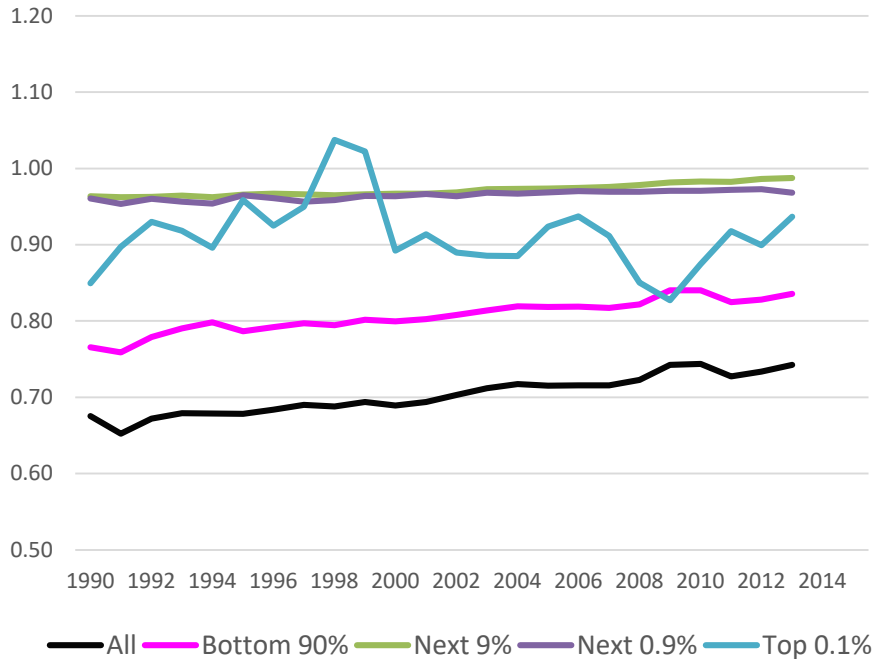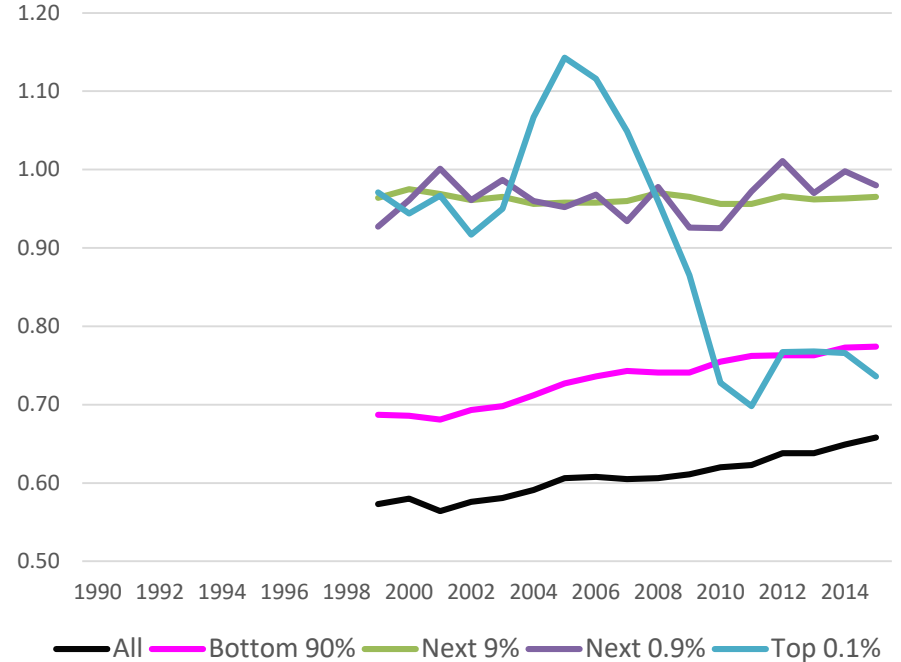
Under-representation of women in top jobs makes for a less favorable overall gender wage ratio

Female-Male Average Hourly Wages Ratios - Canada

Legend: All · Bottom 90% · Next 9% · Next 0.9% · Top 0.1% · Median
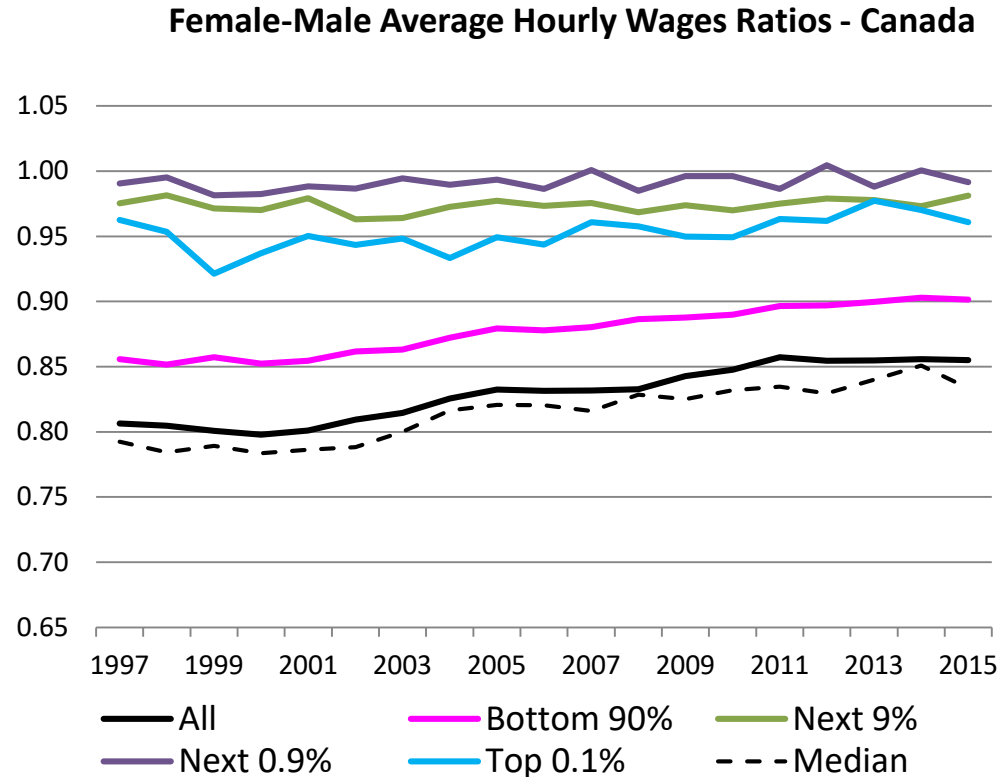
Accounting Identity

- Letting $S_{gj} = N_{gj}/N_g$ is the distributional share of group $g = f, m$ in each partition $j = 1, \ldots 4$ of the distribution of men and women combined

- we can write $\bar{Y}_g = \sum_i S_{gj}\bar{Y}_{gj}$, substituting in the gender pay gap

$$\bar{Y}_m - \bar{Y}_f = \sum_i S_{mj}\bar{Y}_{mj} - \sum_i S_{fj}\bar{Y}_{fj} = \sum_{j=1}^{4}(S_{mj}\overline{Y_{mj}} - S_{fj}\overline{Y_{fj}})$$

- and compute the portion of the pay gap attributable to each partition

$$\Delta_j = (S_{mj}\overline{Y_{gj}} - S_{fj}\overline{Y_{fj}})/(\bar{Y}_m - \bar{Y}_f), j = 1, \ldots 4,$$

Table 1 - Accounting Identity using Centile Groupings

Using the Canadian LFS, in 1997-2001, 73% of the average gender wage gap came from the top 10%

In 2013-17, that percentage had increased to 79%

A: 1997-2001	Men Proportion	Men Average Wage	Women Proportion	Women Average Wage	Contribution to the Gender Pay Gap		Gender Ratio
Bottom 90%	0.8641	21.14	0.9387	18.06	1.31	27%	0.854
Next 9%	0.1191	41.97	0.0583	40.89	2.61	54%	0.974
Next 0.9%	0.0134	60.00	0.0028	59.16	0.64	13%	0.986
Top 0.1%	0.0033	75.39	0.0002	70.33	0.24	5%	0.933
Total	1.0000	24.32	1.0000	19.51	4.81	100%	0.802
B: 2013-2017							
Bottom 90%	0.8710	23.14	0.9264	20.87	0.82	21%	0.902
Next 9%	0.1139	48.81	0.0687	47.68	2.28	59%	0.977
Next 0.9%	0.0119	70.93	0.0042	70.46	0.55	14%	0.993
Top 0.1%	0.0032	88.23	0.0007	85.45	0.23	6%	0.969
Total	1.0000	26.85	1.0000	22.96	3.88	100%	0.855

Note: Average wages in $2010. The contribution to the gender pay gap is computed as the difference between the product of col. 1 times col.2 minus the product of col. 3 times col. 4.

Table 1 - Accounting Identity using Centile Groupings

Even larger contribution of top 10% of earners in the LWF

Goes from 81% in 2000 to 86% in 2015

A: 2000	Men		Women		Contribution to the Gender Pay Gap		Gender Ratio
	Proportion	Average Annual Earnings	Proportion	Average Annual Earnings			
Bottom 90%	0.8483	44,500	0.9584	34,800	4,400	19%	0.783
Next 9%	0.1354	116,400	0.0387	111,900	11,400	50%	0.962
Next 0.9%	0.0146	315,100	0.0027	301,300	3,800	17%	0.956
Top 0.1%	0.0017	2,012,400	0.0002	1,587,000	3,100	14%	0.789
Total	1.0000	61,600	1.0000	38,900	22,700	100%	0.631
B: 2015							
Bottom 90%	0.8543	48,600	0.9494	40,600	3,000	14%	0.835
Next 9%	0.1297	138,600	0.0470	133,700	11,700	55%	0.964
Next 0.9%	0.0143	354,200	0.0033	342,700	3,900	18%	0.967
Top 0.1%	0.0017	1,809,300	0.0003	1,433,900	2,700	13%	0.793
Total	1.0000	67,700	1.0000	46,400	21,300	100%	0.685

Note: Average annual earnings in $2015. Rounded to the next one hundred.The contribution to the gender pay gap is computed as the difference between the product of col. 1 times col.2 minus the product of col. 3 times col. 4.

Counterfactual Gender Pay Gaps and Reweighting

- Kline (2011) shows that the counterfactual (letting $D_i = 1$ denote male), can be computed reweighting *à la* DFL

$$\mu_0^1 = E[X_i|D_i = 1]'\beta^0 = E[w(X_i)Y_i|D_i = 0] \text{ where } w(X_i) \equiv \frac{P(X_i|D_i=1)}{P(X_i|D_i=0)}$$
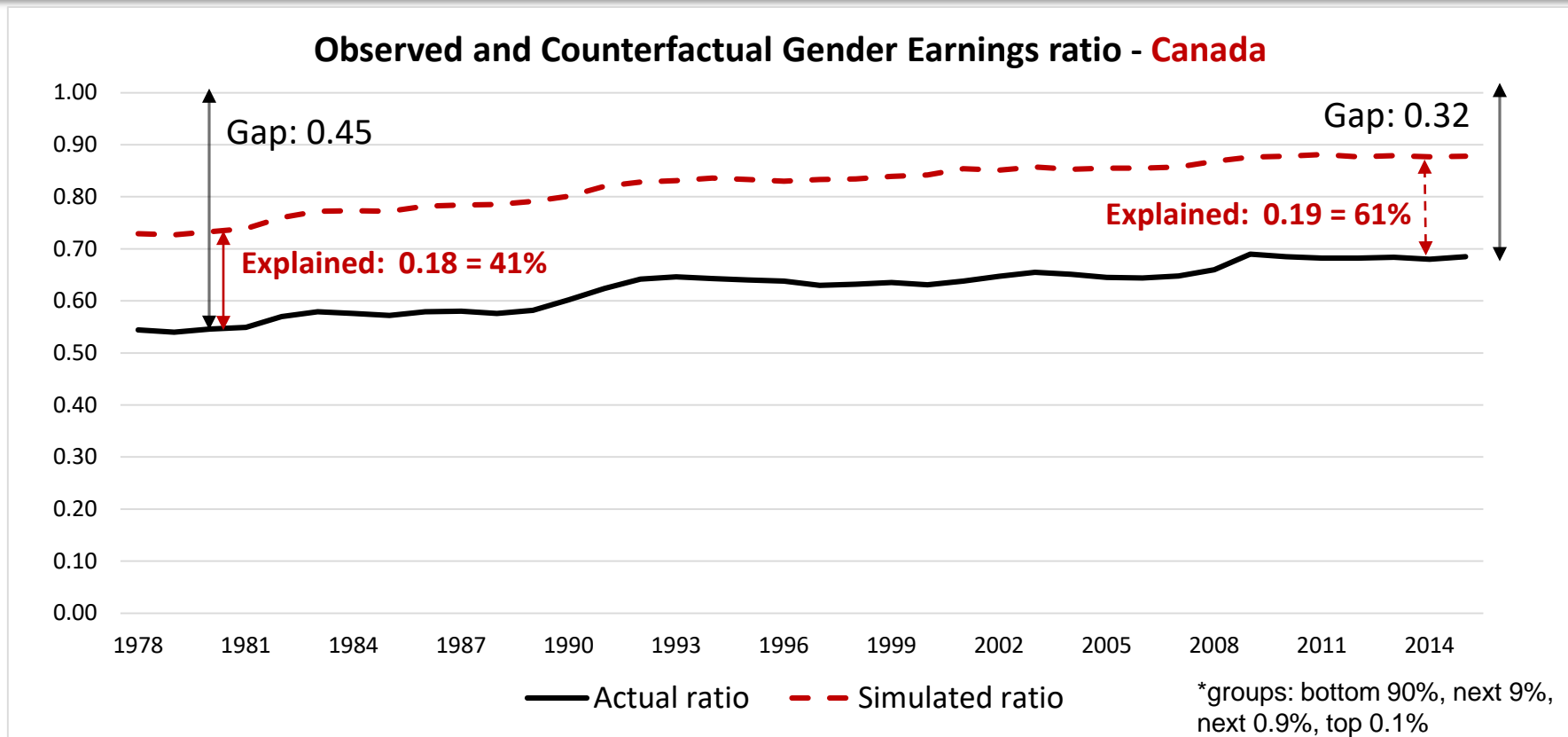
- With the sample analogue $w(X_{ij}) = \frac{N_0}{N_1} * \frac{N_{1j}}{N_{0j}} = \frac{S_{1j}}{S_{0j}}$

  where S_{1j} is the distributional share of group 1 in category j

- With conditional means, the overall mean is $\overline{Y_0} = \sum_i S_{0j} \overline{Y_{0j}}$, so that
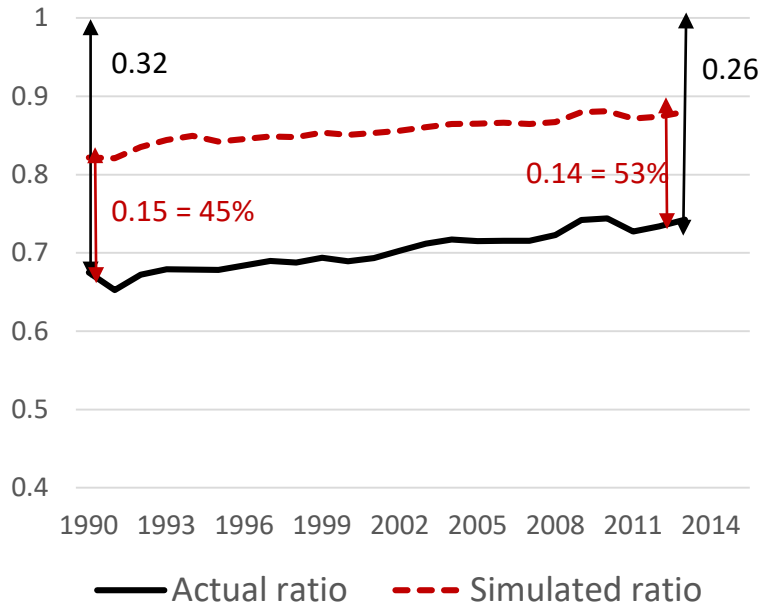
$$\overline{Y_o^1} = \sum_j S_{1j} \sum_i \frac{S_{0j}}{S_{0j}} \overline{Y_{0j}} = \sum_j S_{1j} \sum_i \overline{Y_{0j}}$$

If the shares of women in earnings groups* were the same as men's, the gap in annual earnings would be almost 20 point lower
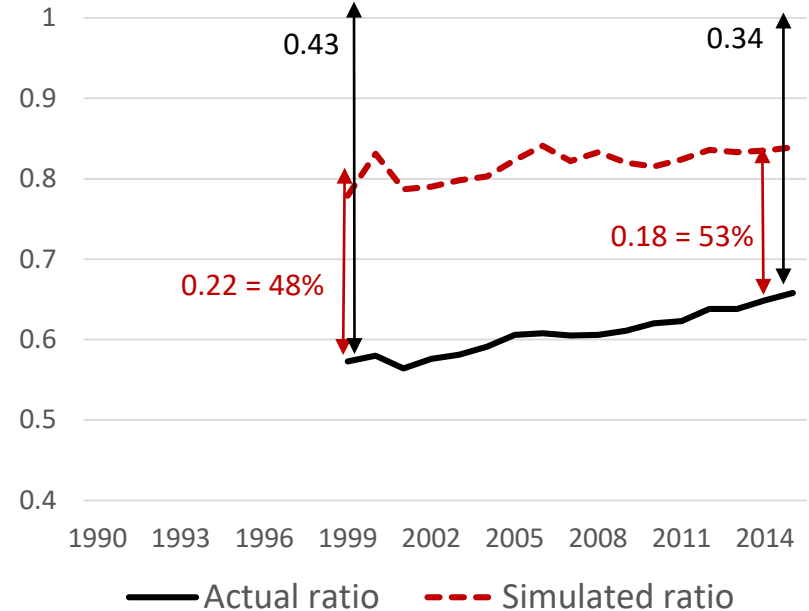
Observed and Counterfactual Gender Earnings ratio - Canada

Gap: 0.45

Gap: 0.32

Explained: 0.18 = 41%

Explained: 0.19 = 61%

—— Actual ratio   – – Simulated ratio

*groups: bottom 90%, next 9%, next 0.9%, top 0.1%

If the shares of women in earnings groups were the same as men's, the gap would be 50% lower

Gender Annual Earnings Ratios - Sweden

0.32
0.26
0.15 = 45%
0.14 = 53%

— Actual ratio --- Simulated ratio

Gender Annual Earnings Ratios – United Kingdom

0.43
0.34
0.22 = 48%
0.18 = 53%

— Actual ratio --- Simulated ratio

If the shares of women in wage groups were the same as men's, the gap would be 6-9 points lower

Observed and Counterfactual Hourly Wage Gender Ratio - Canada

0.19

0.15

0.08 = 41%

0.07 = 45%

—— Actual Ratio   – – – Simulated Ratio

*wage groups: bottom 90%, next 9%, next 0.9%, top 0.1%
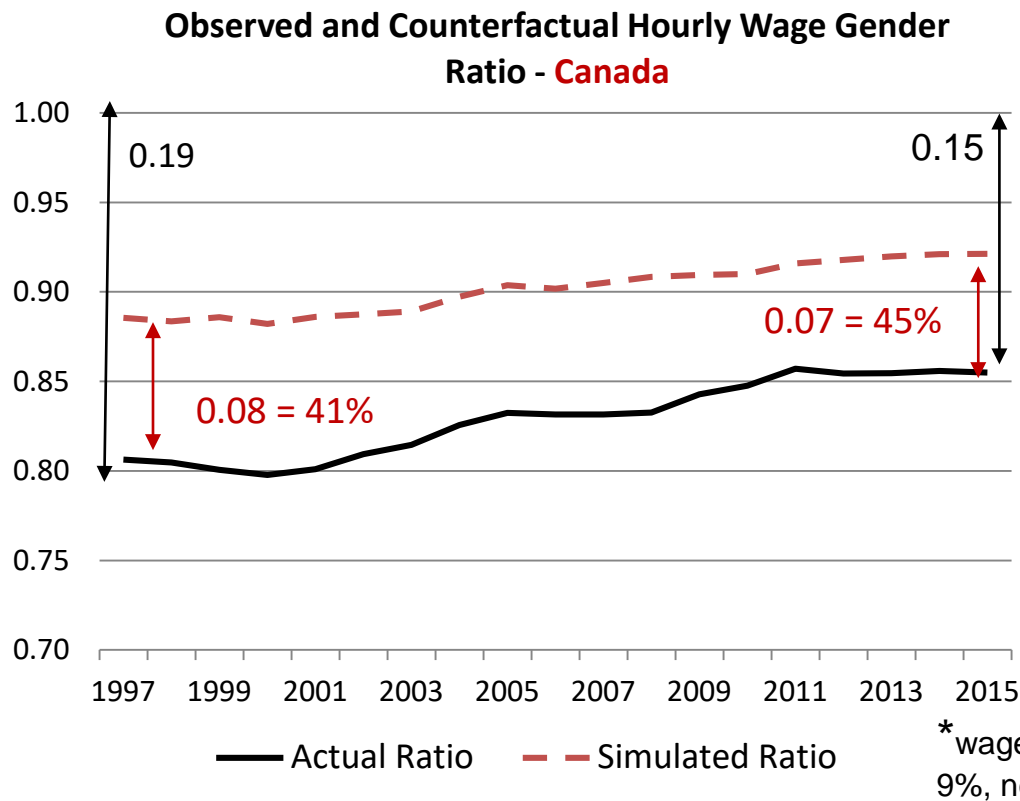
Against traditional factors in O-B decomposition, centile groupings remain dominant and growing over time
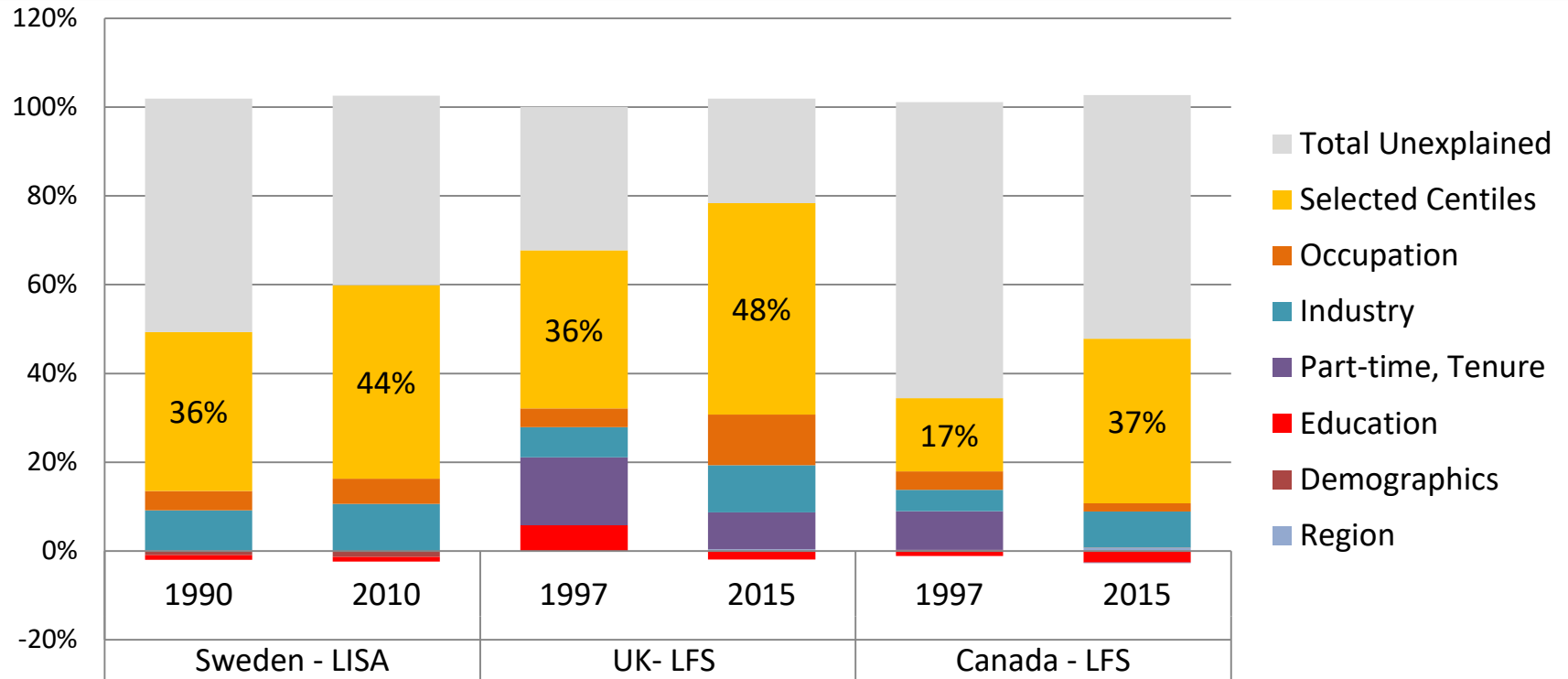
Note: Entries are male/female differences in the explanatory variables multiplied by the corresponding female coefficients as a share of the gender pay gap.

Impact of Under-Representation in Top Jobs

- Overall in Canada, Sweden, and the UK, the under-representation of women in top jobs accounts for a predominant and growing share of the gender pay gap.

  - Even against industry and tenure, it is the most significantly explanatory factor

- With increasing earnings inequality in top incomes, further improvements in vertical segregation, "relatively more women in top jobs" will be likely be even more important for further decline in the gender pay gap in the 21st century

- But unlike in the 20th century (Fortin and Huberman, 2002), further educational attainment alone will not yield those changes!

Higher Representation of Women in Tops Jobs!
What to Do? Women's Quotas for Corporate Boards?
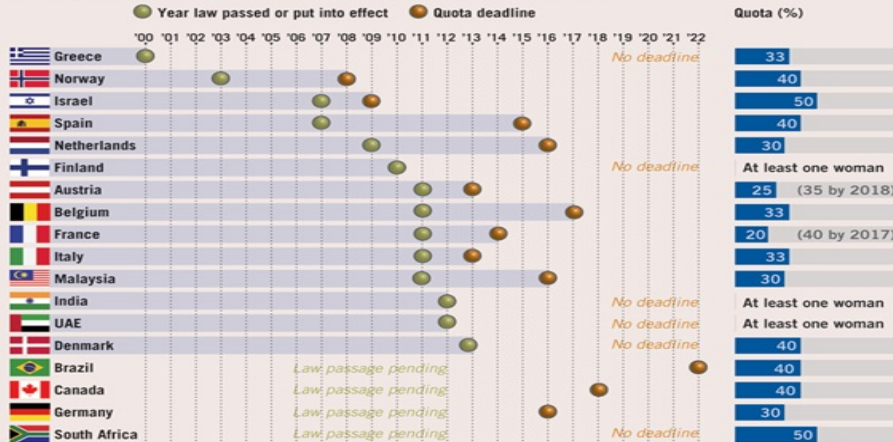
Source: Dizik, 2015

Source: Fortin, Bell, and Boehm (2017)

Higher Representation of Women in Tops Jobs! What to Do?

- Short of calling for gender quotas, the Canadian Securities Administrators of seven provinces and territories (CSA, 2015) implemented "comply-or-explain" female representation rules on January 1, 2015 (Shecter, 2014; McFarland, 2015).

- These rules require companies listed on their stock exchanges to disclose how many women they have on their boards and in their executive ranks.

- But many companies have shown bare `technical compliance' with the reporting rules introduced last year and it is "simply not good enough," says Howard Wetston, the Ontario Securities Commission chair.

Higher Representation of Women in Tops Jobs
Do Quotas/Disclosure Rules Help?

- Yes, for Women on Boards

- but no evidence of trickle down in country-fixed effects models

Dependent Variable:	Women on Boards		Women in Senior Management	
Mean	11.14	12.12	29.73	29.86
Explanatory Variables				
Quotas	5.219 (1.172)	5.478 (1.245)	0.147 (1.045)	0.828 (0.943)
Disclosure Rules	2.151 (0.952)	2.308 (1.092)	-1.124 (0.687)	-1.052 (0.685)
Relative Female Employment Rate	50.66 (20.38)	53.77 (21.23)	-6.868 (37.81)	-12.41 (37.79)
Log GDP per capita (PPP)	2.57 (4.264)	5.644 (6.690)	-0.620 (3.614)	-0.250 (3.199)
R-square	0.27	0.36	0.13	0.29
No. of observations	224	173	213	195
OECD only	No	Yes	No	Yes
No.of countries	40	29	27	23

Note: Dependent variables are the share of women on corporate boards from BoardEx data (European PWN, 2008) from 2006 to 2009, from GMI data (Gladman and Lamb, 2013) from 2009 to 2014, and the share of women in senior management from ILO (2014). The data on the relative female employment rate, computed as the ratio of female employment rate to the total employment rate, is from the World Bank. Estimates from country fixed-effects models with robust standard errors clustered at the country level.   * $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

What about Gender Pay Policies?

- Gender pay differentials "within" occupation within firm
- ➢ **"Equal Pay for Equal Work"**
- In Canada and U.S. complained based system
- Gender pay differentials across "comparable" female-dominated occupations and male-dominated, resulting from horizontal segregation, are the focus of
- ➢ **"Pay Equity"** policies, implemented in the private sector of Canada's two most populous provinces: Ontario (1993-94) and Quebec (2001)
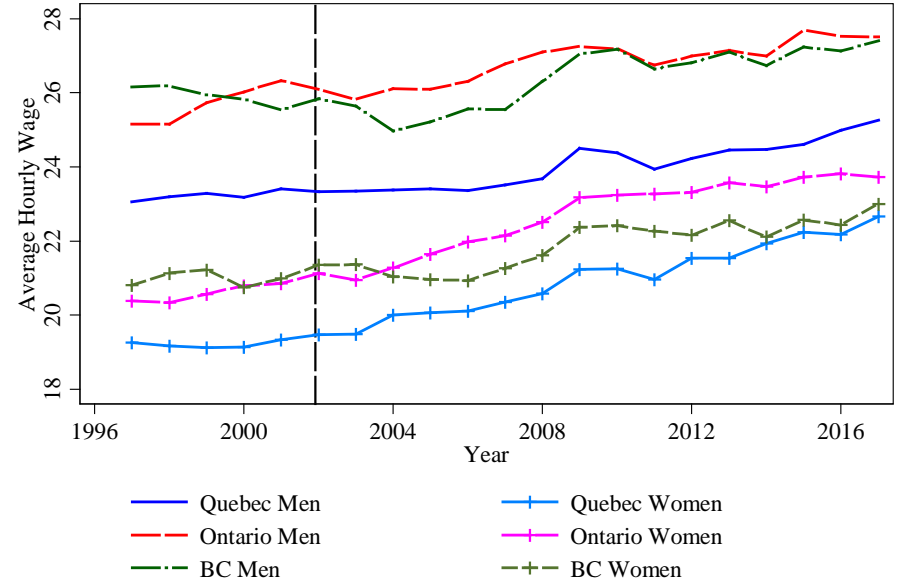
Quebec's Gender Equality Policies

- $5(7)/day childcare: implemented in 1996, its reached full-fledged capacity in 2006 (Haeck, Lefebvre, and Merrigan, 2015)

- Pay Equity Policy in the private sector: ratified in 1996, but first awards began in 2001

- Quebec Parental Insurance Plan (QPIP) introduced in 2006

  - 18 weeks maternity leave.

  - 5 weeks paternity leave (five weeks of paid leave for the father to use or lose)

  - 32 weeks parental leaves to be shared by the parents

  - (i.e. mom can cumulated as much as 50 weeks)

Trends in Gender Ratios: Quebec vs. Other Provinces

A. Female/Male Average Hourly Wages Ratio
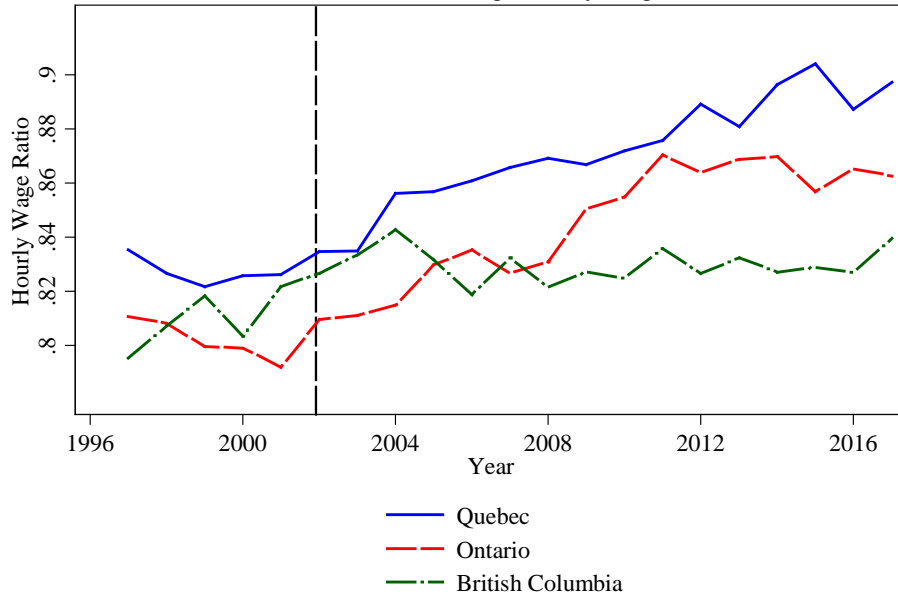
B. Average Hourly Wages by Gender

Impact of Quebec's Gender Equality Policies on Log Hourly Wages
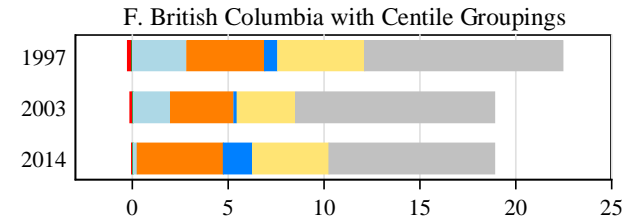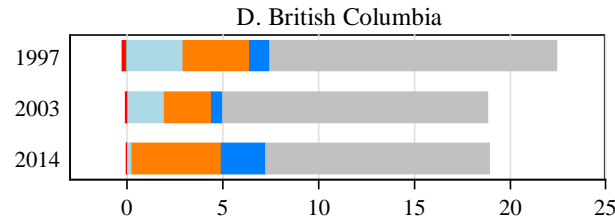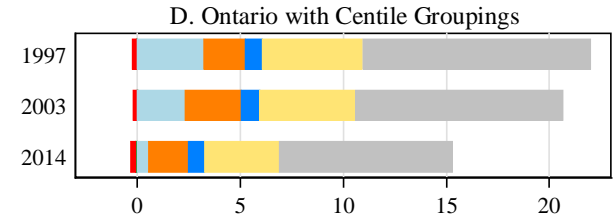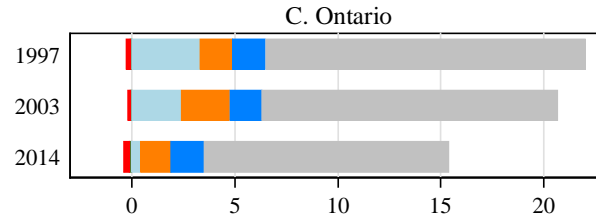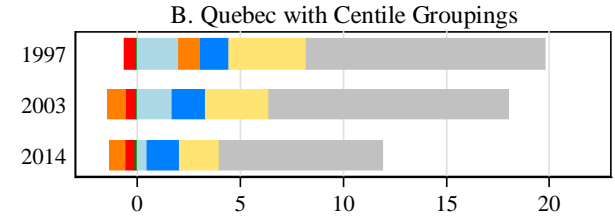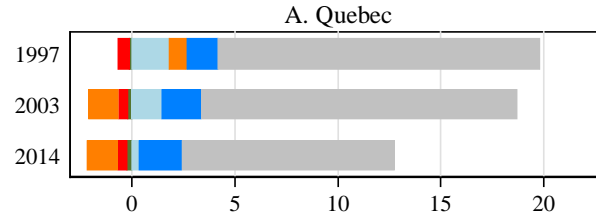
No short-run impact of Pay Equity

Long-run impact of 2 log points compound several gender equality policies

Control Provinces	BC	All	All minus ON	BC	All	All minus ON
After period:		2003-2005			2014-2016	
Female* Quebec*After	-0.012	-0.002	-0.011*	0.020*	0.020*	0.026*
	(0.002)	(0.005)	(0.004)	(0.006)	(0.006)	(0.010)
After*Female	0.023*	0.014*	0.023***	0.026***	0.026***	0.025*
	(0.001)	(0.005)	(0.004)	(0.005)	(0.005)	(0.010)
Female*Quebec	0.008	0.021	0.035*	0.019	0.019	0.031*
	(0.001)	(0.010)	(0.013)	(0.009)	(0.009)	(0.012)
After*Quebec	0.059*	0.012	0.013	-0.035	-0.035	-0.085
	(0.002)	(0.011)	(0.023)	(0.042)	(0.042)	(0.065)
Female	-0.165*	-0.168***	-0.186***	-0.162***	-0.162***	-0.173***
	(0.006)	(0.010)	(0.012)	(0.008)	(0.008)	(0.014)
Quebec	-0.152**	-0.072*	-0.039	-0.068*	-0.068*	-0.033
	(0.001)	(0.025)	(0.048)	(0.026)	(0.026)	(0.049)
After	-0.073	-0.018	-0.024	0.074	0.074	0.119
	(0.016)	(0.012)	(0.024)	(0.040)	(0.040)	(0.066)

Note: The dependent variables is the log hourly wages. The "before" period is 1997-99. Explanatory variables include tenure as a continuous variable, dummies for part-time status and union coverage, plus 8 age, 4 marital status, 5 children, and 7 education classes, 11 industry, 47 occupation categories, as well as year dummies. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

OB Decomposition Results:

Length of colored bars: portion of gap (total length) accounted for by indicated factors

A. Quebec

B. Quebec with Centile Groupings

C. Ontario

D. Ontario with Centile Groupings

D. British Columbia

F. British Columbia with Centile Groupings

Legend: Demographics, Education, Occupations, Unexplained, Industry, Centile Groupings, Job Status: Part-time, Tenure

Impact of Quebec Gender Equality Policies

- Because pay equity laws do not address gender pay differentials in male dominated occupations, the Quebec pay equity law has exhausted its potential to narrow the overall gender pay gap
  - Gender differences in occupations are dis-explaining the gender pay gap rather than just shrinking over time (as job status does)
- Other measures are needed to address the obstacles that women face as they attempt to move up the echelons of organizations into traditionally male-dominated jobs.
- The traditionally female-dominated sectors of Educational, Health Care, and Social Assistance Services offer comparatively little opportunities for women to move into the top 1% of earners

Novel Gender Equality Pay Policies?

- Gender pay differentials within establishment "Equal Pay Label"
- Available in Switzerland, Luxembourg, and Germany starting in 2010
- Turned into "equal pacE" in 2013, and extended to Finland, Flemish-Belgium/the Netherlands, France, Poland and the United Kingdom
- Excel regression-aided program (e.g. **Logib-CH and Logib-D)** help companies find whether their firm-level adjusted female penalty is less than the desired 5% with p-value 0.05 to gain the "label"
- Vaccaro (2016) using the regression discontinuity design in firm size, finds sizeable effects of 4.5% of the unexplained gap, but Felfe, Trageser and Iten (2015) report more modest improvements
- More studies are needed

Women Fail to Move from Bottom 90% to Next 9% in Early Career (age 30) in Canadian LWF

Share of Men and Women Moving from Bottom 90% to Next 9% - Recent Synthetic Cohorts
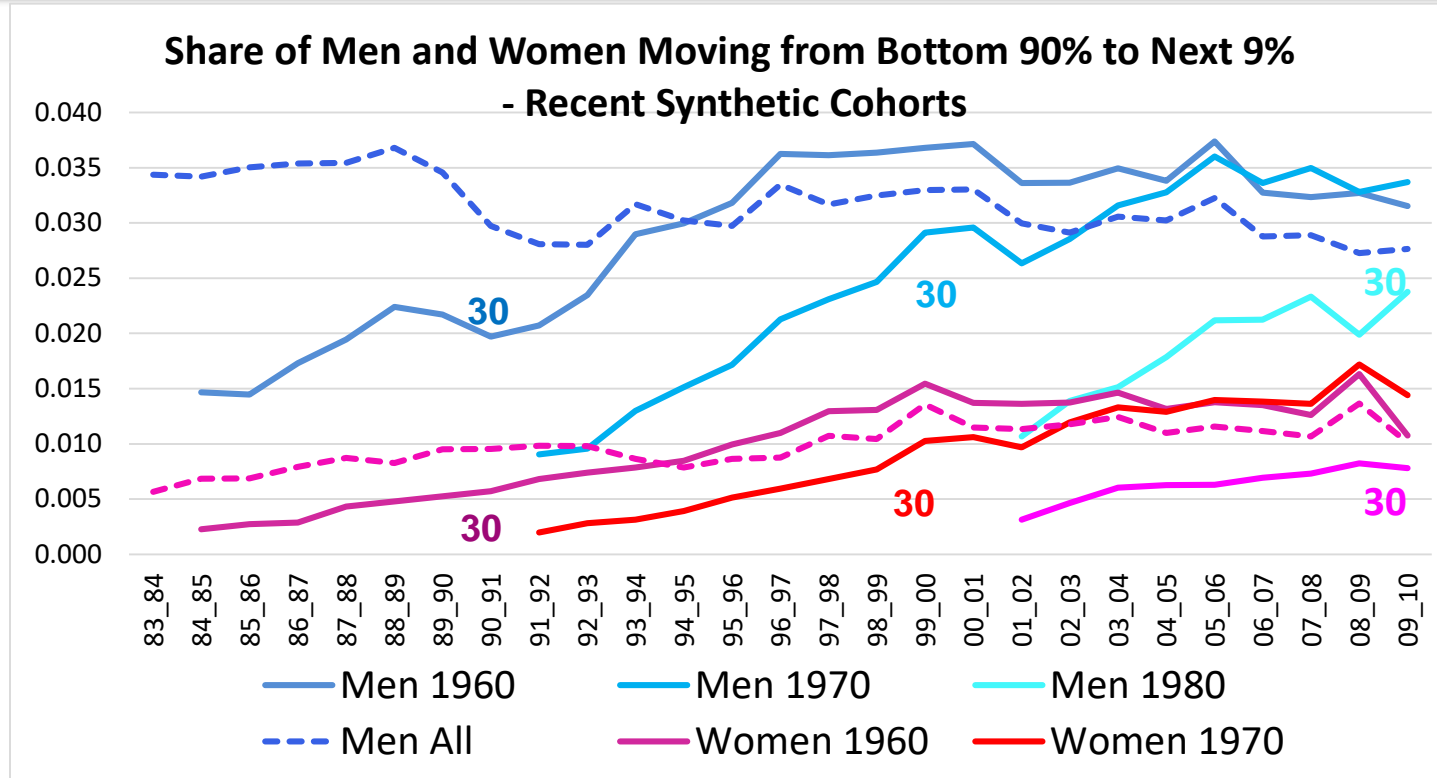
Mommy Track or Opting Out?

- A recent and growing literature, mostly European, using employer-employee databases, of the impact of children on mothers' earnings have found large and persistent negative effects on labour market outcomes

- Following childbirth, mothers often move to part-time work or a more flexible schedule, to family-friendly, less profitable, and lower paying firms, and are less likely to be promoted

- But is it the mothers' or the employers' choice?

- What role does unconscious gender biases or out-right sexual harassment play in limiting women's access to top jobs?

Stay Tuned!

Thank you!