

# What Prevents Women from Reaching the Top?

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# Women hold small fraction of top business positions

In S&P 500 companies, women account for:

- **45%** of the work force
- **27%** of executive and senior-level manager positions
- **5%** of the CEO positions

Similar patterns around the world:

- Europe 7%
- Germany 3%
- DAX 0%

What can explain gender gaps in top executive appointments?

## **This paper**

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1. Gender gaps in top executive appointments are substantial
2. Abilities, skills, and experience do not account for the gaps
3. Children play a prominent role in generating the gaps
4. Women who reach an executive position appear more qualified than executive men

# Contribution to the literature

## Gender differences in executive characteristics and careers

Executives: Bertrand and Hallock 2001; Matsa and Miller 2011, Smith, Smith and Verner 2013; Albanesi, Olivetti, and Prados 2015

## Other high performers

Lawyers: Wood, Corcoran, and Courant 1993; Azmat and Ferrer 2016.

MBAs: Bertrand, Goldin, and Katz 2010

Politicians: Besley, Folke, Persson, and Rickne 2016

Top earners/high skill: Albrecht, Björklund, and Vroman 2003; Ejrnæs and Kunze 2013, Boschini, Gunnarsson, and Roine 2017, Buetikofer, Jensen, and Salvanes 2019, Chhaochharia, Ghosh, Niessen-Ruenzi, and Schneider 2019

Directors: Adams and Funk 2012, Kim and Starks 2016

## Document that children matter for careers

Waldfoegel 1998, Bertrand, Goldin, and Katz 2010, Kleven, Landais, and Sorgaard 2019, Angelov, Johansson, and Lindahl 2016.

# Unique data from Sweden

Data from Statistics Sweden, Companies Registration Office, and Military Archives

About 40,000 university graduates

- Business, economics, and engineering
- Born in 1962-1971
- Positions observed in 2011 (in their 40s)
- Careers followed through 1990-2011

About 13,000 firms and the public sector

- Both listed and private firms
- 19% in public sector

# Gender gaps in probability of reaching the top

## Large-firm CEO

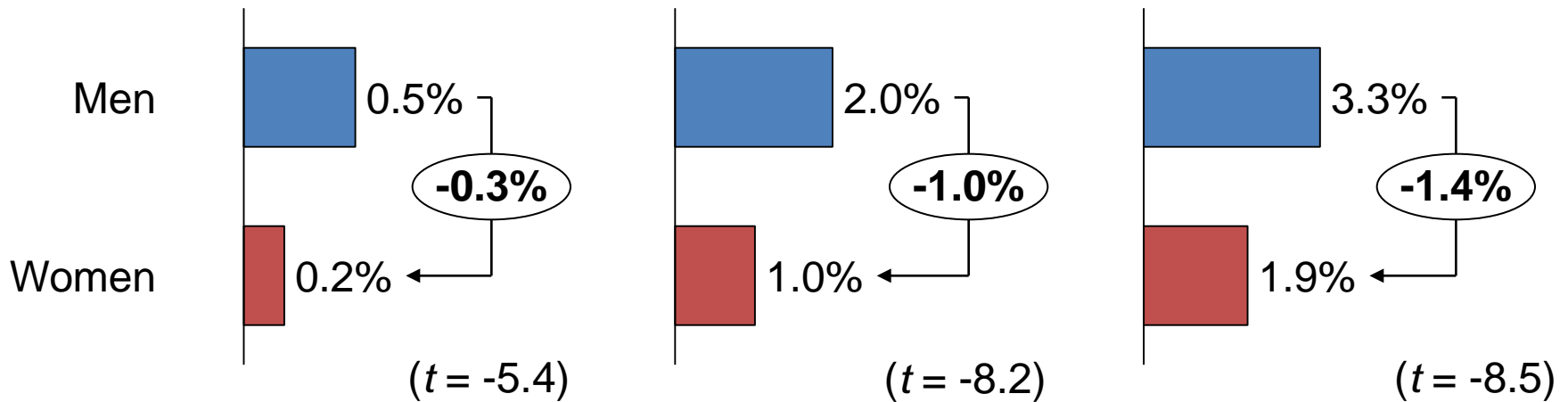
Large firm = 500M  
SEK in total assets  
Mean = 143 / 40,258

## Large-firm top executive

Top exec = Top 5  
paid executive in firm  
Mean = 641 / 40,258

## Highly paid executive

Highly paid = Paid  
more than 1M SEK  
(top 10% among  
execs/top 1%  
generally)  
N = 1,114 / 40,258



## Takeaways so far

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# Qualifications we consider

## 1. Family background

Birth order, family size, # male siblings, born in top-3 county, immigrant, live in birth county

## 2. Risk tolerance

Stock market participation

## 3. Education

Field of education, top executive/income high school

## 4. Career

Age, labor market experience, tenure, industries/firms worked in, years of consulting/IB/non-profit/public sector experience, days unemployed, graduated in recession

## 5. Executive experience

CEO, production and operations, finance and admin, personnel and industrial relations, sales and marketing, advertising and PR, supply and distribution, computing and R&D

## 6. Parents' socioeconomic status (subsample)

University education, employment, age-gender income rank

## 7. Personal traits (subsample)

Cognitive/non-cognitive ability, height, fitness, strength, BMI, officer rank, high school GPA

# Selected differences in qualifications

Differences in this table statistically significant

	All	Women less men
Birth order	1.68	-0.03
Family size	2.38	-0.04
Live in birth county	0.52	-0.01
Stock market participant	0.86	-0.05
Business and econ degree	0.47	0.34
Top income high school	0.13	-0.10
# years in firm	5.70	-0.22
# years of non-profit experience	0.19	0.14
# years of public sector experience	3.16	1.78
# days unemployed	219.15	29.46

# Selected differences in qualifications

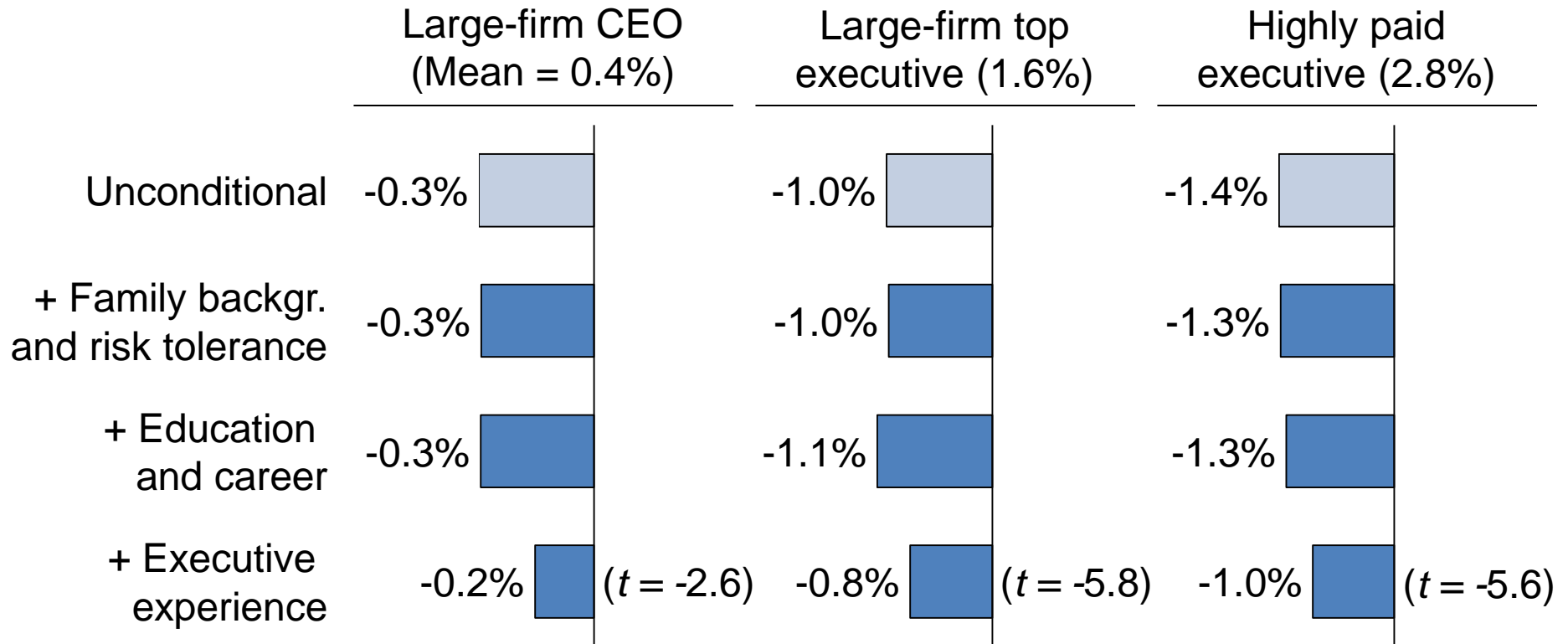
Differences in this table statistically significant

	All	Women less men
CEO experience, 2004	0.01	-0.02
Production and operations experience, 2004	0.02	-0.01
Personnel and ind. relations experience, 2004	0.003	0.005
Computing and R&D experience, 2004	0.01	-0.01
Mother's income rank	0.59	0.01
Non-cognitive ability	0.41	0.04
Physical fitness	0.32	0.03
Officer rank	0.22	0.02

# Qualifications fail to explain gender gaps

Coefficients on female dummy in regressions of top executive dummies

All coefficients significant



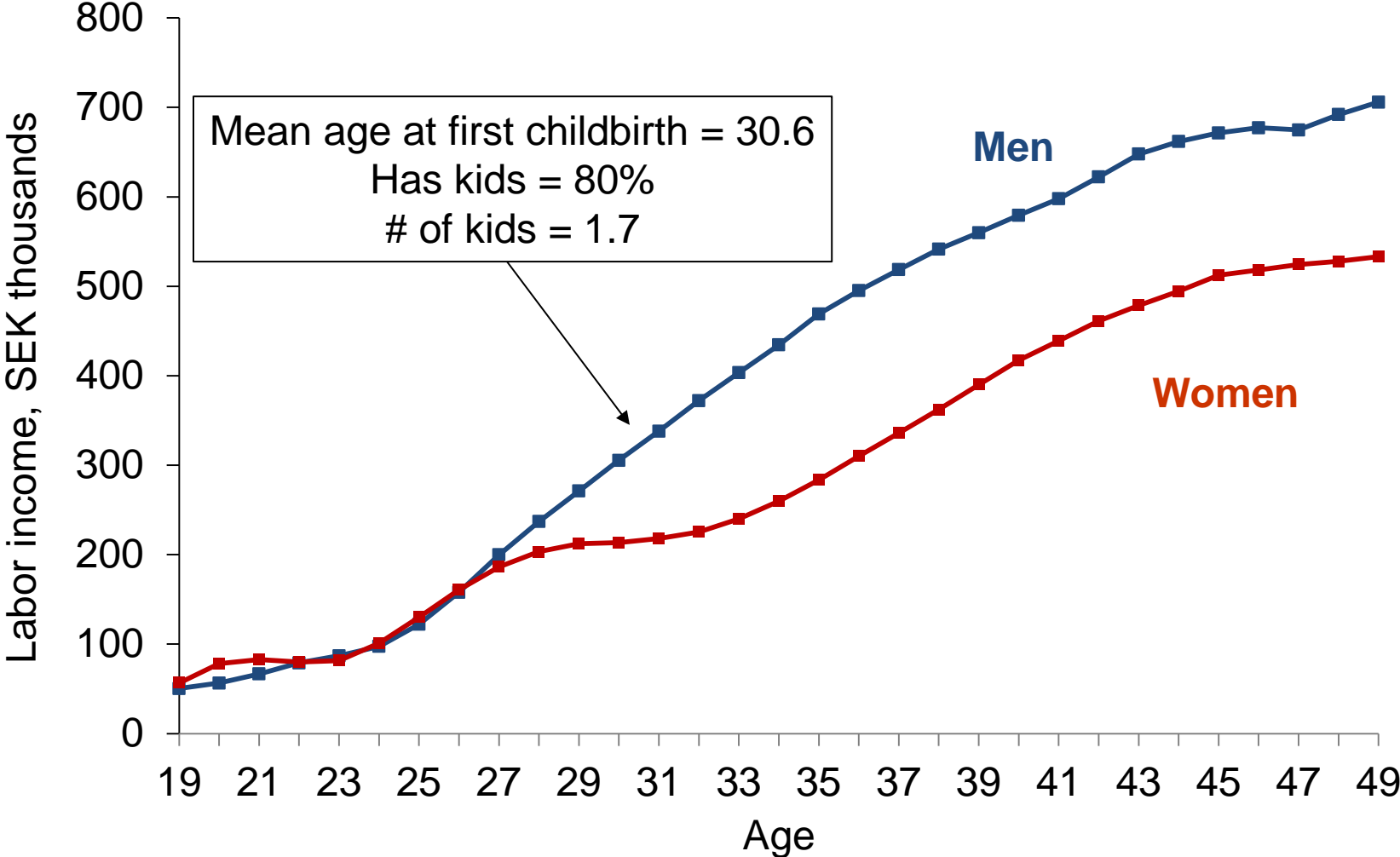
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# Career trajectories by gender

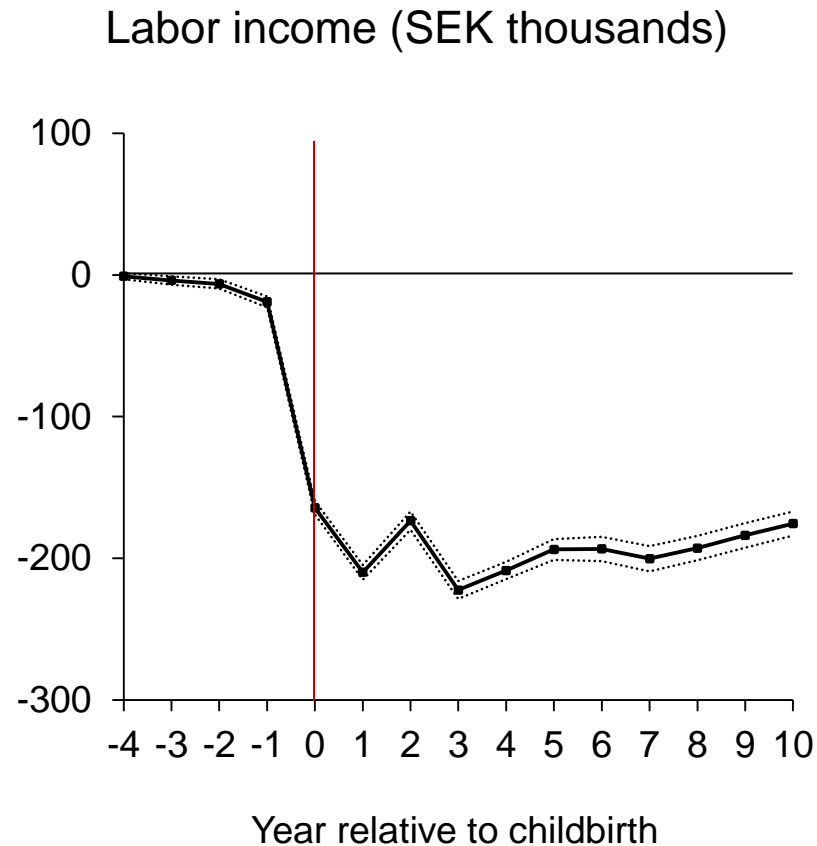
Mean labor income by age and gender



# Women's careers around childbirth

Coefficients on interactions of female dummy and event year dummies

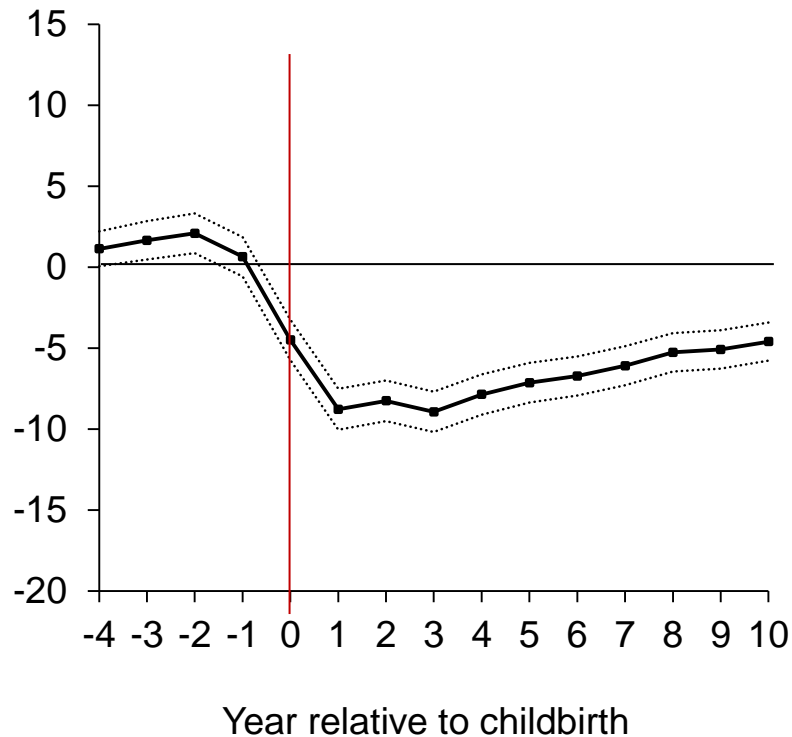
Confidence intervals based on robust standard errors



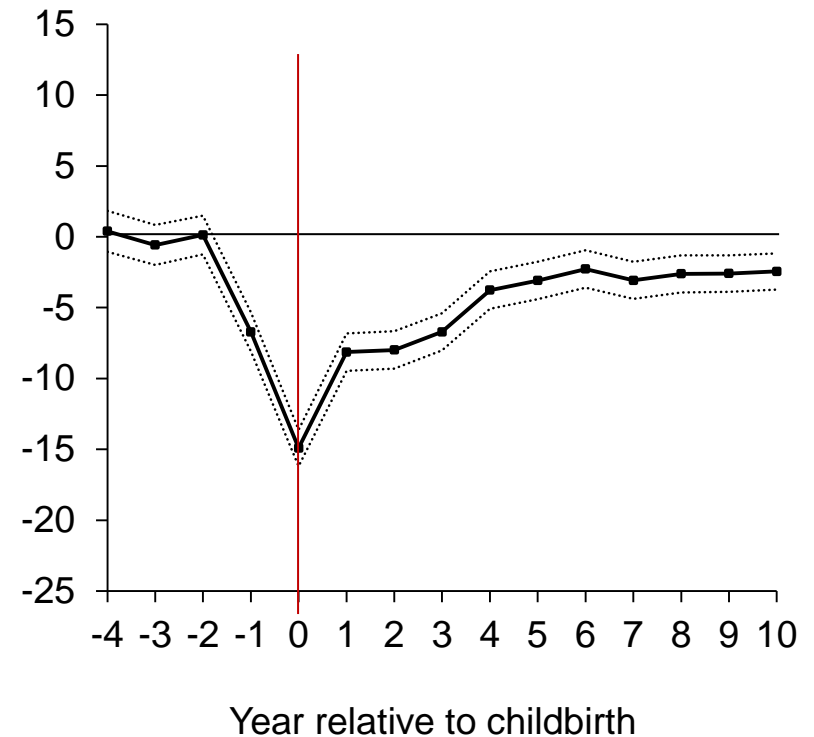
Women suffer a **long-term child penalty**

# Women have lower labor force participation and are less mobile

Labor force participation (%)

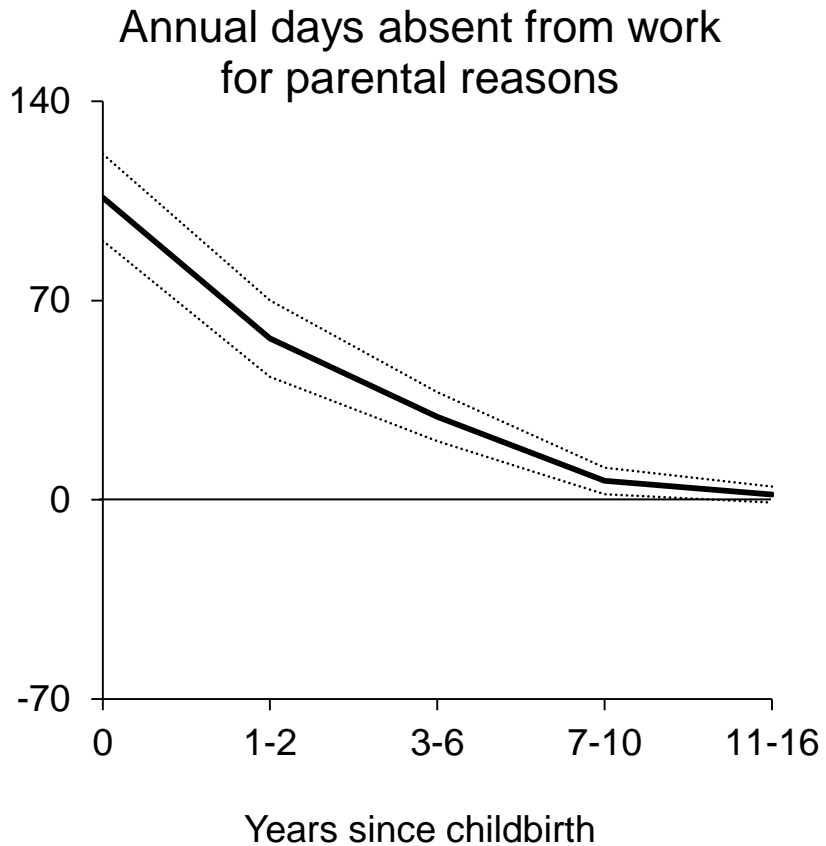


Probability of attaining new job (%)

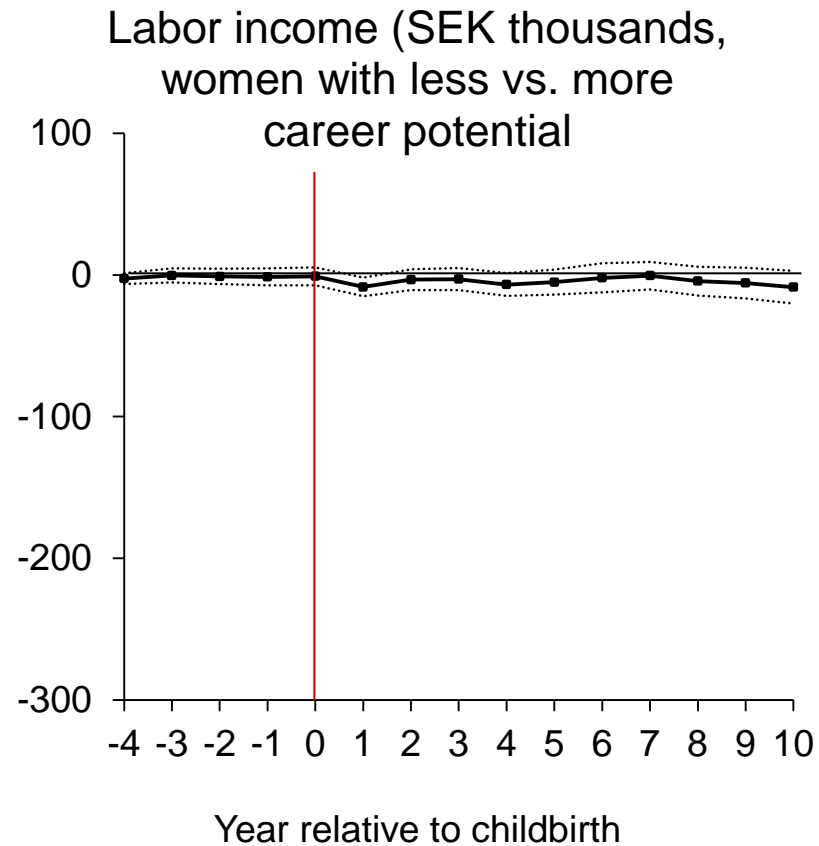




# Women are more absent from work and work shorter hours

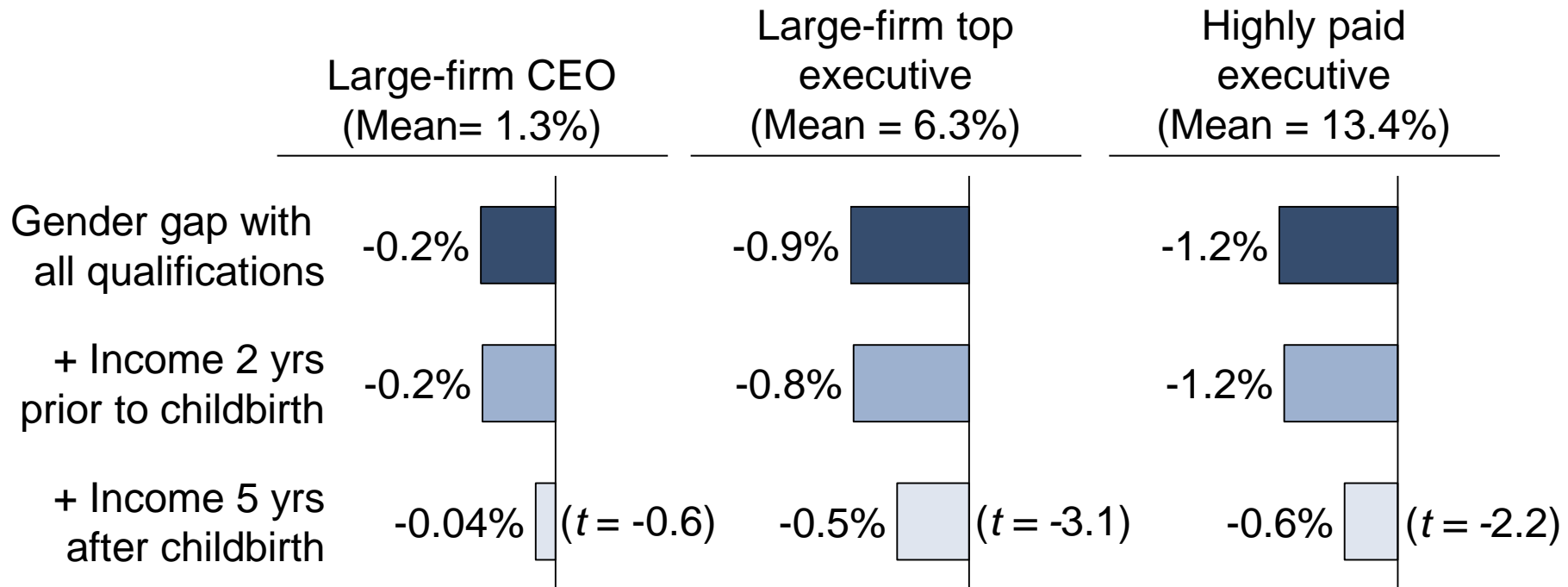


# Women's careers not affected by potential relative to their partner



# Child penalties explain top executive gender gaps

Sample includes graduates with at least one child



Career progression in the five years following childbirth accounts for 40%-100% of the gender gaps in 40s

## Takeaways so far

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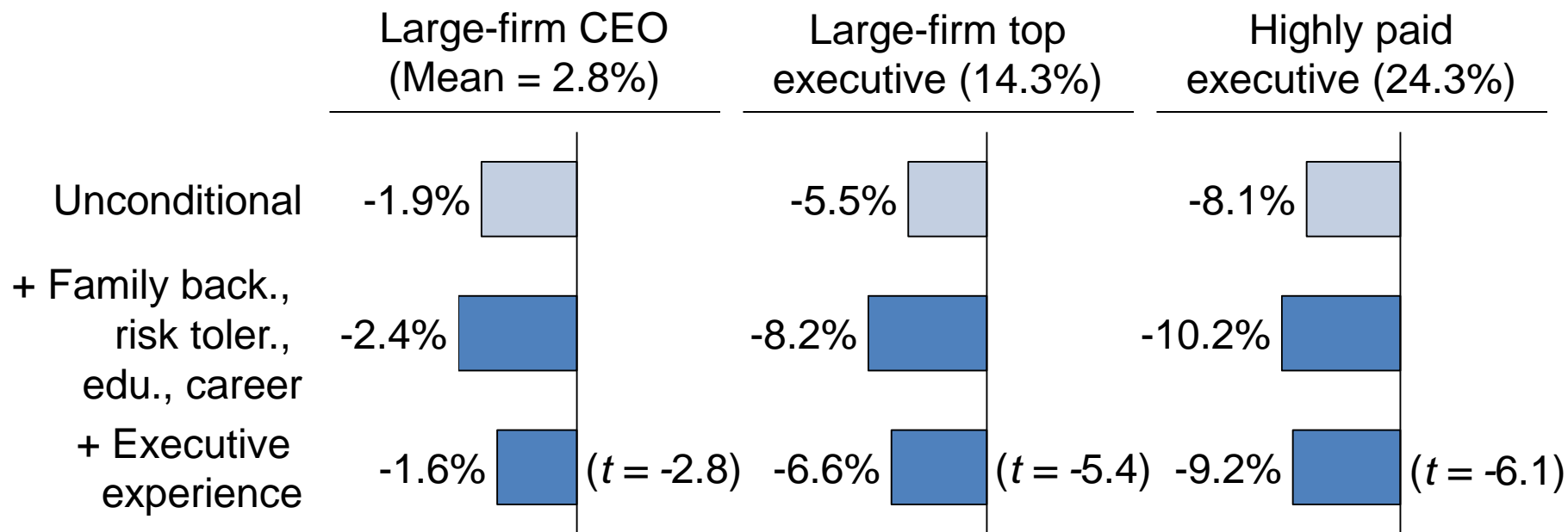
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# Executive women more qualified than executive men

Coefficients on female dummy in regressions of top executive dummies

All coefficients significant

Executives in firms with more than 100 employees,  $N = 3,591$



Executive women may need to outperform men to overcome their family-related career barriers

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**Child penalties are relatively more important than qualifications in explaining gender gaps in top executive appointments**