



THE OTHER SIDE OF THE GLASS CEILING: THE EFFECT OF WOMEN AT THE TOP

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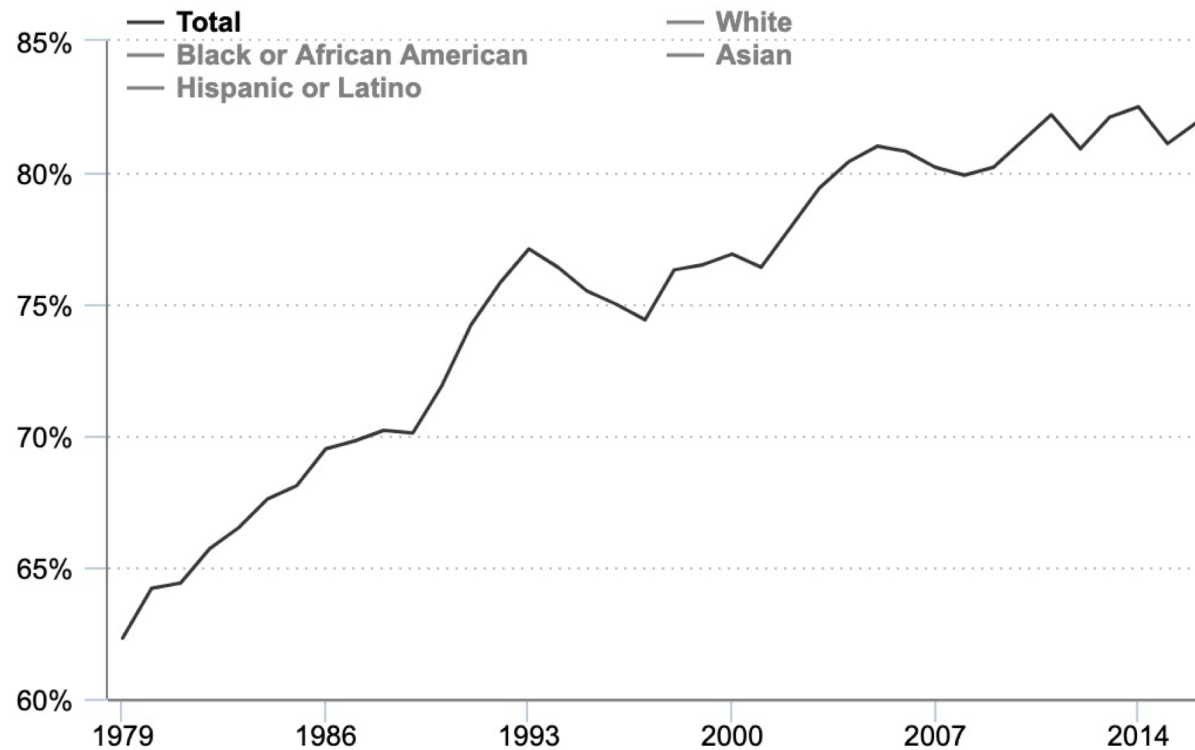
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Background

- Enormous gains for women since the 1960s
 - Education
 - Labor force participation
 - Earnings

US Gender Wage Gap

Women's earnings as a percentage of men's, median usual weekly earnings of full-time wage and salary workers



Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.



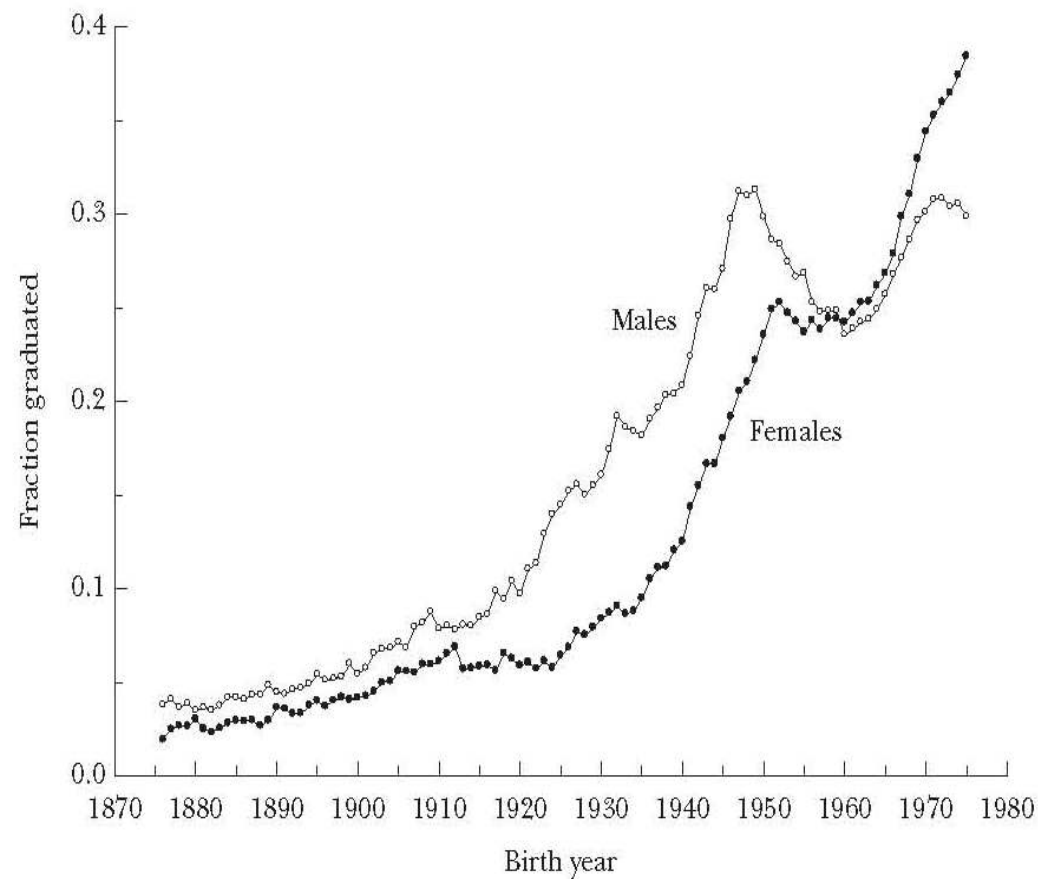
Background

- Enormous gains for women since the 1960s
 - Education
 - Labor force participation
 - Earnings
- Particularly salient when it comes to education
 - Women have now over-taken men in terms of educational achievement in many developed countries:

U.S. College Graduation Rates by Gender

Figure 1

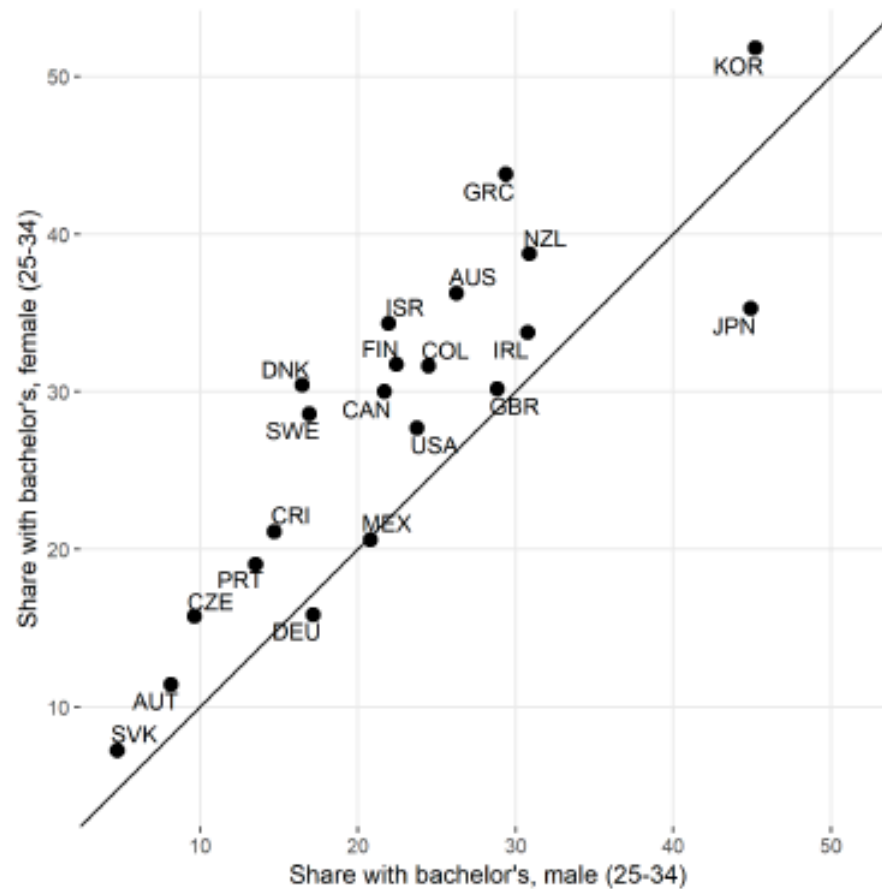
College Graduation Rates (by 35 years) for Men and Women: Cohorts Born from 1876 to 1975



Source: Goldin, Katz and Kuziemko (2006)

College Graduation Rates by Gender

Gender gap in tertiary education, 2017



Source: Bertrand Ely Lecture (2019)



College Graduation Rates by Gender: Chile (2018)

Of Chilean men and women between 25 and 34 years old in 2018:

- 31 percent of women had completed higher education v. 28 percent of men.
- 52 percent of women had completed obligatory schooling v. 55 percent of men.

Background

Some Explanations for Gains:

- Increased skill acquisition of women and labor force attachment
- Innovations in contraception
- Technological progress in home production (dishwashers, washing machines, etc)
- Reduced discrimination

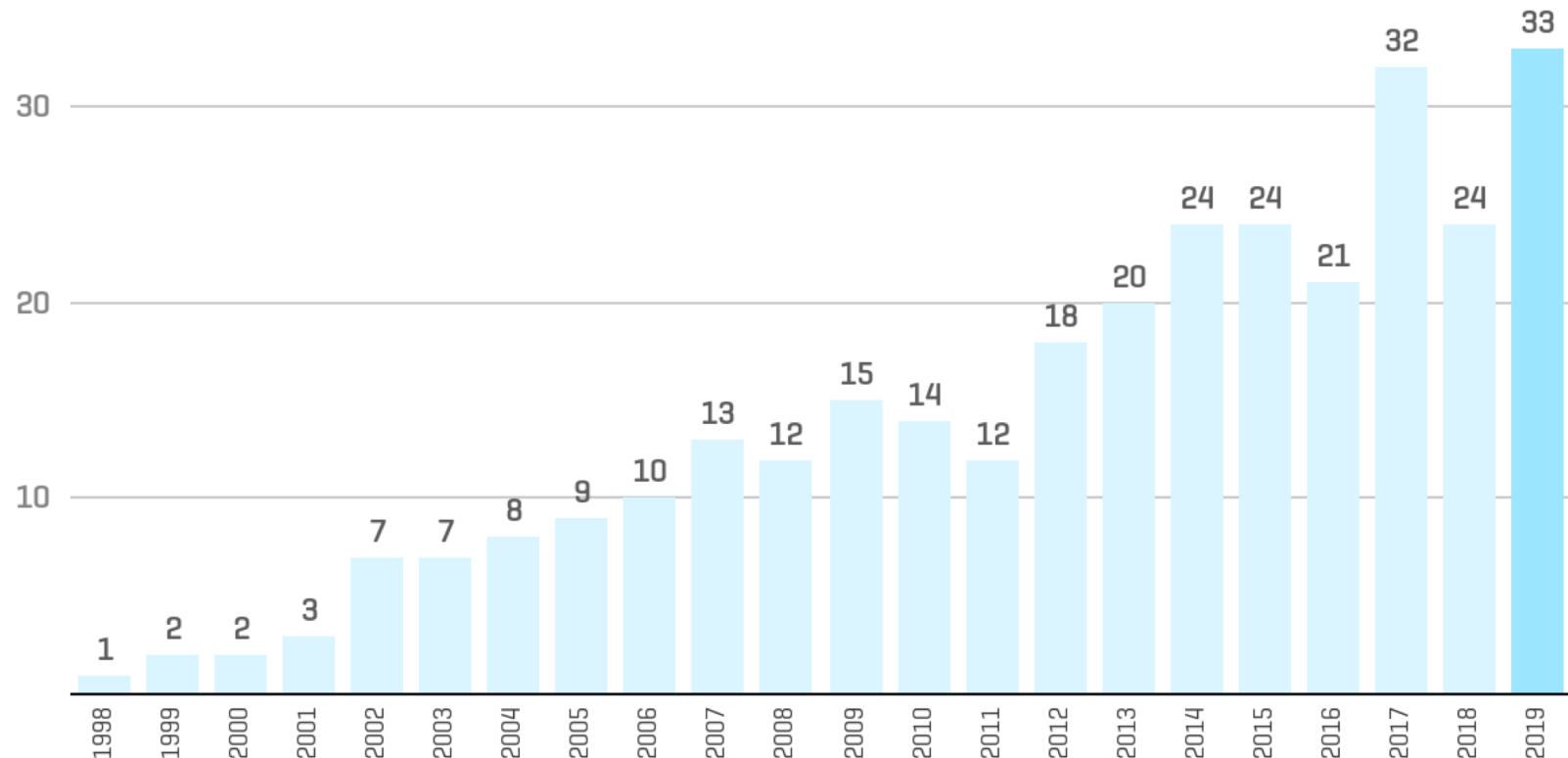


Yet...

- A significant gender gap in earnings still remains, even among full-time-full-year (FTFY) workers
 - In the United States, FTFY female workers earn about 25 percent less than FTFY male workers
- Importantly, women remain significantly under-represented in high status/high income occupations

Women Are Under-Represented at the Top

Number of Female CEOs in the Fortune 500



As of June 1, 2019; includes Bed Bath & Beyond's interim CEO

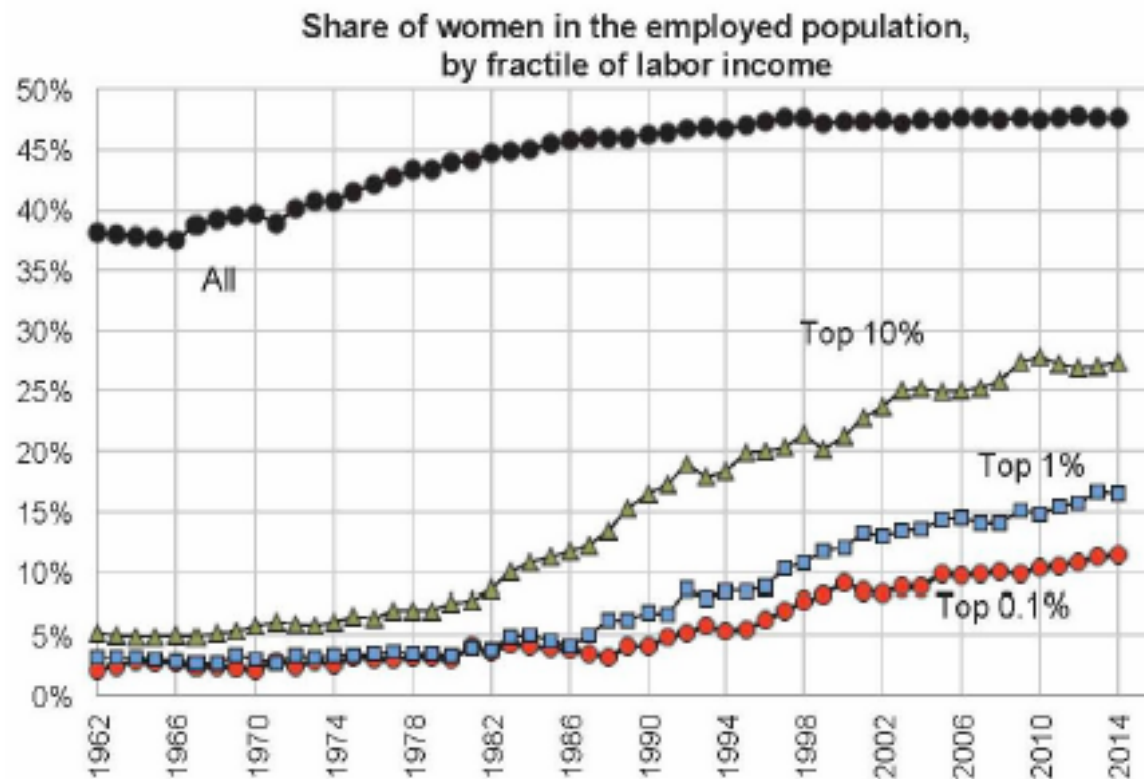
SOURCE: Fortune

FORTUNE

Bertrand and Hallock (2001): in US only 2.5% of top executives are female and female executives earned 45% less than their male counterparts.

Women Are Under-Represented at the Top

USA



Source: Piketty, Saez and Zucman (2017)

Source: Bertrand Ely Lecture (2019)



Questions

- Part I: Despite significant progress over time, why are women still underrepresented in top occupations?
- Part II: What are the effects of policy legislating gender equality at the top? Do the policies have spillover effects on the decisions, both family and career, of women more generally?



Part I:

What Explains the Remaining Gender Gap(s)?

Gender differences in psychological characteristics?

- Risk aversion
 - Overconfidence
 - Competitive behavior
 - Negotiation
-
- Where does it come from? Nature v. Nurture

What is the role of the family?



Gender Differences in Psychological Characteristics

Risk Aversion

Could differences in risk aversion lead women to choose jobs with more stable earnings (which also tend to be lower paid)?

- Significant body of research in the laboratory suggests that women are more risk averse
- True in a variety of settings, including choosing among gambles/certainty equivalents
- Mostly conducted on college students
- Some recent work on risk aversion among women in the general population

Gender Differences in Psychological Characteristics

Overconfidence

Men are more overconfident than women. This could be related to (cause?) gender differences in risk aversion and competitive behavior.

- Soll and Klayman (2004)
 - Participants are asked to provide high and low estimates such that they were X percent sure that the correct answer for a given question lay between them.
 - Both men and women were overconfident (their intervals were too small) but men were significantly more so.
- Niederle and Vesterlund (2007)
 - While both men and women demonstrate overconfidence, men are substantially more overconfident on their relative performance on a task (simple addition) and this relates to decisions to enter competitive games.



Gender Differences in Psychological Characteristics

Competitive Behavior

Women may do worse in a competitive environment.

- Interesting work in the laboratory by Gneezy et al (2003) where students solve mazes
- Evidence suggests that, while both men and women do tasks equally well when paid by piece rate, boys do better in competitive environments while girls do not.
- However, women do as well as men in the competitive setting if the groups are single-sex

Gender Differences in Psychological Characteristics

Compensation Choices

- **High profile, high earnings occupations tend to have a “winner takes all” compensation scheme, which could hurt women if they shy away from these types of jobs.**
- In experimental environment, Niederle and Vesterlund (2007) study the compensation choices men and women make in a mixed sex environment
- Task: Adding up sets of five two-digit numbers
- Choices: piece rate and tournament-like winner-take-all
- Unlike earlier findings, boys and girls do equally well under both scenarios
- However, despite equal ability, boys were more than twice as likely to choose the tournament.
- Importantly, high performing women are less likely to choose a tournament than the men that were in the lowest quartile, suggesting too few high-ability women and too many low-ability men entering the tournament.



Gender Differences in Psychological Characteristics

Compensation Choices

Interesting implications for affirmative action quotas in hiring

- Niederele and Vesterlund (2008) experimentally shows a significant increase in the share of women willing to participate in tournaments under a quota-like affirmative action policy.
- In this case, affirmative action mandated that at least as many women as men must be tournament winners
- Authors argue that the policy makes the competition more gender-specific, and women's taste for competing is higher when the competition is gender specific.

Gender Differences in Psychological Characteristics: Negotiation

Differences in negotiation propensities/skills could lead to differences in pay for the very same job.

- Bowles et al (2005, 2007) study gender differences in the propensity to negotiate—very situational
- Women are less likely to initiate negotiations
- Women's performance in negotiation improves when they are negotiating for someone else (not themselves), while men's performance does not change
- Women who negotiate are perceived more negatively than men who negotiate

Gender Differences in Psychological Characteristics

Summary

Based on laboratory experiments:

- Risk Aversion: Evidence that women are more risk averse.
- Overconfidence: While both men and women are overconfident, men tend to be substantially more overconfident.
- Competitive Behavior: Women perform more poorly in competitive environments and shy away from such environments.
- Negotiation: Women negotiate less and are less likely to ask (and are perceived more negatively than men when they do).



But...

- Little evidence outside the laboratory
- Not related to real life outcomes
- Actual behavior may be different



Gender Differences in Psychological Characteristics

Where do these differences come from?

Nature v. nurture

Gender Differences in Psychological Characteristics

Nature v. Nurture

- Gneezy et al (2008)
- Measure gender differences in behavior across two distinct societies with opposite cultures in terms of women's position in society
- Maasai in Tanzania—patriarchal society where “women are said to be less important than cattle”
- Khasi in Northeast India—matrilineal with inheritance and clan membership following female lineage—women are head of the household and make all important economic decisions

Gender Differences in Psychological Characteristics

Nature v. Nurture

- Ask participants to perform simple task (tossing a tennis ball into a bucket 3 meters away 10 times)
- No ability differences by gender
- Participants are informed that they will be paired with someone else performing the same task at another location in the village
- Participants can choose between being compensated a fixed amount for each successful throw or three times that fixed amount per successful throw if they outperform the other participant (nothing otherwise)
- Patriarchal society: 50% of men choose to compete compared to only 26% of women (similar to other studies in the West)
- Matriarchal society: 54% of women choose to compete compared to only 39% of men



Gender Differences in Psychological Characteristics

Nature v. Nurture

- Suggests nurture plays a significant role in these gender-specific psychological characteristics.



The Role of Family

Caring for family requires a significant time investment. If these responsibilities are disproportionately borne by women, their careers will suffer.

- Women are still the dominant providers of child and elderly care within the household, as well as other forms of non-market work (chores, etc)
- Many of the higher –paying jobs have long hours and inflexible schedules, which makes it difficult to combine those jobs with family responsibilities.
- Difficult for women to stay on the “fast-track”

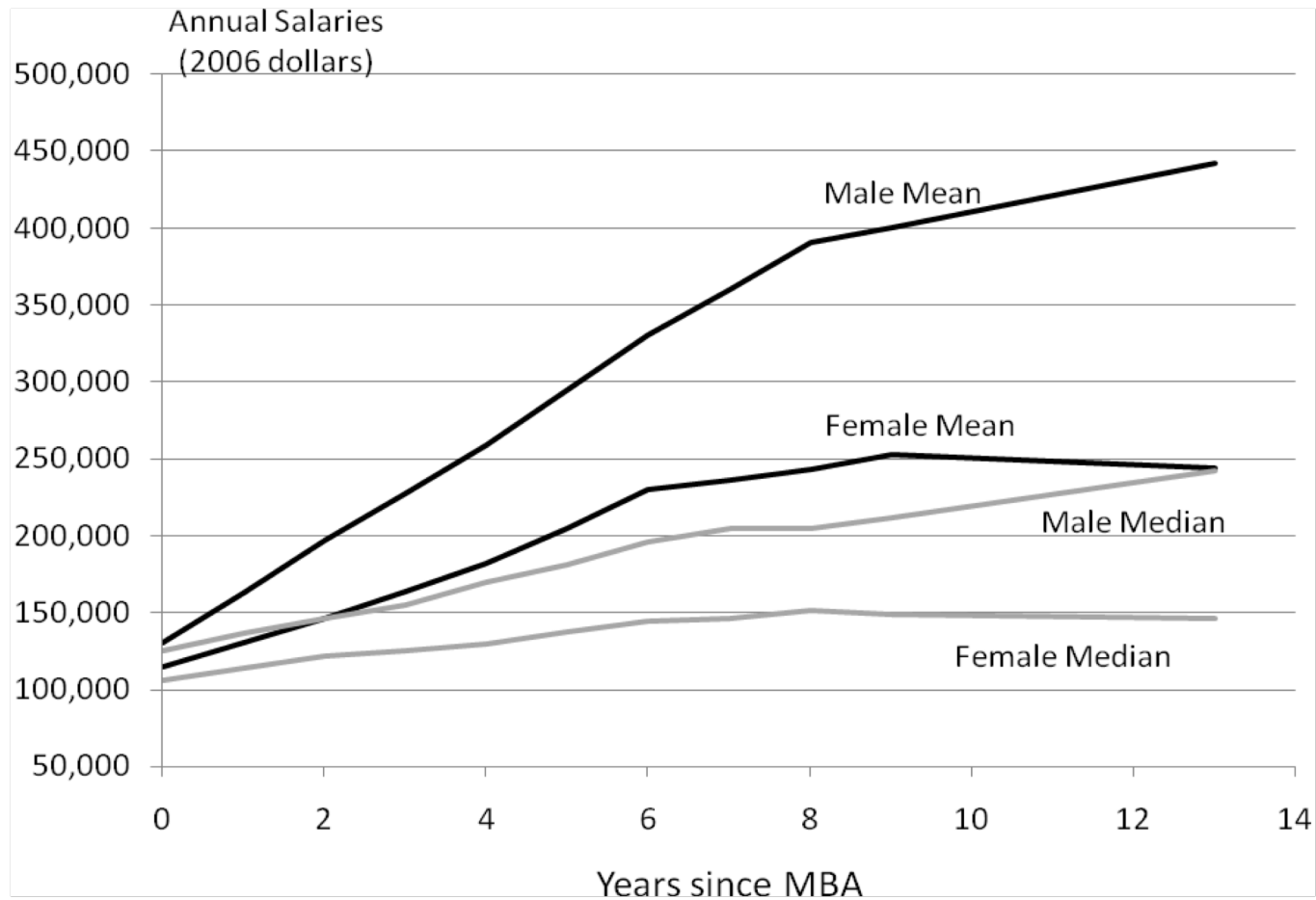


The Role of Family

- Work by Bertrand, Goldin and Katz (2011) studies Chicago Booth MBA students

Male and Female Mean and Median Annual Salaries (\$2006) by Years since MBA (Chicago Booth data)

Source: Bertrand, Goldin and Katz 2011



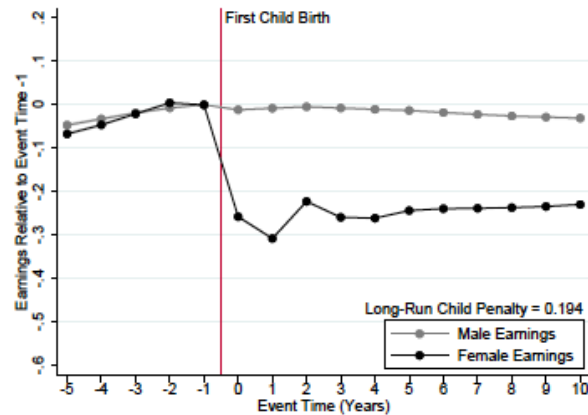
Work-Family Balance

- Work by Bertrand, Goldin and Katz (2011) studies Chicago Booth MBA students
- Main cause of growing gender gap in earnings is growing gender gap in labor supply
- Most of the gender gap in labor supply can be explained by the presence of children.
- Suggests room for family-friendly policies. But...

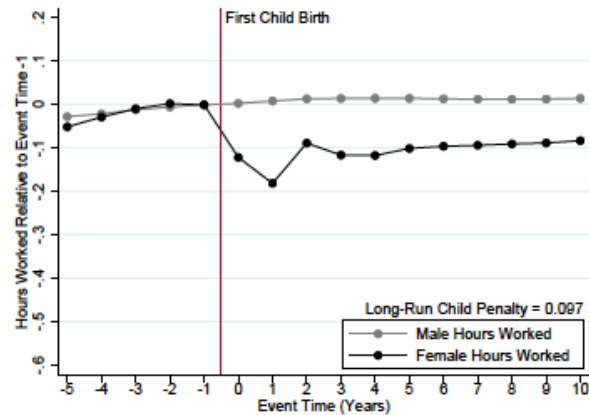
Child Penalty in Denmark

Kleven et al (2018)

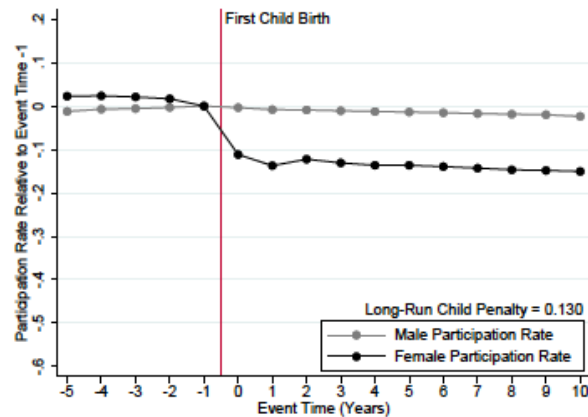
A: Earnings



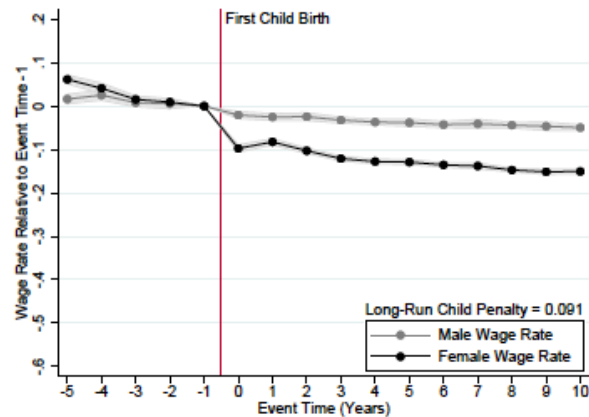
B: Hours Worked



C: Participation Rates



D: Wage Rates





Policies

How can we address these issues?

- Political Quotas
- Board of Director Quotas

Basics

(Pande and Ford 2011)

- Politics:
 - Despite well-known exceptions, fewer than 19% of legislators in the world in 2011 were women.
- Corporate Sphere:
 - In Europe, despite a labor force that is 45% female, women only average 11.9% of corporate board of directors.



Political Quotas

(Pande and Ford 2011)

- More than half of the countries in the world have implemented some type of political quota.
- In 1990, the UN Economic and Social Council set a target of 30% female representation in decision-making bodies by 1995.
- Given the global environment, quotas began to emerge as a popular policy option.

Evidence of the Effects of Political Quotas

- Most compelling research uses “experiment” in India
 - Since the mid-1990s, 1/3 of Village Council head positions were randomly reserved for women.
 - Can compare the effects on outcomes in “treated” versus “non-treated” villages
 - Also variation in intensity of treatment



Evidence of the Effects of Political Quotas: Policy Decisions

- Chattopadhyay and Duflo (2004) find that quotas do affect policy decisions.
- Policy decisions seem to better reflect women's preferences, where the preferences of men and women are proxied by the types of formal requests brought to the Council by each gender.
- For example, in West Bengal, women complain more often than men about drinking water and the roads, and there are more investments in drinking water and roads in Councils reserved for women.

Evidence of the Effects of Political Quotas: Aspirations and Educational Attainment

- Using the same experiment, Beaman et al (2012) show that aspirations and educational attainment of young girls increased as a result of quotas among adults
- Compared to villages that were never “reserved”:
 - The gender gap in aspirations closed by 25% in parents and 32% in adolescents (11-15) in villages assigned to a female leader for two election cycles
 - The gender gap in adolescent educational attainment disappeared
 - Girls spent less time on household chores
 - This is despite no evidence of changes in young women’s labor market opportunities, suggesting a role model effect



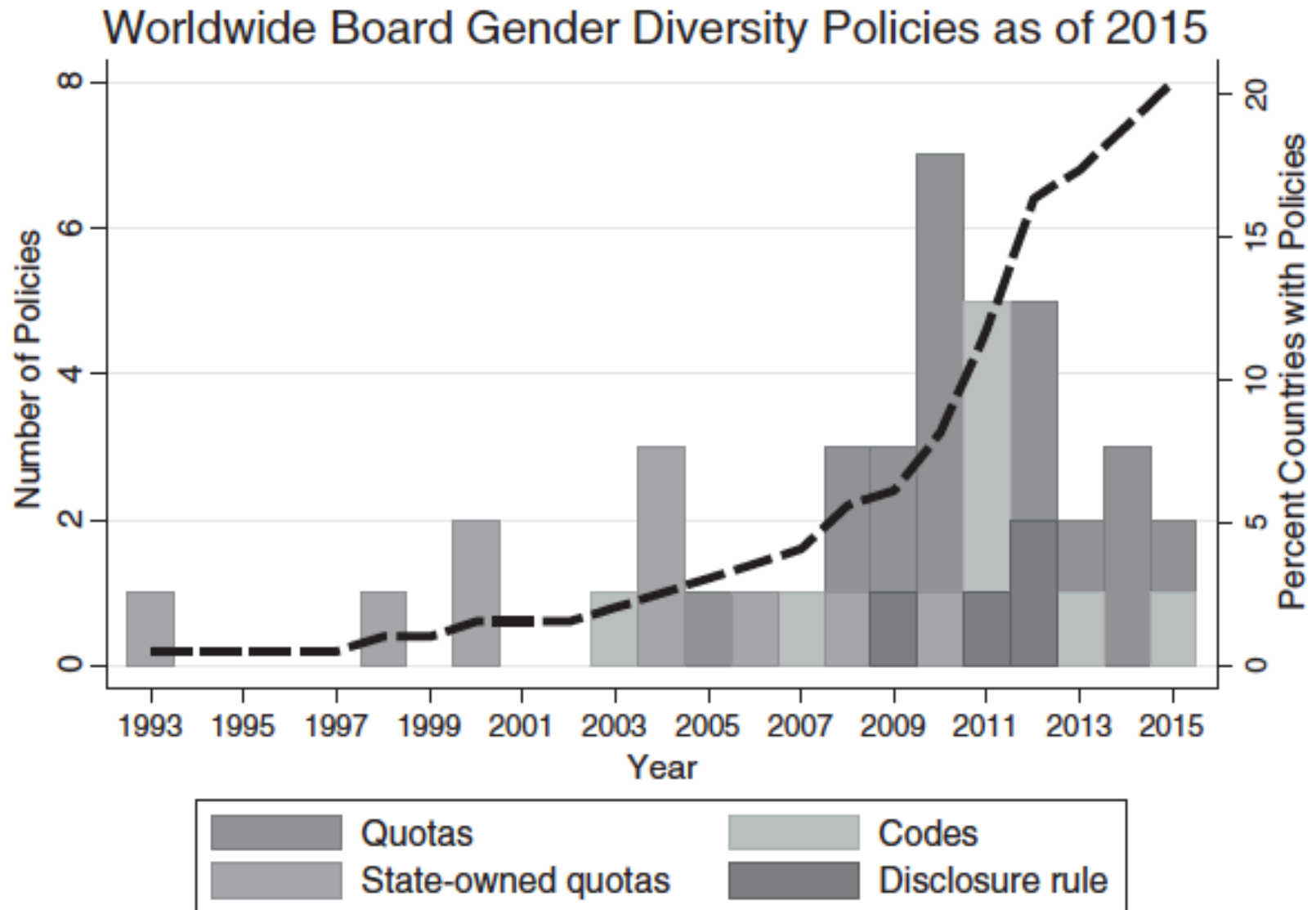
Policies

- Political Quotas
- **Board of Director Quotas**

Corporate Board Quotas

- Following Norway's lead, Belgium, France, Germany, Iceland, India, Israel, Italy, and Spain have all passed similar reforms.
- In 2014, the new German coalition government passed legislation requiring that corporate boards be composed of at least 30% women by 2016 (or else the seat would be left vacant).
- On November 20, 2013, the European parliament voted in favor of a proposed draft law that would require 40% female board members in about 5,000 listed companies in the EU by 2020. (State-owned companies would be required to comply by 2018.)

Existing Quotas



Source: Adams (2016)

Possible Effects of Gender Quotas on Boards

They might reduce the gender wage gap

- Incentivize more women to stay on the fast track as likelihood of “board membership prize” increases (*direct* effect)
- Incentivize more women to stay on the fast track to get other top corporate jobs (*indirect* effect)
- Female-heavier boards more likely to find ways to accommodate women’s and mothers’ needs (job restructuring, flextime, etc)
- Role model effects through increased visibility of high-achieving women
- Change in law spurring a broader change in norms

Possible Effects of Gender Quotas on Boards

They might do nothing, or even backfire:

- Total number of board positions is fairly limited, constraining direct effect of board quota policy
- More women in the board room *does not imply* a greater chance for high-achieving women to be considered for other top corporate positions
 - Women not a majority
 - Power of the board may be limited
 - Women *may not* be more “tolerant” or “accommodating” of other women
- Direct effect (but to some degree also indirect and role model effects) strongly conditional on the quality of newly appointed female board members:
 - Coate and Loury (1993)’ “patronizing equilibrium”

A Study of Norway's Board Quota Reform

(Bertrand, Black, Jensen, and Lleras-Muney, 2019)

- **2001:** proposal for gender representation in boards sent to public hearing (July)
- **2002:** Minister of trade submits first law proposal
- **January 2004:** public limited liability companies (ASA) had two years to achieve at least 40% of each gender.
 - Broad majority voted in favor in December 2003
 - Law covered 519 firms. Only 13% compliant in 2005
- **January 2006:** Sanctions were introduced. Non-compliant firms by 2008 faced threat of dissolution
 - 90% compliance by January 2008
- Stated Objectives of the reform:
 - Performance-based arguments—“women’s style” could improve productivity
 - Equity in the labor market

Did the Reform Affect Equity in the Labor Market?

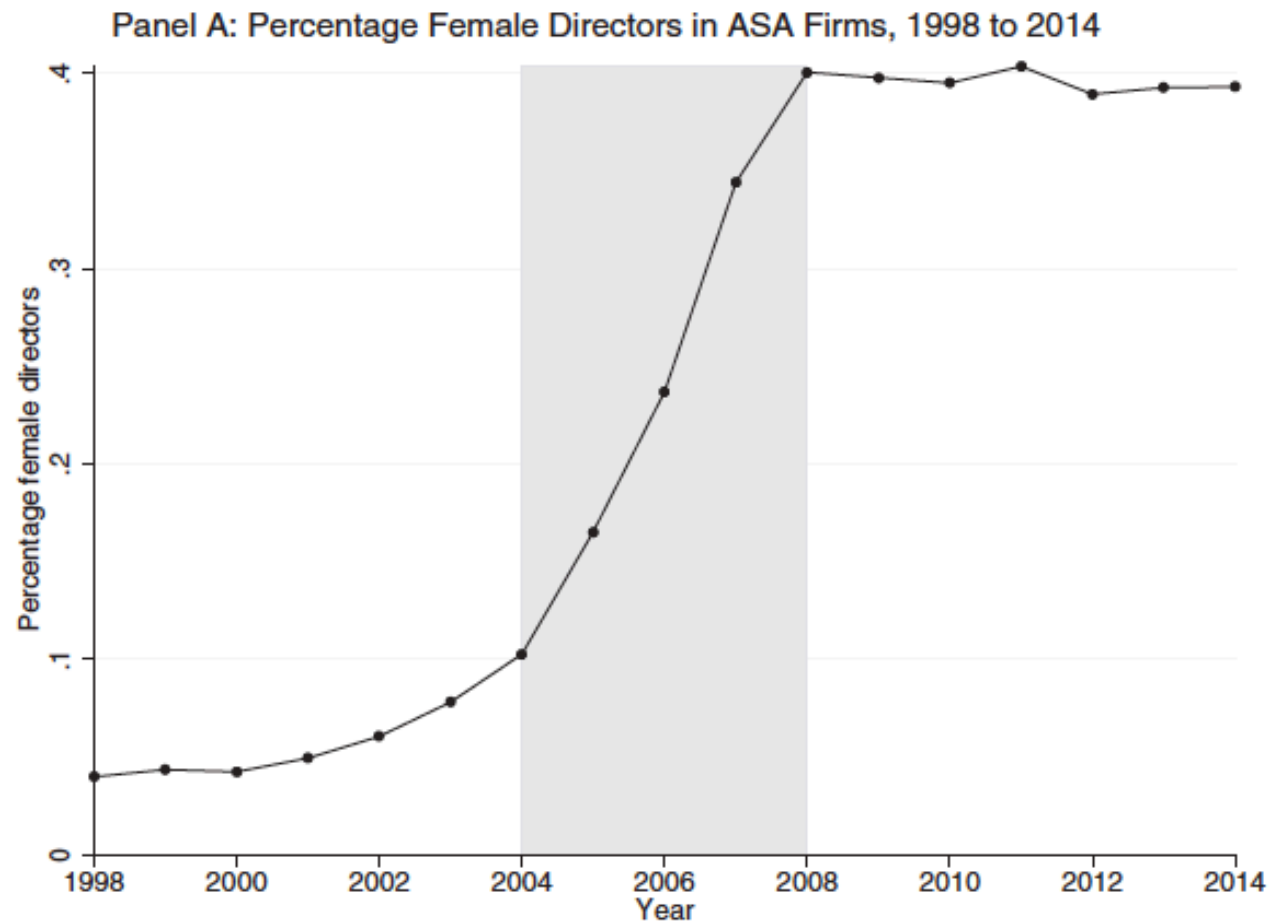
Question 1: Who was hired as a result of the reform? Were there qualified women to hire?

Question 2: What happened to women within affected firms?

Question 3: Effects on broader labor market outcomes. Did women benefit and did they change their personal choices?

- Although “only” a few hundred women were **directly** affected (*194 in 2002 to 762 in 2008*), reform intended to affect all those on the fast track (women in business).
- What happened to women in business more broadly?

Norway's reform: Share of Women on Boards



ASA: public limited liability firms



Question 1: Which Women Were Appointed to Boards?

- The average observable qualifications of the women appointed to the boards significantly improved after the reform.
- While there is a substantial gap in observable qualifications of male and female board members both before and after the reform, this gap is smaller after the reform.
- Most strikingly, while there were large gender gaps in the share of board members who had completed business or MBA degree pre-reform, those gaps disappeared post-reform.
- In addition, the gender gap in earnings within boards fell after the reform.



Question 1: Which Women Were Appointed to Boards?

- No evidence of a patronizing equilibrium
- Firm's fears about "lack of availability of qualified women" appear to have been unjustified



Question 2:

What happened to women within affected firms?

- Does an increase in female share in the boardroom translate into the recruitment or promotion of more women within these firms?
- Female board members might be vocal proponents of female candidates or could leverage their own networks of women candidates.
- Could lead to changes in policies that improve work-family balance, such as more part-time work or more amenities for women with children.



Question 2:

What happened to women within affected firms?

- We exploit variation across public limited liability companies in the pre-reform (2003) fraction of women on their board to identify the effect of the reform.
- We find no evidence to suggest that the reform improved outcomes for women employed in these companies.
- The addition of women to the boardroom did not systematically increase the representation of women in the top echelons of the company (defined as top quartile, decile, and vigintile of the companies' income distribution).
- We also find no robust evidence that the work environment at these companies became more family-friendly.

Question 3:

How did the reform affect women more broadly?

- Although “only” a few hundred women were **directly** affected (*194 in 2002 to 762 in 2008*), reform intended to affect all those on the “fast track”
- Expect positive labor market effects for these women as they now have more incentive to stay on the fast track.
- Because of general equilibrium effects and the imprecise timing of reform, there is no “clean” experiment



Question 3:

How did the reform affect women more broadly?

Look at impact of mandate on broader set of highly qualified women whose qualifications mirror those of board members but who were not (yet) appointed to a board.

- If board membership is an attractive prize, these women have additional motivation to remain on the “fast track.”
- The search for female board members will help bring these qualified women to the attention of businesses, which may reduce search frictions in the filling of other executive positions.



Question 3:

How did the reform affect women more broadly?

- When we examine the effects on younger women who might be considering a business education, were enrolled in a business program, or had recently graduated from a business program, we also find little effect of the reform.
- Reform could have inspired them to consider a business career or see greater benefits of investment more in the early stages of their career.
- Comparing four cohorts of recent graduates from business programs (two pre-reform, one during the reform, and one post-reform), we do see relative improvements in early career labor market outcomes of young women in the post-reform period.
- However, we also observe similar patterns for young women with graduate degrees in science fields, suggesting this may not be due to the reform.
- We find no differential increase in enrollment in business programs after the reform.
- Finally, we conducted a qualitative survey in the Fall of 2013 at the Norwegian School of Economics. We find that all students were aware of the reform and many expected women to professionally benefit in terms of future earnings and likelihood of holding a top executive position.

Concluding Remarks

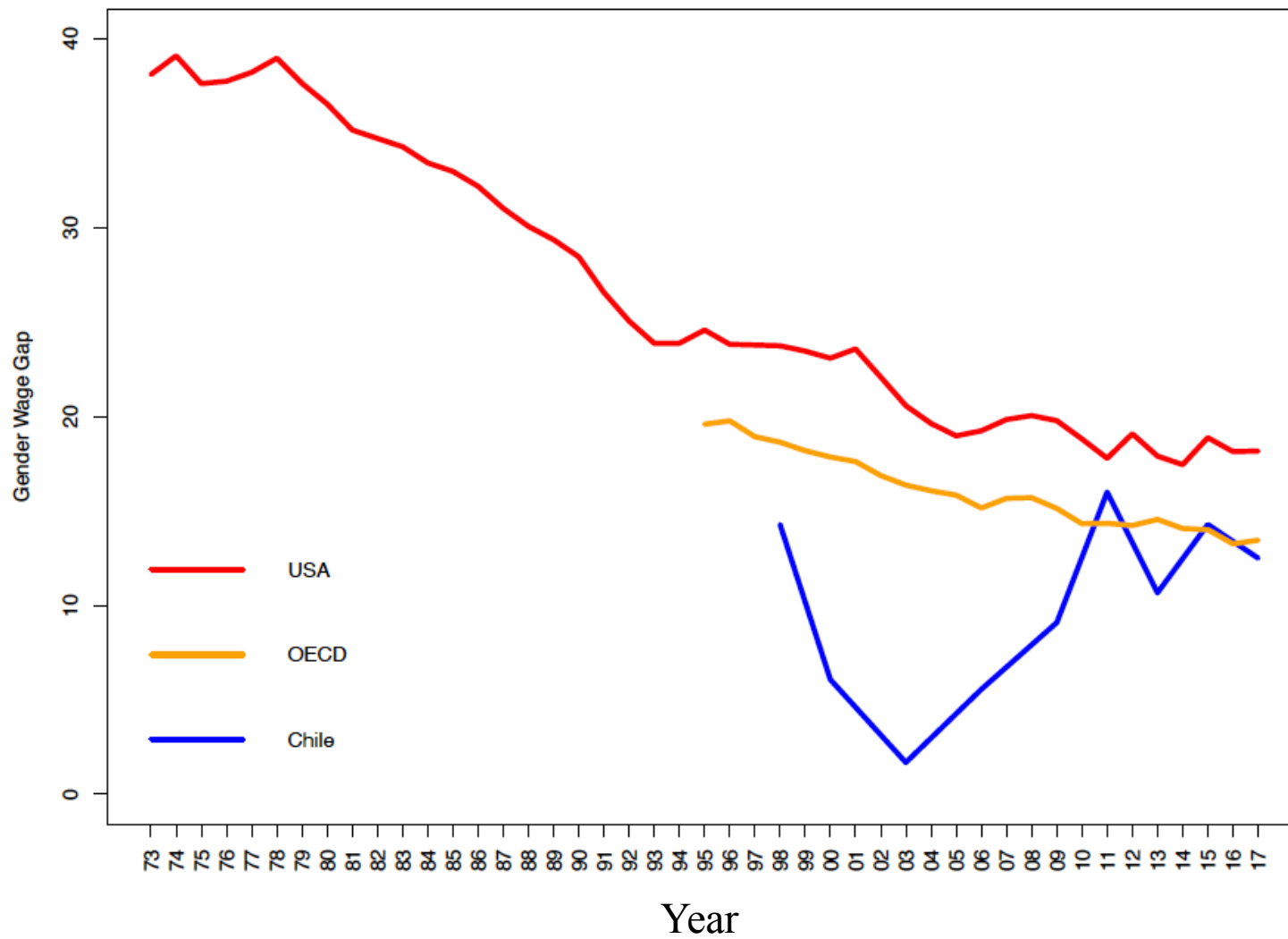
- Substantial labor market gains for women in the last three decades.
- However, a substantial gender pay gap still exists, and women are still disproportionately under-represented in top jobs.
- Possible explanations:
 - Gender-specific psychological characteristics, including risk aversion, overconfidence, competitive behavior, and negotiation that appear to be environmentally-determined.
 - In addition, there is recent evidence on the role of family and gender identity on labor market outcomes of women.
- Existing evidence suggests a potential role for political quotas, but less hopeful findings for board quotas.



Women Are Under-Represented at the Top

- In 2017, among Fortune 500 companies in the U.S., women held only 19.9% of corporate board seats and comprised only 5.8% of CEO positions.
- In Europe, despite being 45% of the labor force, only 5.1% of CEOs are women and only 23.3% of board members of the largest publicly listed companies are women.
- These numbers are even smaller in other parts of the world.
- This phenomenon—that women are under-represented at the top of the labor market and that gender wage gaps are larger there than average—is often referred to as the “glass ceiling” and is pervasive, even in countries perceived as having achieved the most progress in terms of gender equality.

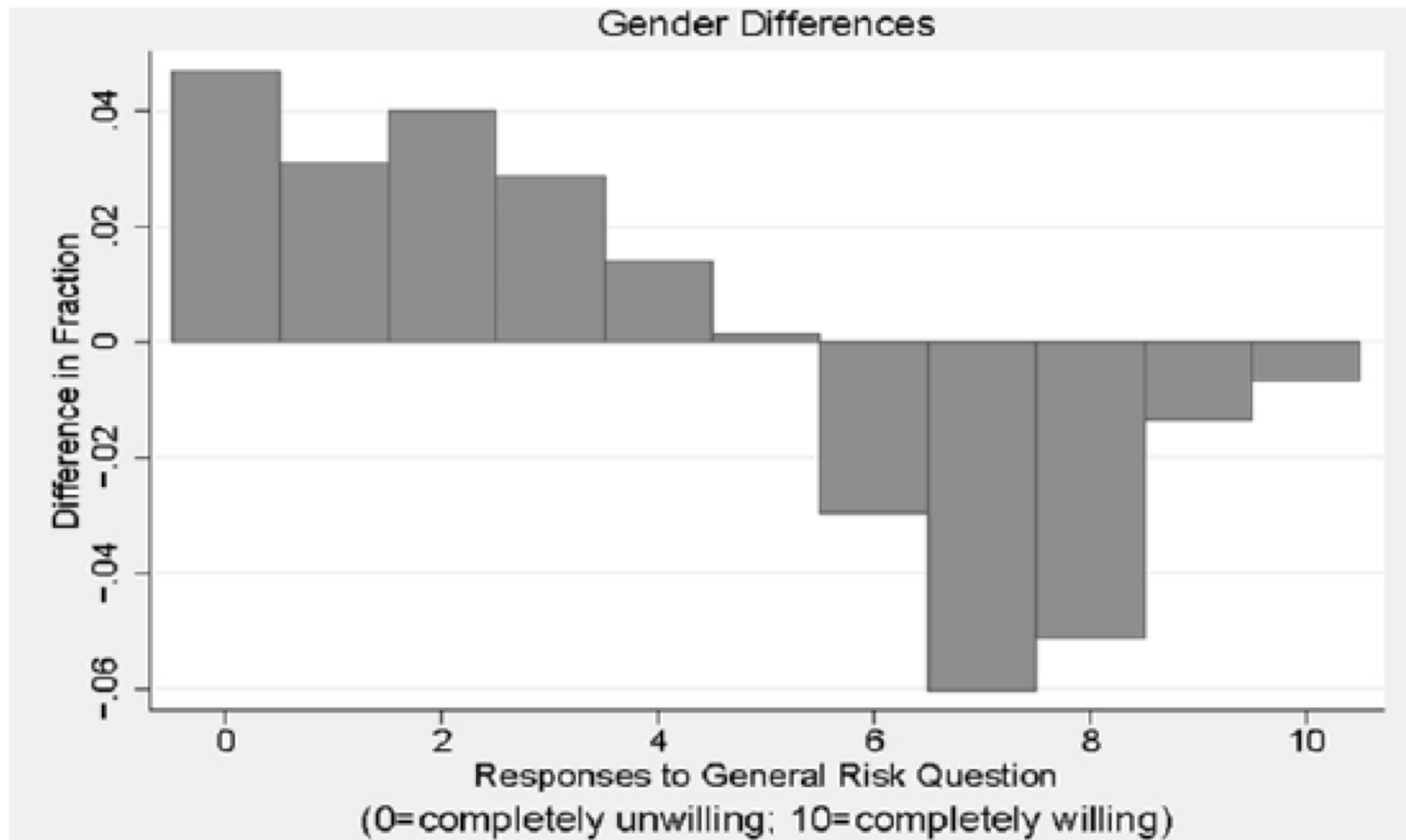
Gender Wage Gap US, OECD, Chile



Source: OECD

Gender Differences in Psychological Characteristics

Risk Aversion



Dohmen et al (2011)

Gender Identity

- Although there has been improvements over time, work-family balance considerations still considered disproportionately a “woman’s problem” (Fortin 2005)
- Persistent beliefs that women should raise children, men should be the primary breadwinner.
- Recent focus on role of gender identity.
- One example: work by Bertrand et al (2013), which examines the role of gender identity on women’s labor force participation
- Women who would earn more than their husband are less likely to participate in the labor force.