

# The Long-Run Dynamics of Gender Gaps

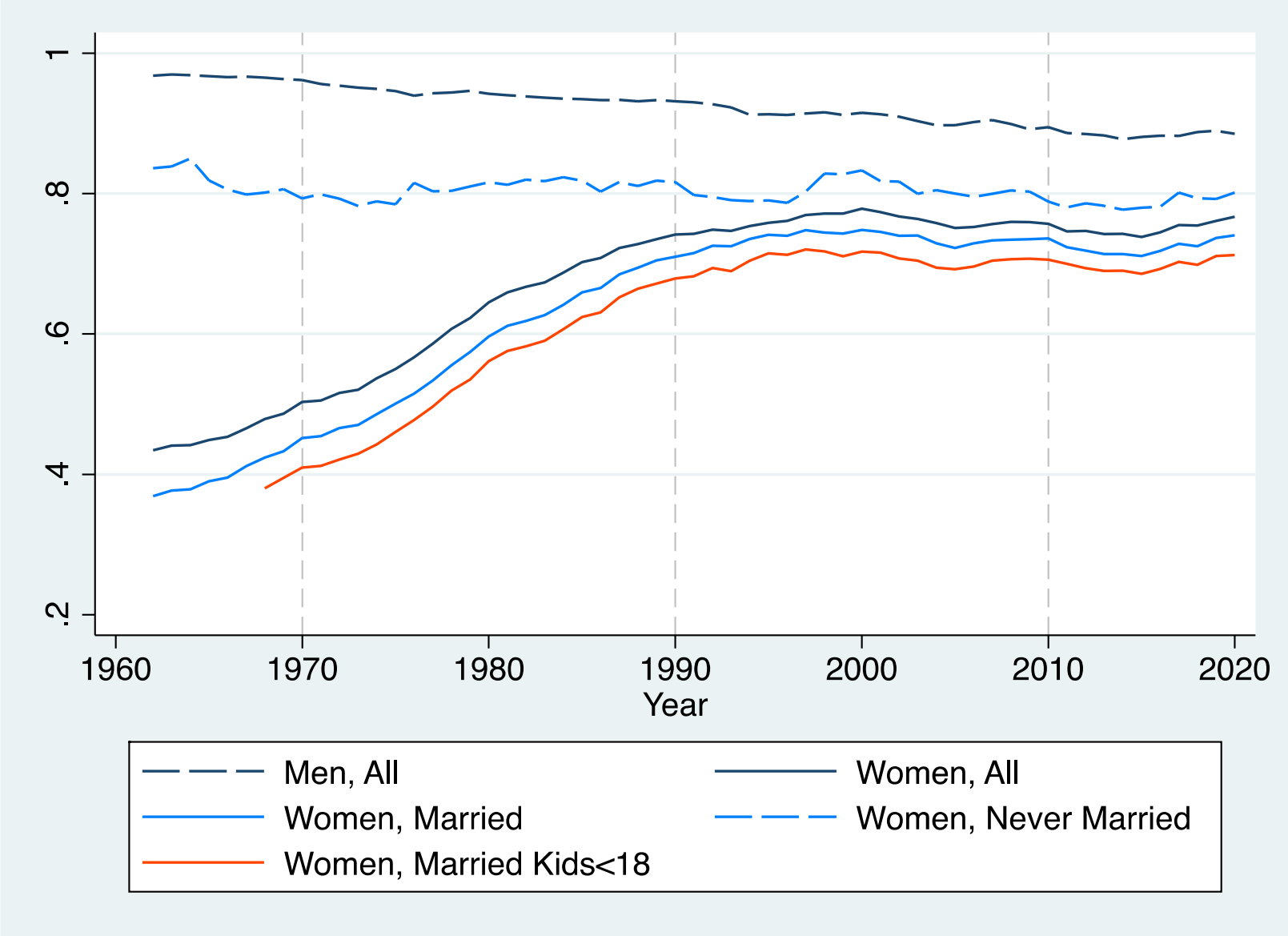
Fed/GFLEC Financial Literacy Seminar

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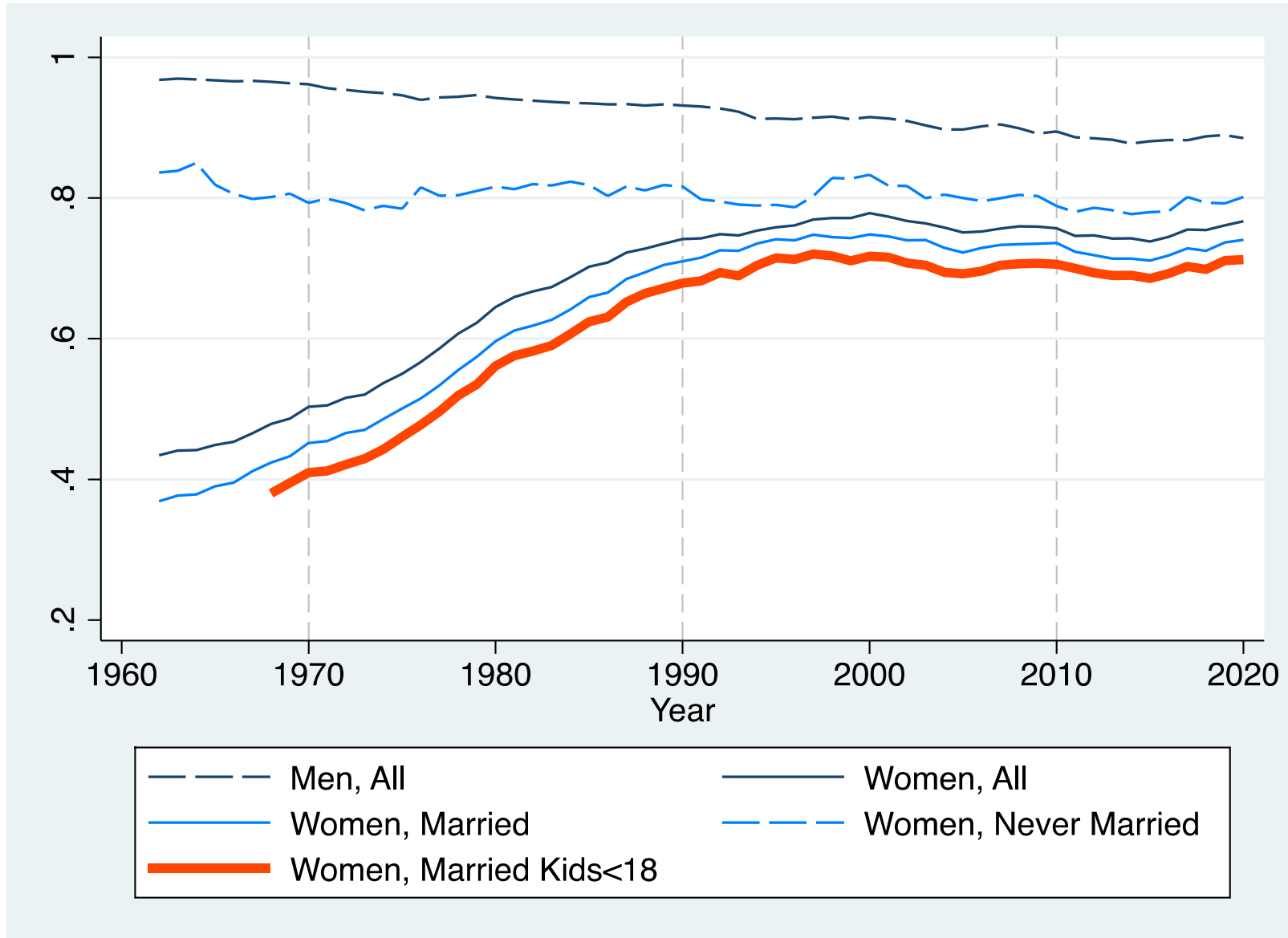
# Trends in Labor Force Participation by Gender and Marital Status: 1962-2020



Men, All  
Women, All  
Women, Married  
Women, Never Married  
Women, Married Kids < 18

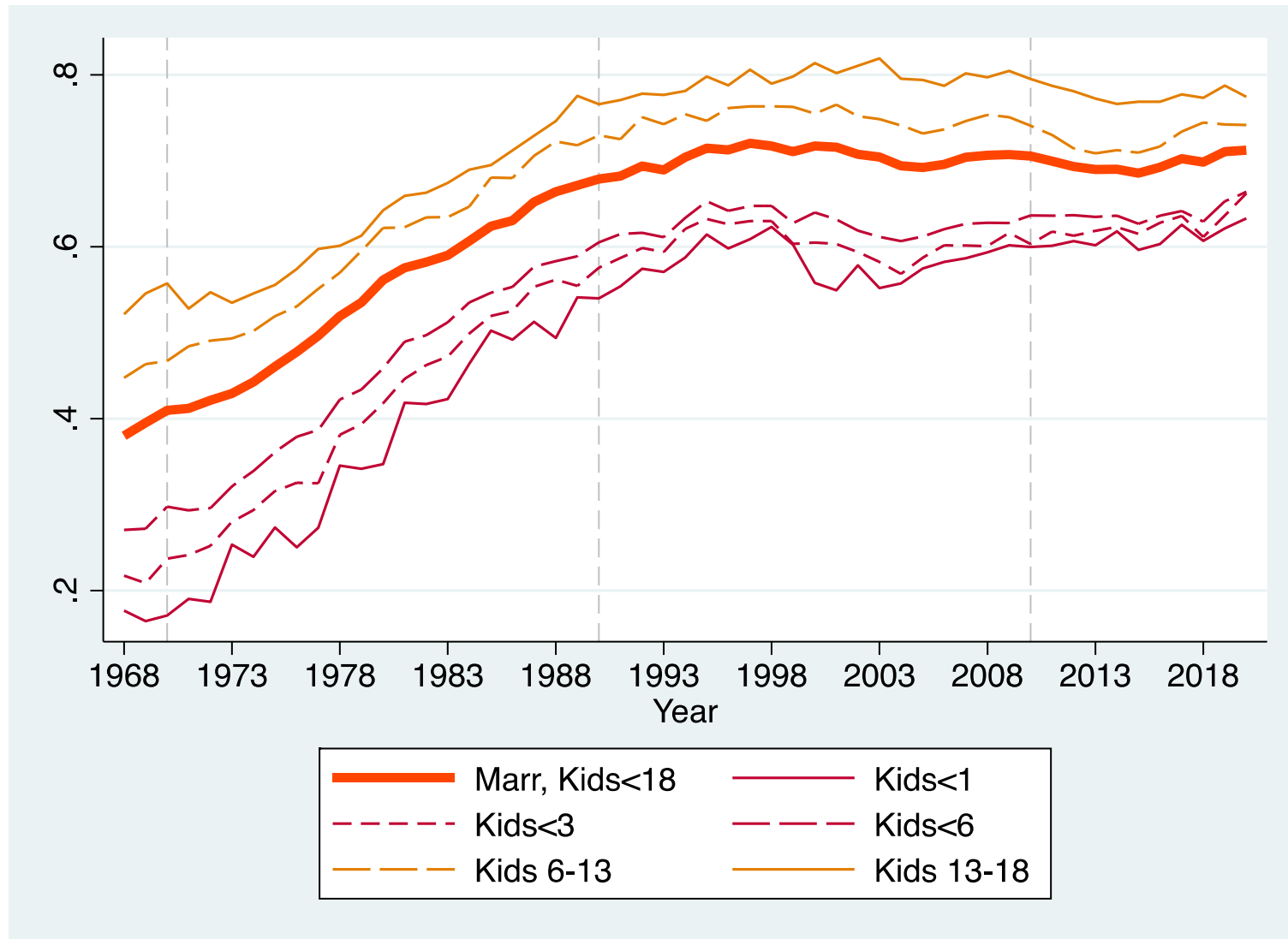
Author's calculation using Current Populations Survey (ASEC). Sample: Civilian population, aged 25-54.

# Trends in Labor Force Participation: 1962-2020



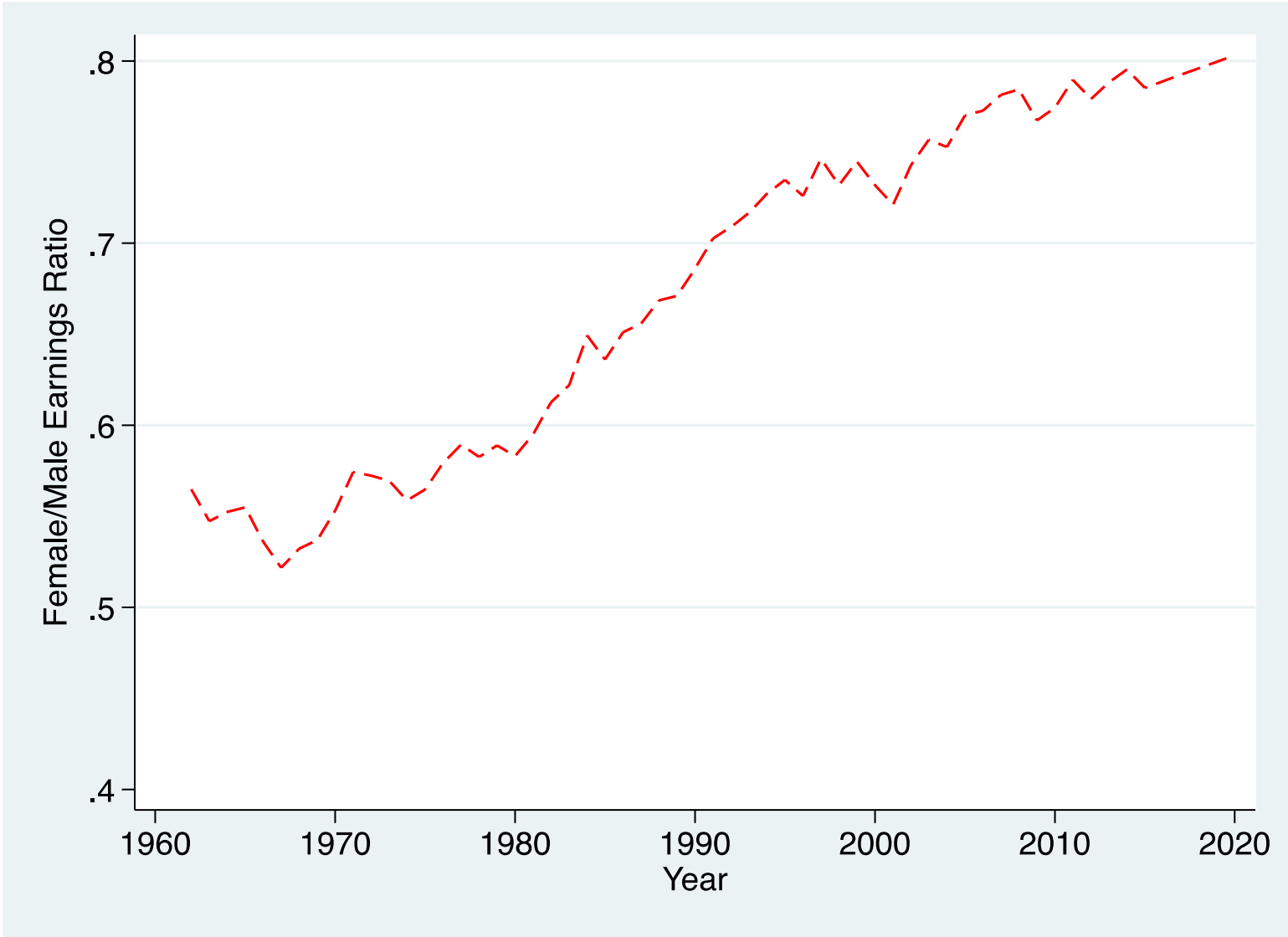
Author's calculation using Current Populations Survey (ASEC). Sample: Civilian population, aged 25-54.

# LFP of married women by age of the youngest child: 1968-2020



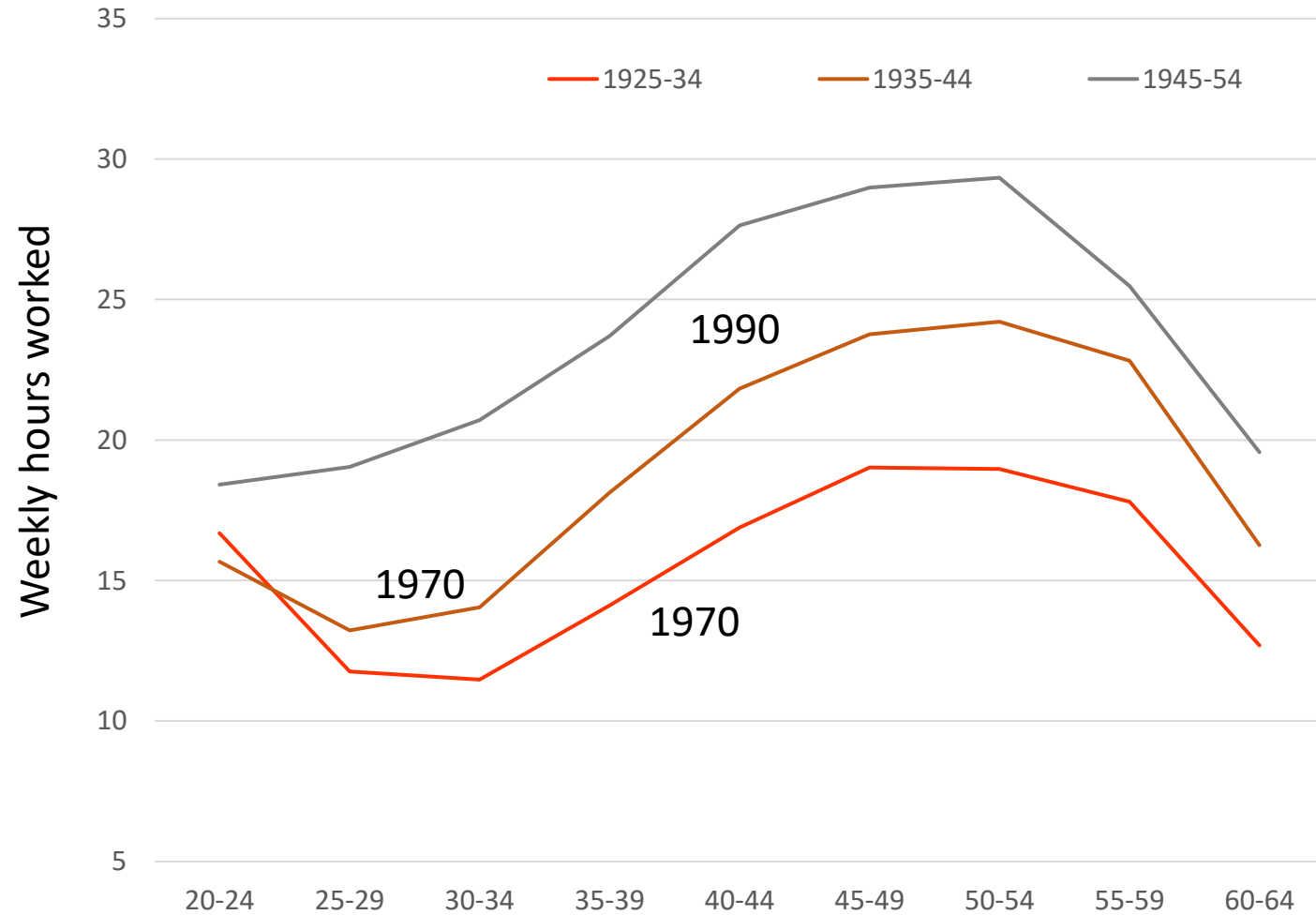
Author's calculation using Current Populations Survey (ASEC). Sample: Civilian population, aged 25-54.

# The evolution of the gender earnings ratios: 1962-2020



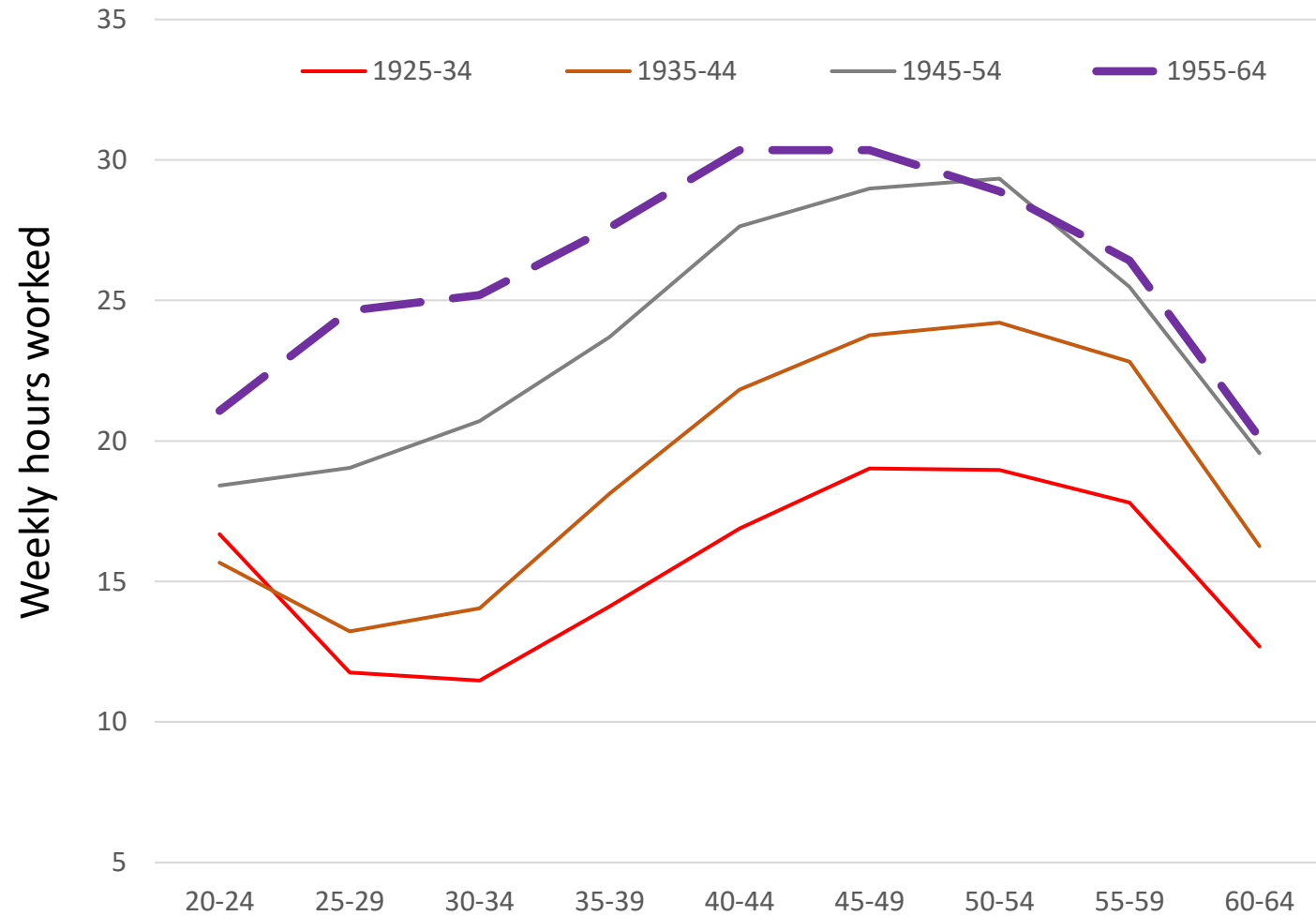
Author's calculation using Current Populations Survey (ASEC). Sample: Civilian population, aged 25-54. Full-time workers.

# Women's Average Hours Worked by Age & Cohort



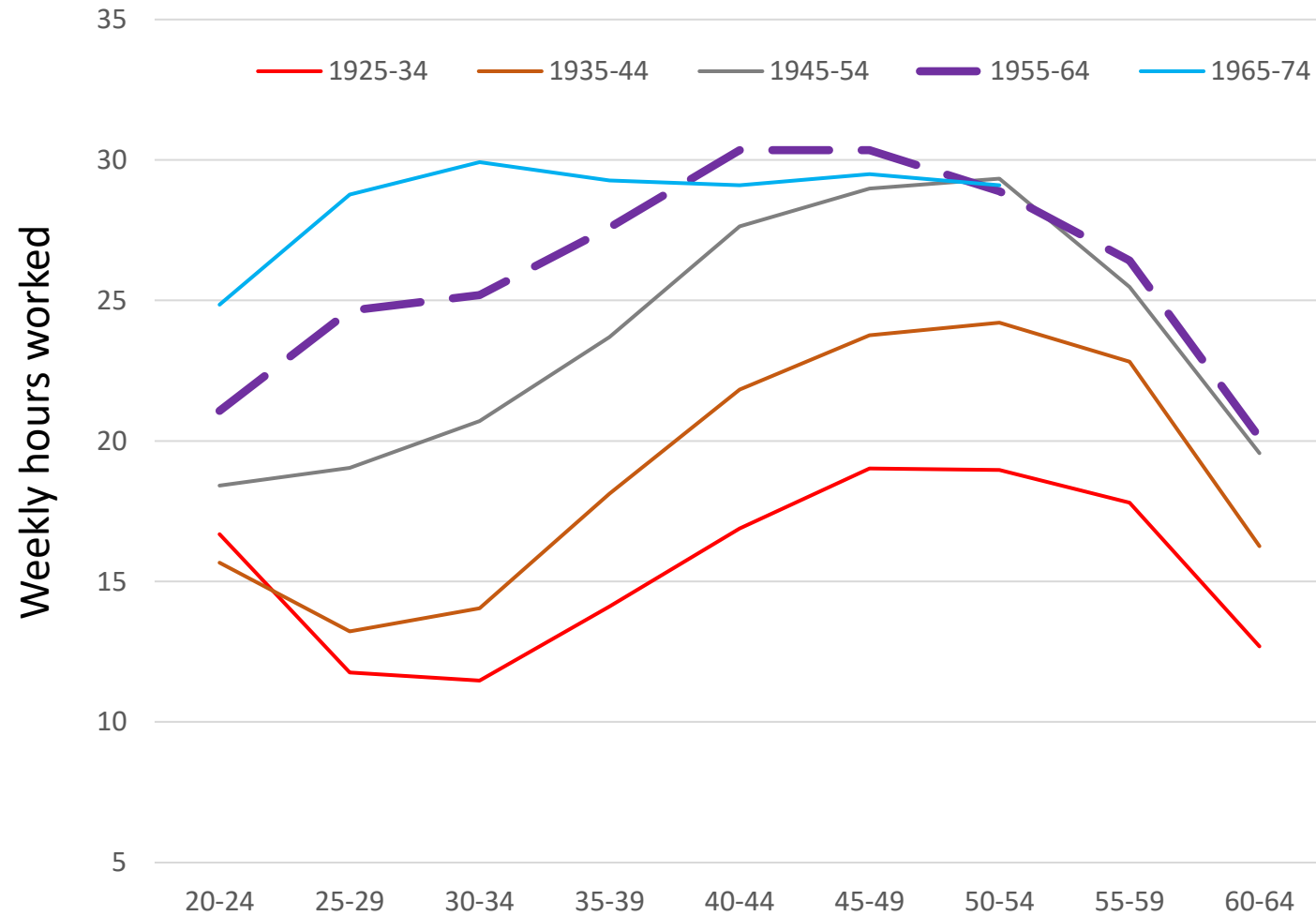
Author's calculation using Census and ACS. Sample: Civilian population, aged 25-64.

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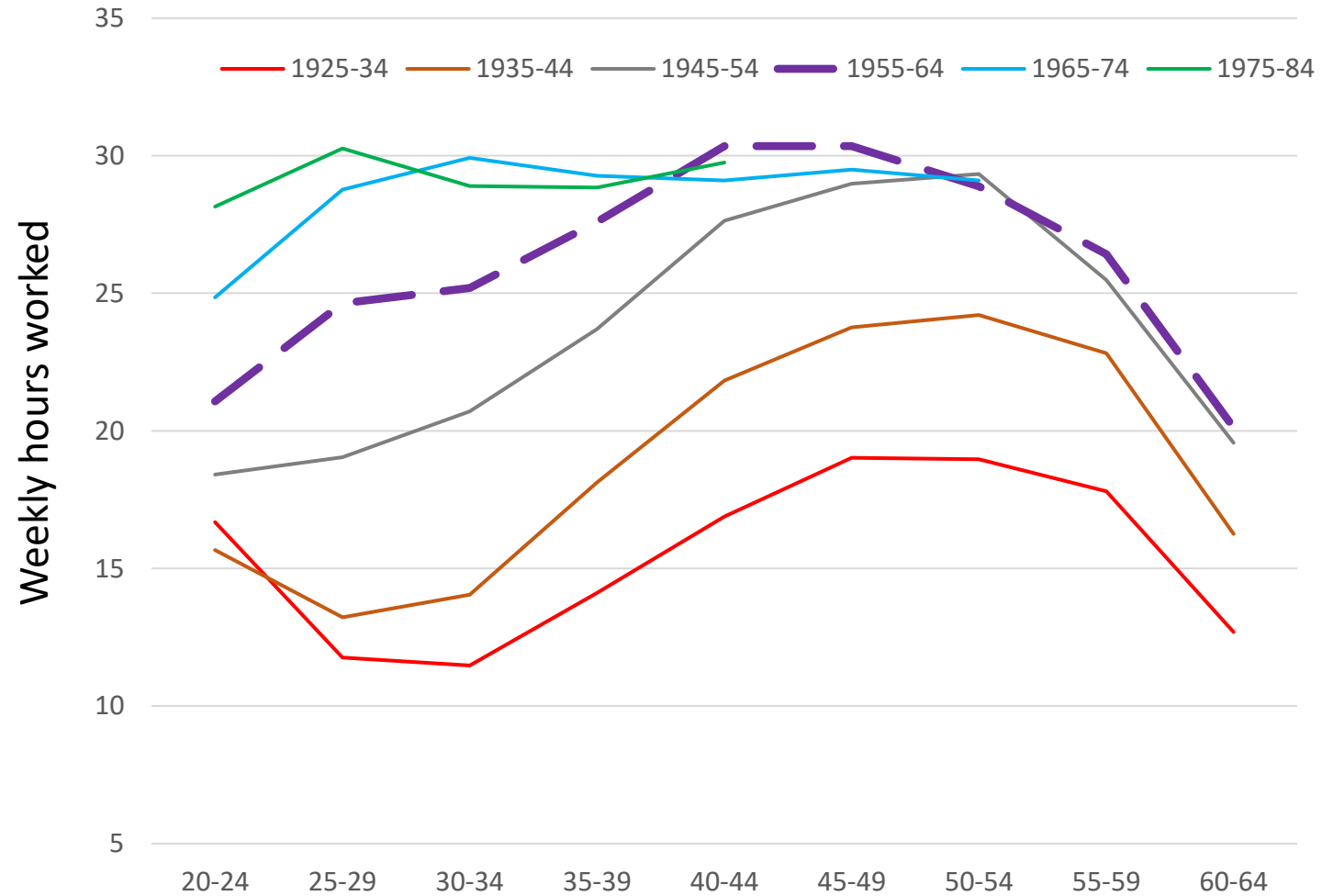
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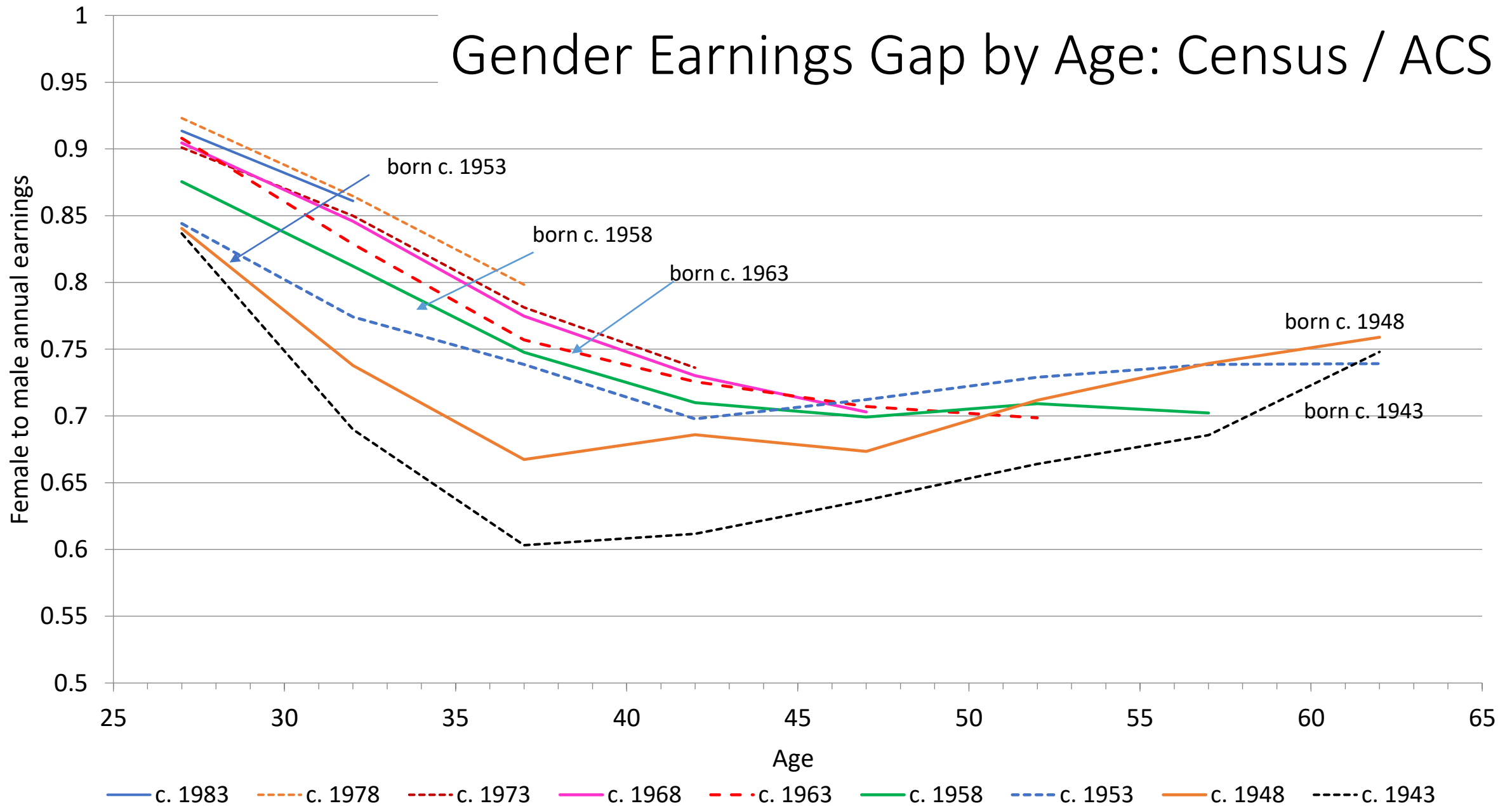


# Women's Average Hours Worked by Age & Cohort



Author's calculation using Census and ACS. Sample: Civilian population, aged 25-64.

# Gender Earnings Gap by Age: Census / ACS



# Family Lifecycle and Women's Careers

- Why does pay gap increase from early career to age 45?
  - “Motherhood penalty” vs. “male marriage bonus”
  - Event studies around first birth
- What happens to career gaps as children age and leave home?
  - Need longitudinal data that follows men and women as they and their children age.

# The Other Side of the Mountain: Women's Employment and Earnings over the Family Cycle

Claudia Goldin, Sari P. Kerr and Claudia Olivetti

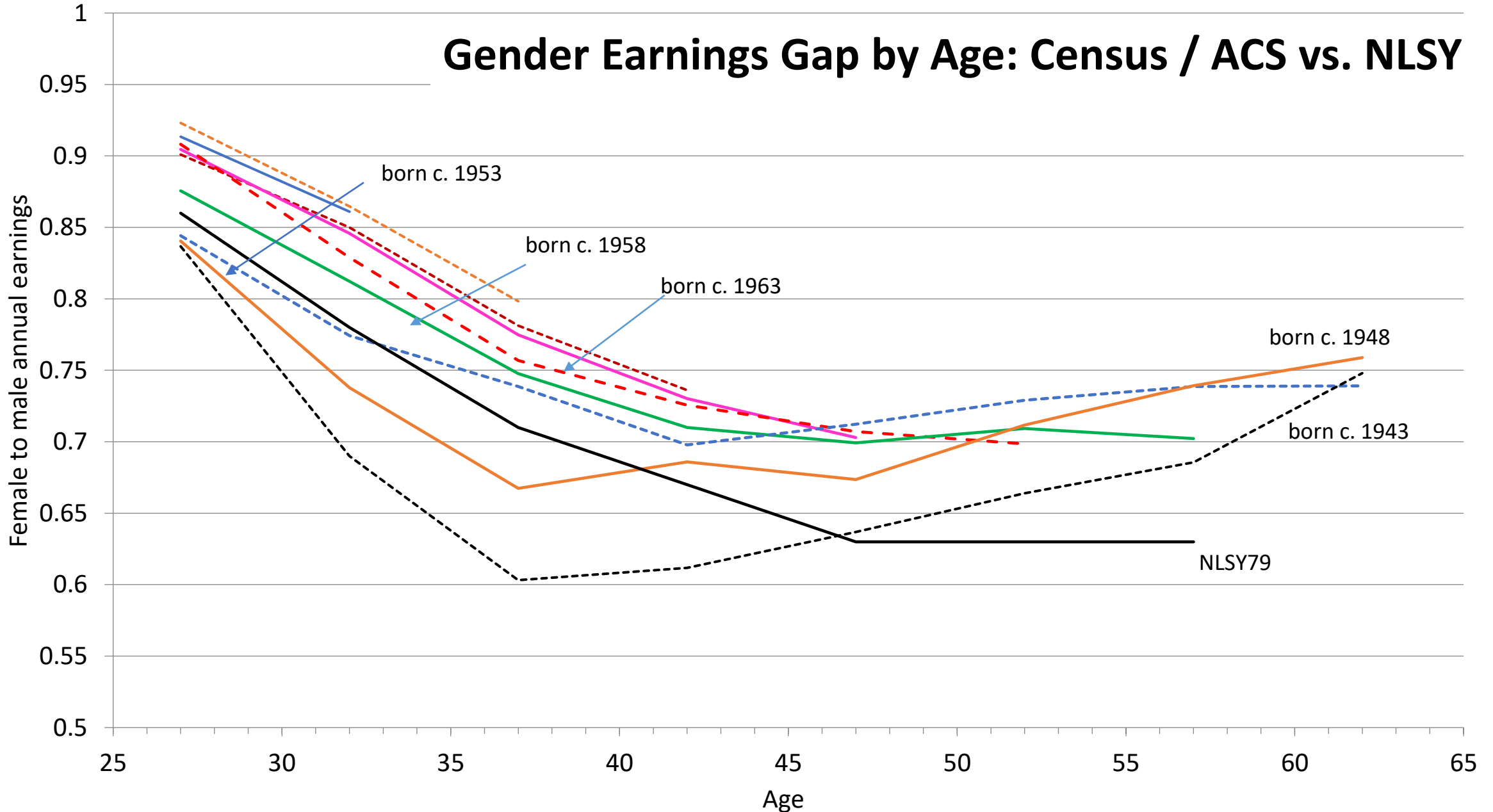


**The Other Side of the Mountain**

# Evidence from the NLSY79

- Cohort born from 1957 to 1964.
- Interviewed for first time in 1979, aged 15-22. Followed until 2018, with some attrition and sample changes.
- To have as complete a work history as possible, we use individuals whose last response was 2018.
- Within that group, our sample contains all individuals who earned a four-year college degree by age 35.
  - 650 women and 634 men
  - 73% mothers
  - 75% fathers
  - Median age at first birth: 29 (Women) and 31 (Men)

# Gender Earnings Gap by Age: Census / ACS vs. NLSY



— c. 1983  
 - - - c. 1978  
 - - - c. 1973  
 - - - c. 1968  
 - - - c. 1963  
 — c. 1958  
 - - - c. 1953  
 — c. 1948  
 - - - c. 1943  
 — NLSY79

# Main Specification

$$y_{it} = \phi_0 + \phi_1 F_i + \phi_2 A'_{it} + \phi_3 (A'_{it} \cdot F_i) + \alpha_1(\mathbb{K}'_{it}) + \alpha_2(\mathbb{K}'_{it} \cdot F_i) + \delta \cdot \mathbb{Z}'_{it} + \gamma \cdot \mathbb{X}'_{it} + \psi U_t + \varepsilon_{it}$$

- $F_i$  = female dummy;
- $A'_{it}$  = vector of five-year age groupings;
- $\mathbb{K}'_{it}$  = total number of (biological) children born up to that year, child age bin of the youngest child: 0<3; 3<6; 6<12; 12<18; and 18 plus. Child variables are interacted with female dummy ( $\mathbb{K}'_{it} \cdot F_i$ ).
- $\mathbb{Z}'_{it}$  = hours and weeks (in logs).
- $\mathbb{X}'_{it}$  = fraction of past five years individual worked low hours or not at all, and whether the individual earned an advanced degree.
- $U_t$  = national unemployment rate in year  $t$
- **Fixed Effect regressions:**  $\varepsilon_{it} = \nu_i + u_{it}$  (drop  $F_i$ )

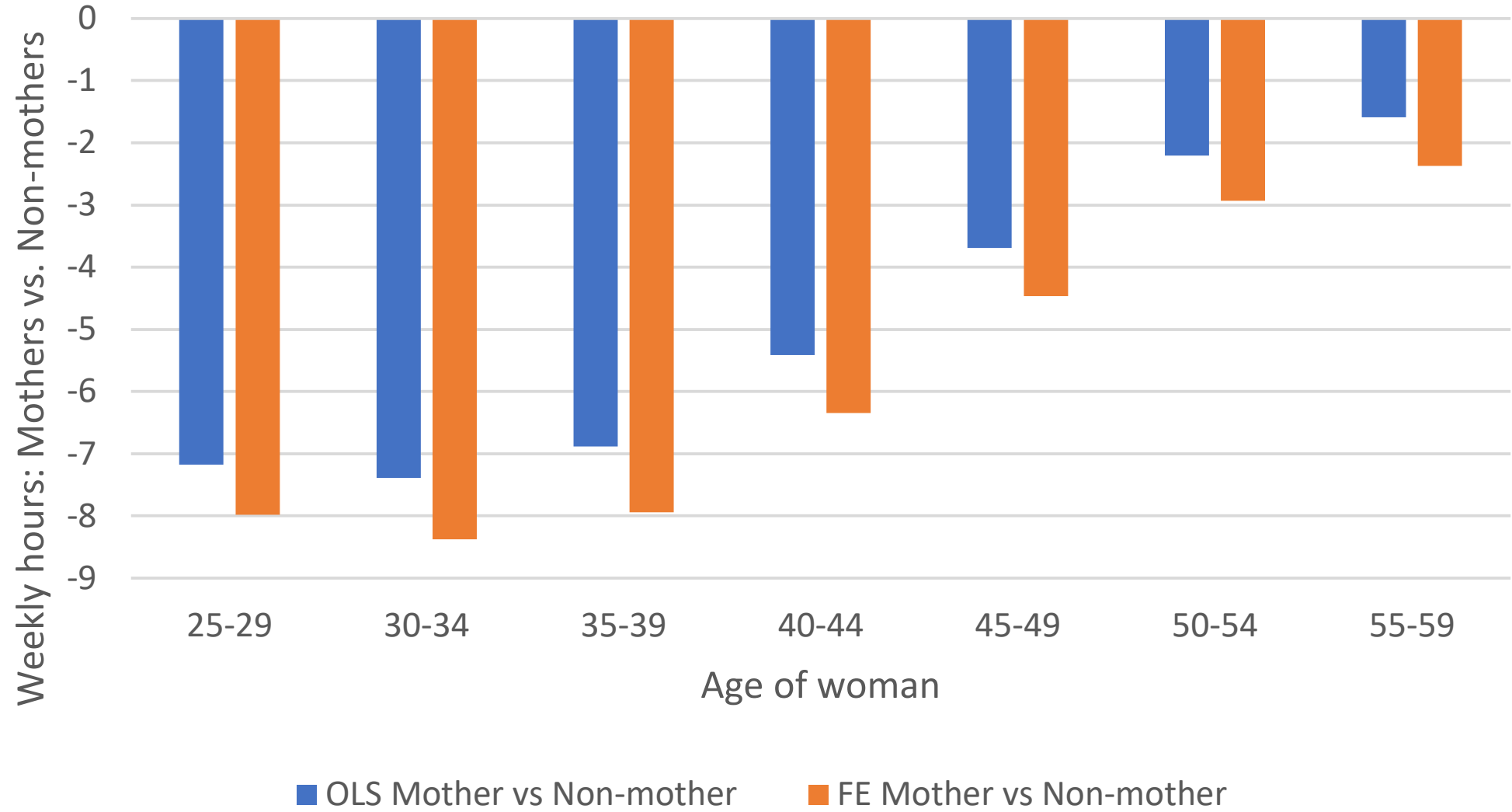
# Results: Simulation Graphs

- Use women's mean number of kids & age distribution of youngest by age of mother.

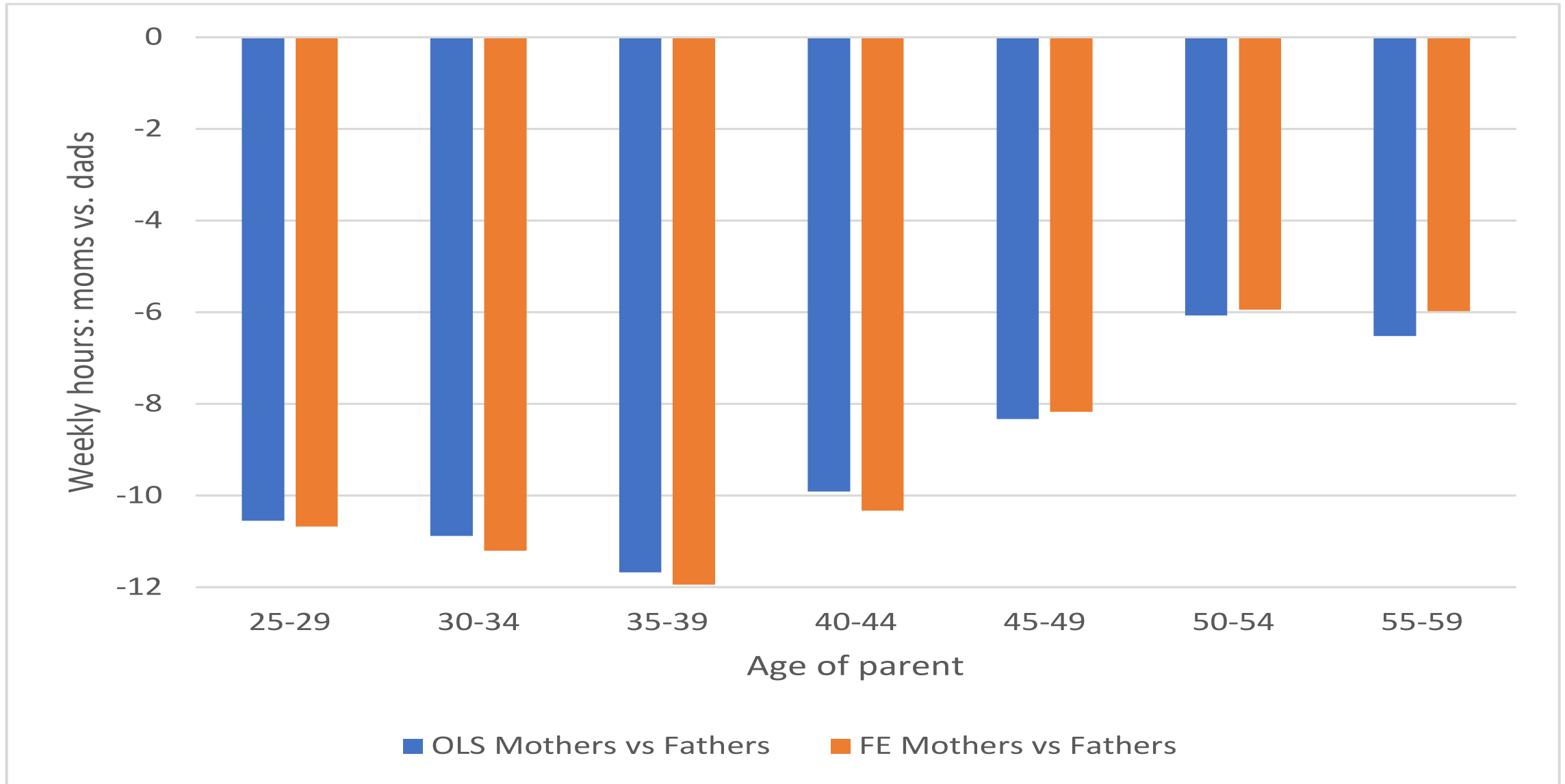
Mother's age	Number of children	Fraction with children by age of youngest, among all mothers				
		0–2 years	3–5 years	6–11 years	12–17 years	18+ years
25–29	1.356	0.779	0.152	0.065	0.004	0.000
30–34	1.684	0.591	0.275	0.114	0.019	0.001
35–39	1.939	0.288	0.305	0.347	0.052	0.008
40–44	2.042	0.075	0.152	0.489	0.243	0.038
45–49	2.077	0.007	0.031	0.276	0.483	0.203
50–54	2.087	0.000	0.003	0.057	0.347	0.593
55–59	2.100	0.000	0.000	0.006	0.115	0.879



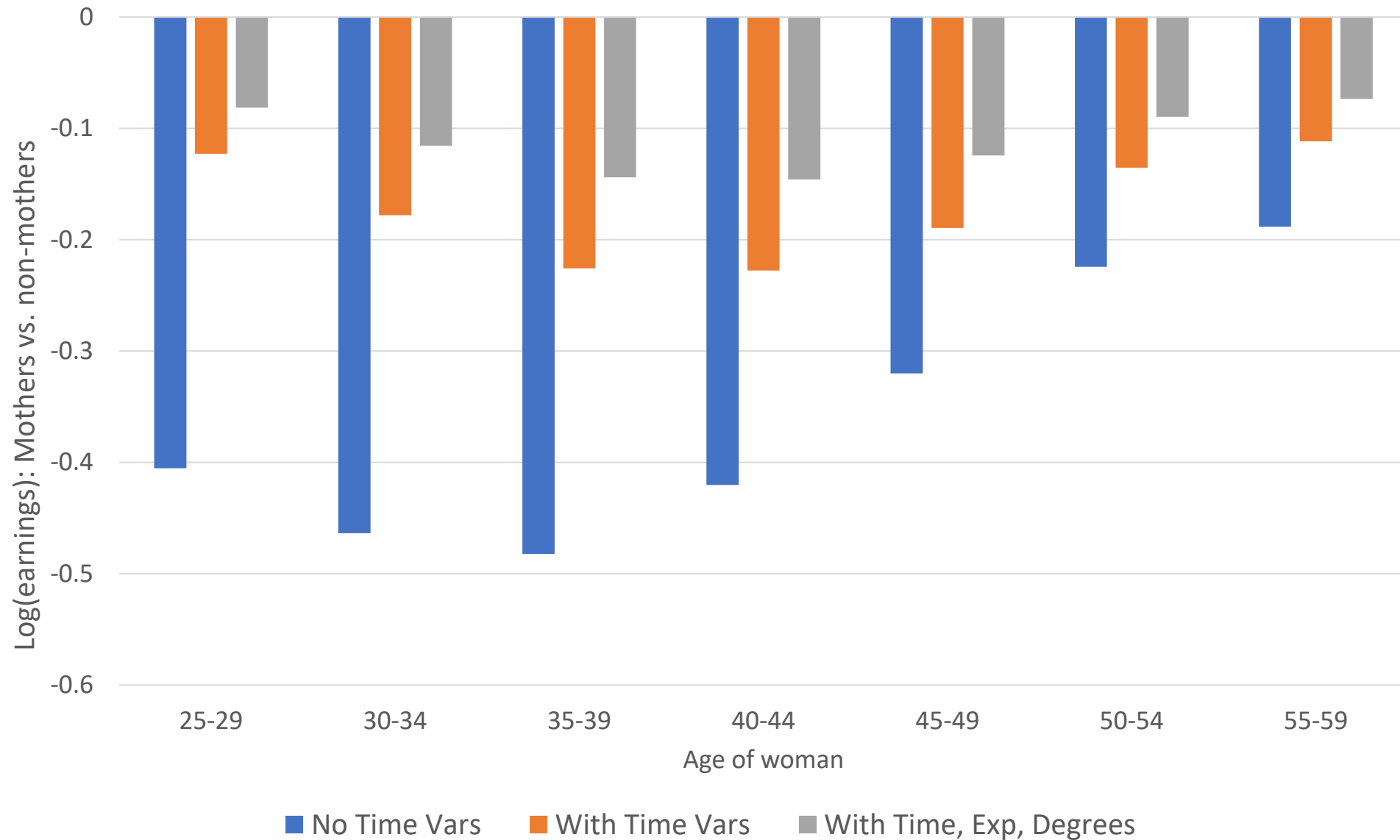
# Impact of Children on Hours of Paid Work for Mothers Relative to Non-Mothers



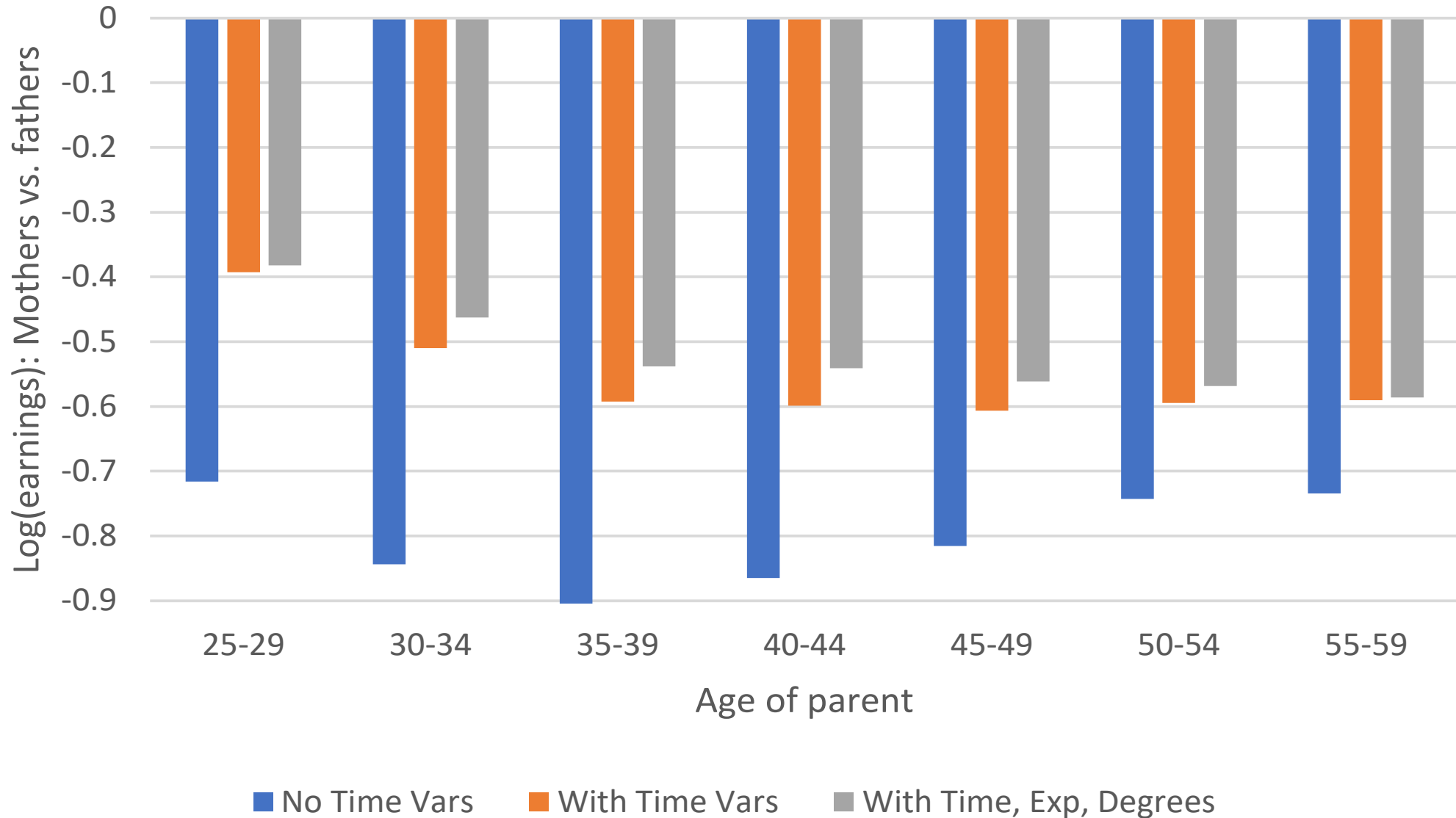
# Impact of Children (and Female) on Hours of Paid Work for Mothers Relative to Fathers



# Impact of Children on Earnings of Mothers Relative to Non-Mothers: Individual Fixed Effects Estimation



# Impact of Children on Earnings of Mothers Relative to Fathers: Individual Fixed-Effects Estimation

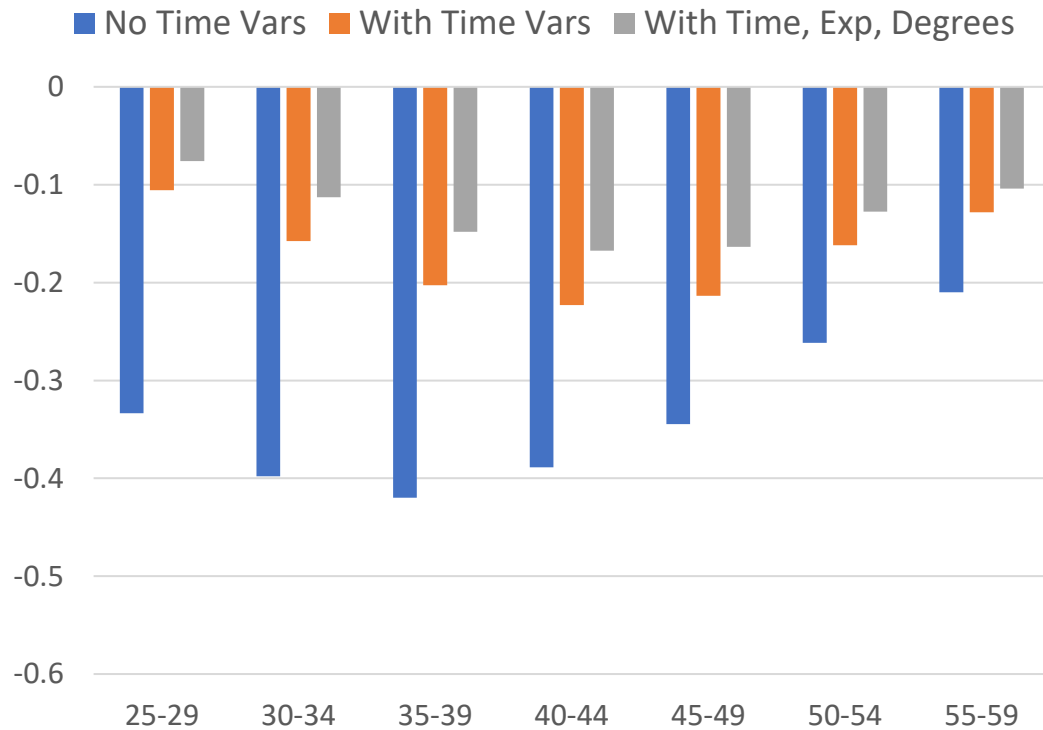


# Parental Gender Gap in Earnings, Motherhood Penalty, Price of Being Female, and Fatherhood Premium

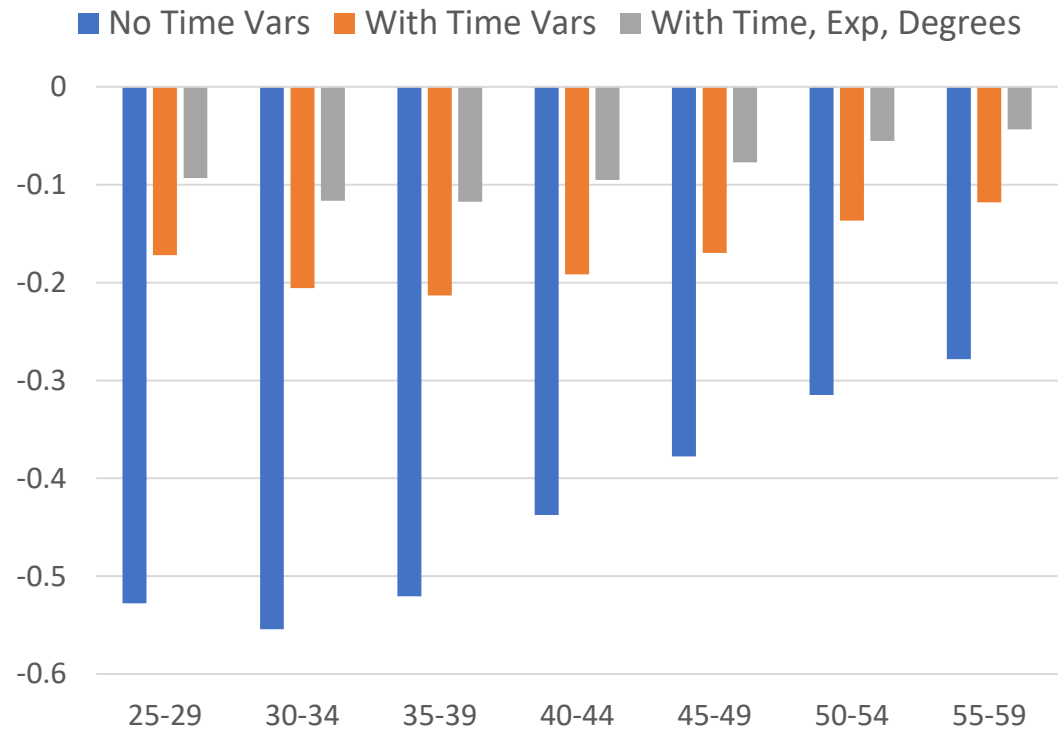
Age group	(1) Parental gender gap in earnings	(2) Motherhood penalty	(3) Price of being female	(4) Fatherhood premium
25–29	-0.382	-0.081	-0.186	0.115
30–34	-0.462	-0.116	-0.197	0.150
35–39	-0.538	-0.144	-0.213	0.181
40–44	-0.541	-0.146	-0.199	0.196
45–49	-0.561	-0.124	-0.228	0.209
50–54	-0.568	-0.090	-0.258	0.221
55–59	-0.586	-0.074	-0.281	0.231

# Motherhood Penalty and *Job Flexibility* Prior to Birth of First Child

## Low Flexibility

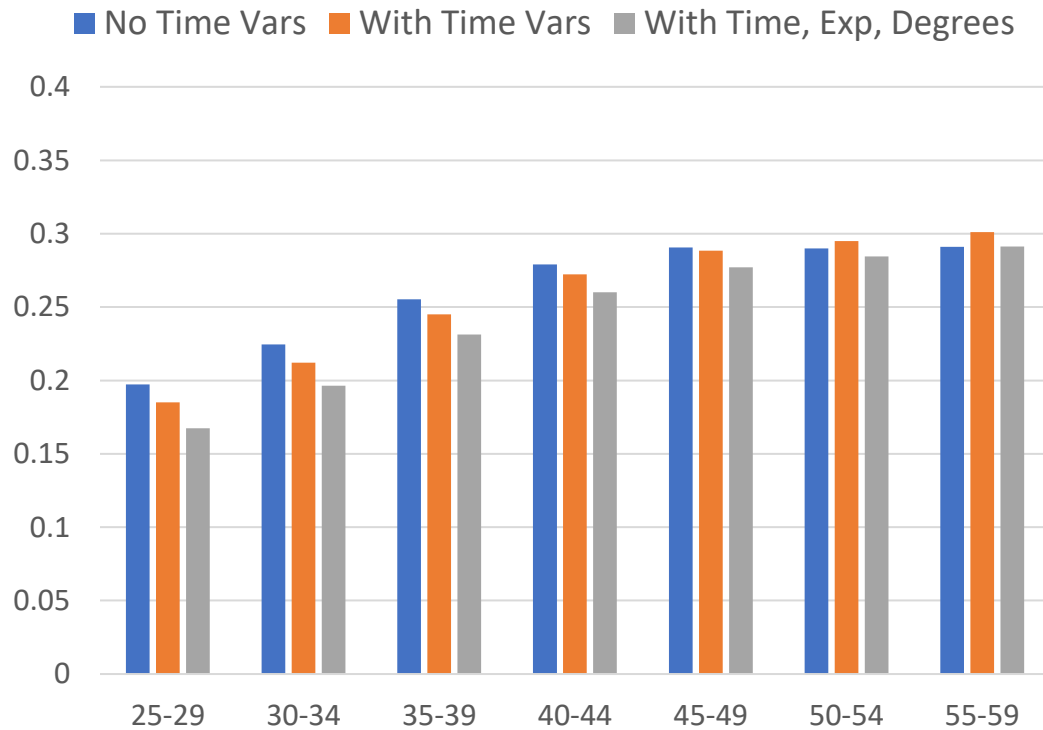


## High Flexibility

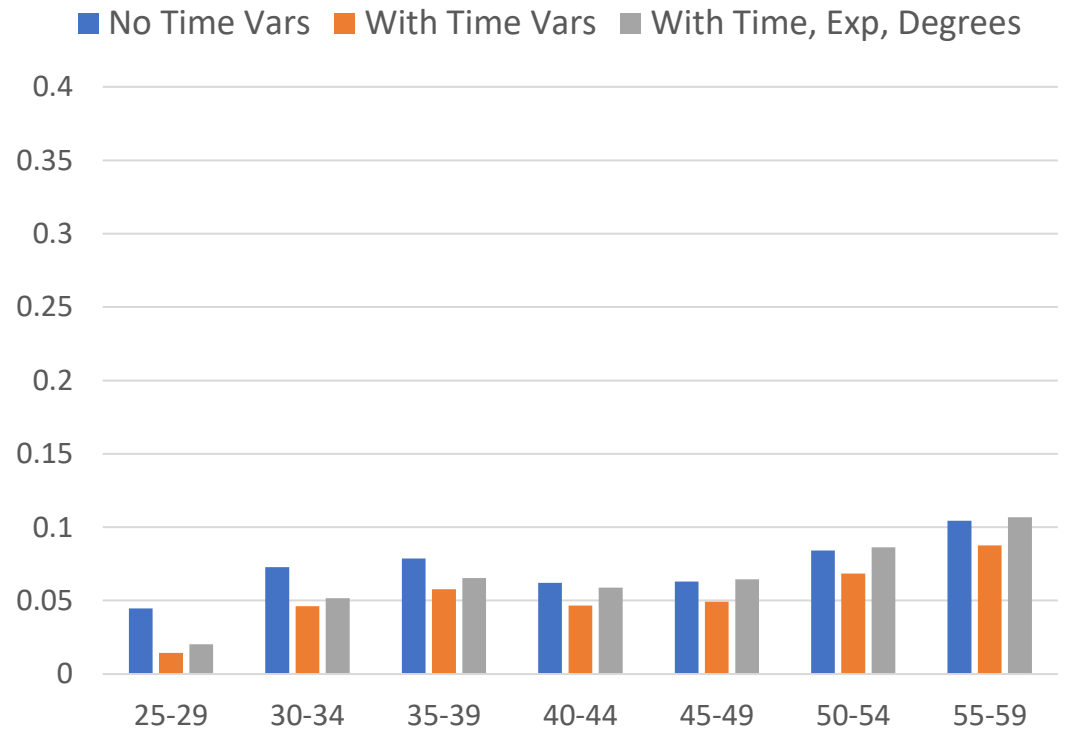


# Fatherhood Premium and *Job Flexibility* Prior to Birth of First Child

## Low Flexibility

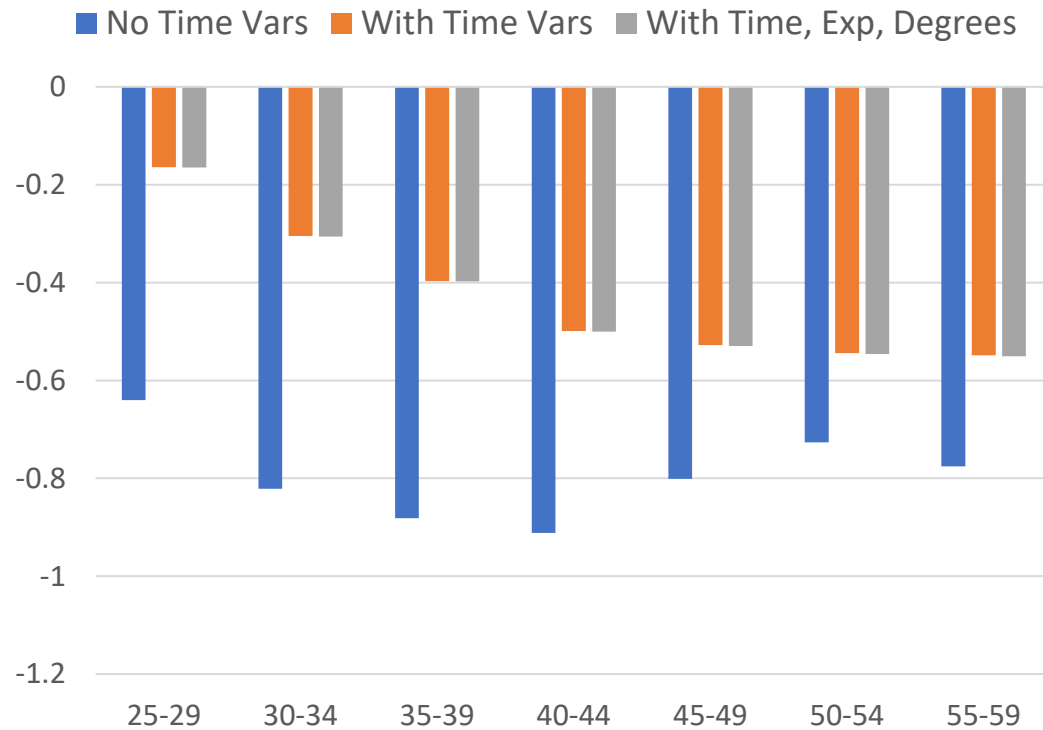


## High Flexibility

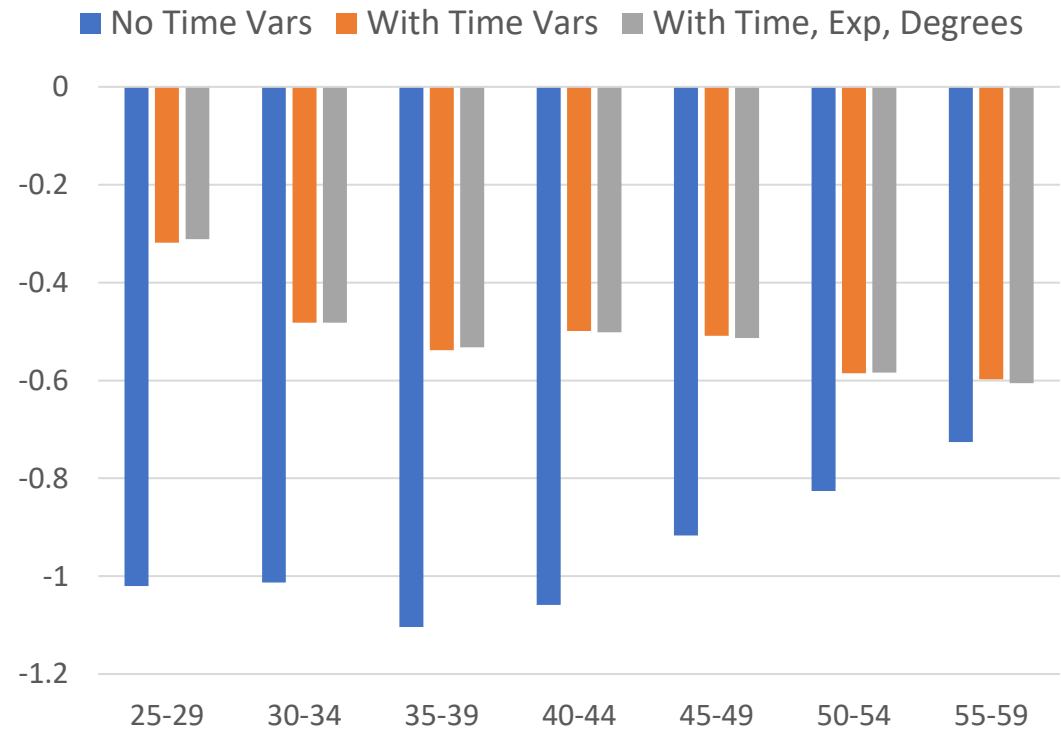


# Impact of Children on Earnings of Mothers Relative to Fathers: *Low-Flex Husbands*

## Husband and wife in Low-Flex Jobs



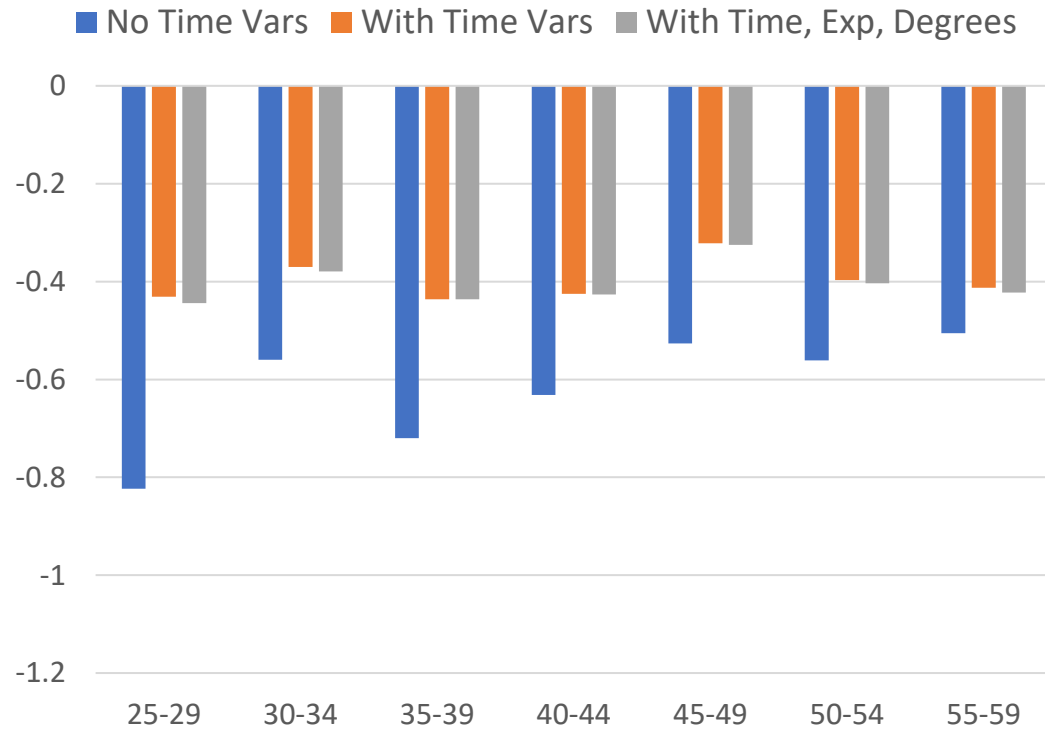
## Husband Low-Flex, Wife High-Flex



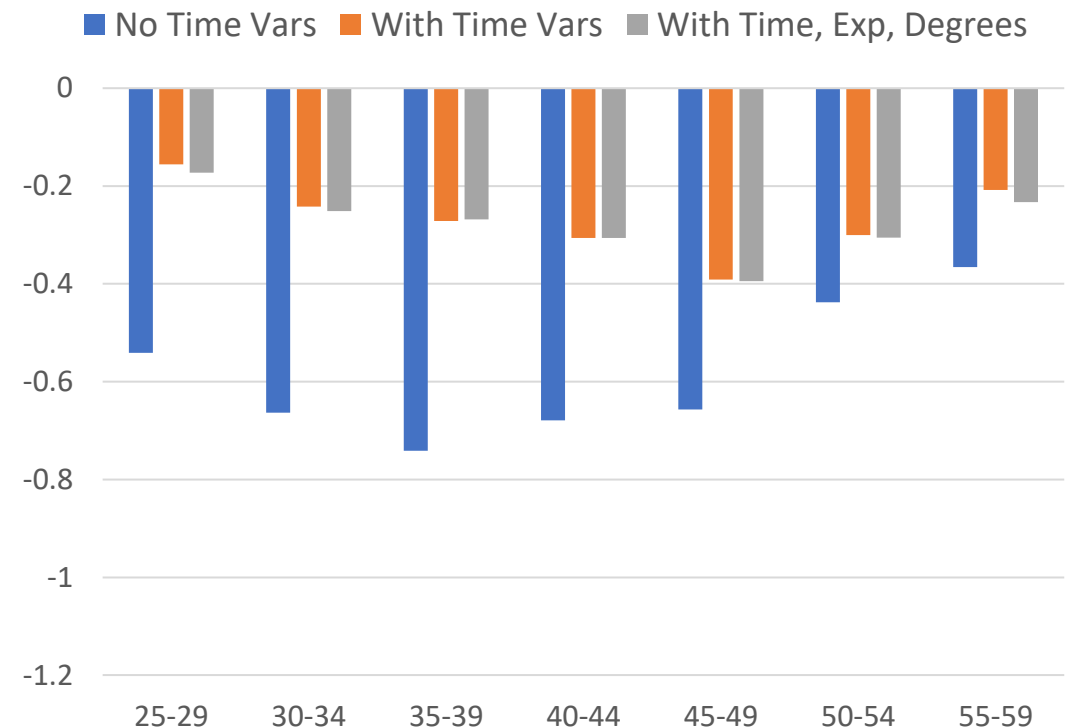


# Impact of Children on Earnings of Mothers Relative to Fathers: *High-flex husband*

## Both Spouses in High-Flex Jobs



## Husband High-Flex, Wife Low-Flex

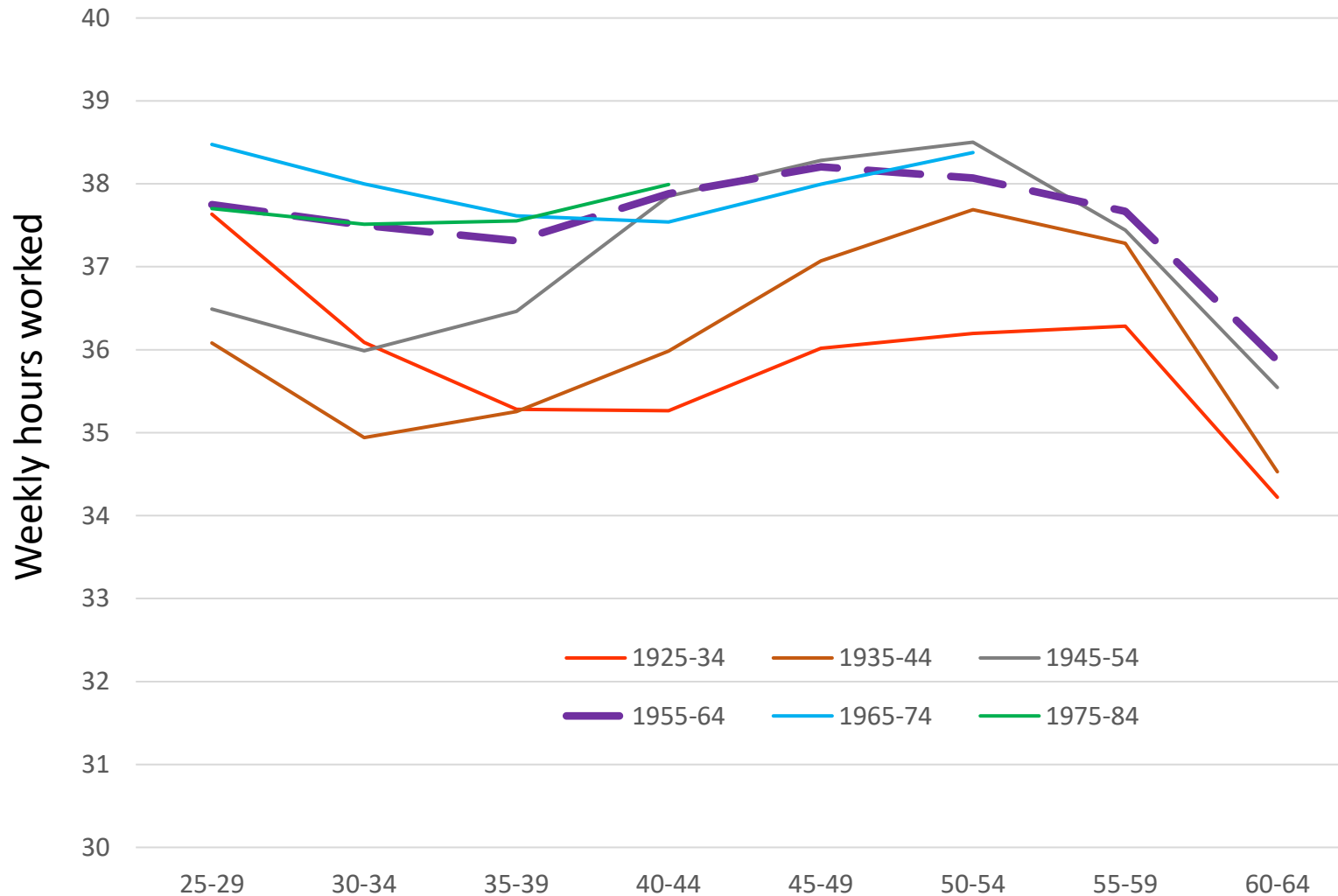


# Summarizing ...

- The “career cost of family” is high. As women increased their credentials, the costs of family increased.
- For the early part of the lifecycle, that is a well explored fact. But what are the long-run implications?
- Our evidence suggests some recovery as the children get older. Motherhood Penalty shrinks, but Fatherhood Premium is persistent.
- Future work: Combination of LEHD and Decennial Census / ACS to understand role of job changes, type of firm employed in, and geographic family mobility.

Thanks!

# Working Women's Average Hours Worked by Age & Cohort



Author's calculation using Census and ACS. Sample: Civilian population, aged 25-64.