

Gender inequality in the labor market

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February 2020

Motivation

- So far we have discussed labor income inequality within and across countries
- All of this was silent on key dimensions of labor income inequality: between genders & ethnicities

Definition

- Most extensive definition of the gender gap = difference btw labor income of men & women
- Today, men earn on average about 1.75 times more than women in the US
- Gender gap has declined since 1960s but still high and persisting

Evolution

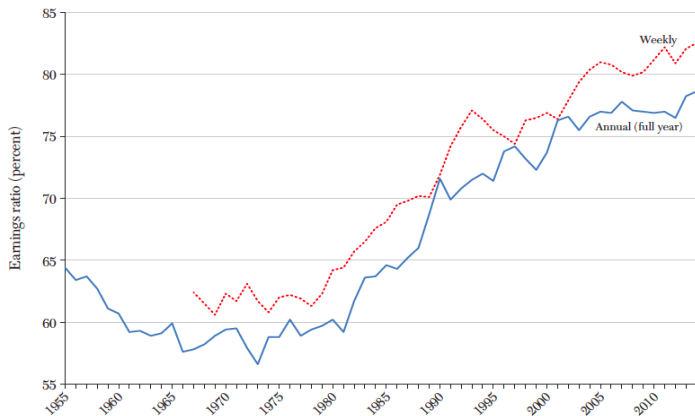


Figure 1. Female-to-Male Earnings Ratios of Full-Time Workers 1955–2014

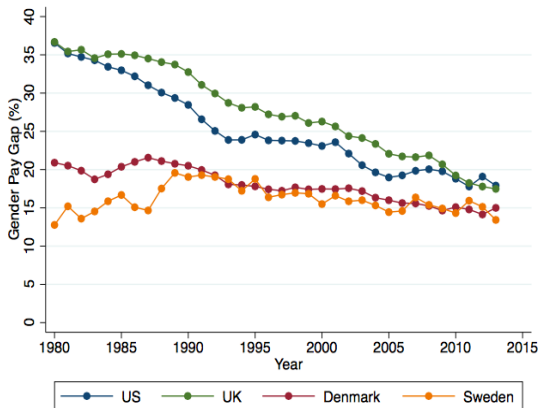
Notes: Workers aged sixteen and over from 1979 onward, and fourteen and over prior to 1979.

Source: Fig. 7-2 "Evidence on Gender-Differences in Labor Market Outcomes," Francine D. Blau and Anne E. Winkler, *The Economics of Women, Men, and Work*, eighth edition. (New York: Oxford University Press 2018), p.173. By permission of Oxford University Press, USA.

Evolution

Figure 1: Gender Gaps Across Countries 1980-2013

A: Convergence of the Gender Pay Gap Across Countries
Median Earnings for Full-Time Workers



Source: Kleven, Landais and Sogaard (2017)

Raw vs residual gender gaps

- The unadjusted gender pay gap can typically be decomposed in two factors:
- the explained gap, i.e pay disparities that reflect differences in observable characteristics such as education and experience
 - ▶ for instance, because of work interruptions (e.g. pregnancies) women have, on average, less work experience than men.
 - ▶ because more experience leads to higher wages we can explain part of the salary gap by the fact that men have more experience
- the unexplained gap, i.e the residual gap once we have accounted for all observables.

Raw vs residual gender gaps

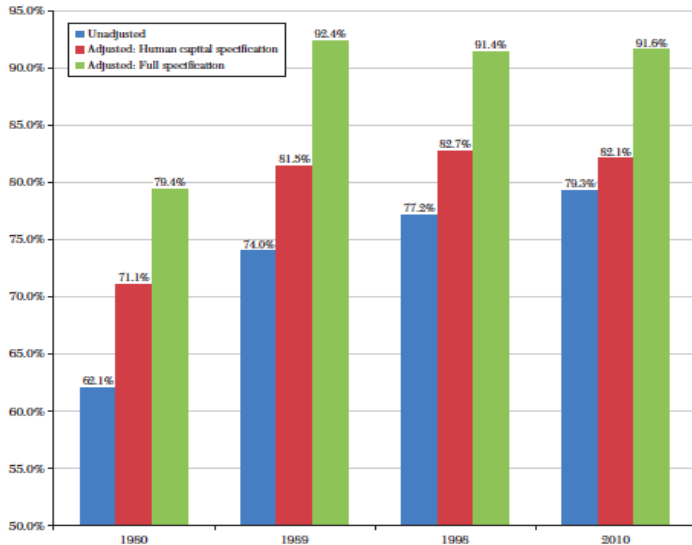


Figure 2. Female to Male log Wage Ratio, Unadjusted and Adjusted for Covariates (PSID)

Source: Authors' calculations from Panel Study of Income Dynamics (PSID) data. See text for definitions.

Raw vs residual gender gaps

- the raw gender gap has been decreasing consistently since the 1960s (from about 40% in 1960 to about 20% today)
- the adjusted gender gap has decreased in the 1980s but stagnated at around 8% since the 90s
- how can we explain these trends?

Roadmap

- Main reasons why the raw gender pay gap has decreased over time:
 - ▶ increase in women labor force participation
 - ▶ increase in female education
- Countervailing forces:
 - ▶ choice of major / occupation
 - ▶ motherhood penalty
 - ▶ job flexibility (you will work on this in the essay)
- Main reasons why there is a persisting / stagnating residual gender pay gap:
 - ▶ Labor demand stories: discrimination on the part of the employer
 - ▶ Labor supply stories: differences in psychological attributes between men and women

Increase in women labor force participation

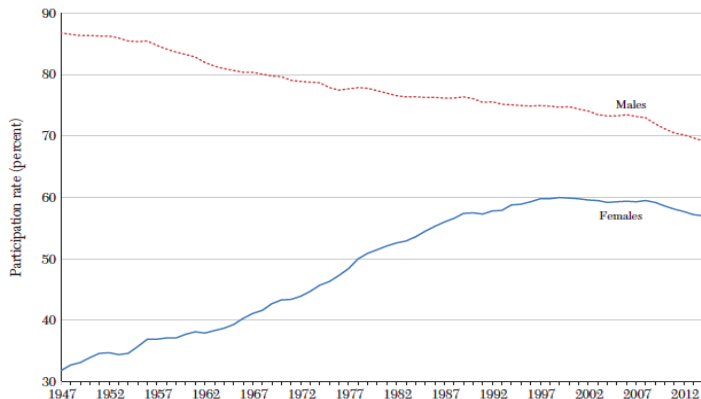


Figure 3. Trends in Female and Male Labor-Force Participation Rates, 1947–2014 (age sixteen and over)

Notes: Based on data from the Current Population Survey available at www.bls.gov and *Employment and Earnings*, various issues.

Source: Fig. 5-2 “The Labor Force: Definitions and Trends,” Francine D. Blau and Anne E. Winkler, *The Economics of Women, Men, and Work*, eighth edition. (New York: Oxford University Press 2018), p. 95. By permission of Oxford University Press, USA.

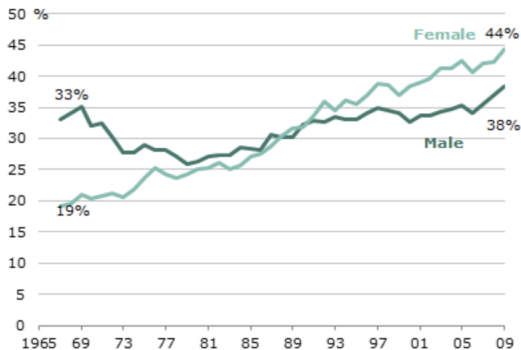
Increase in women labor force participation

- Big increase in women's labor force participation rates since WWII
 - ▶ Doubling of rates of labor force participation for women from 1950s to today
 - ▶ Rise in participation stronger for more educated women
- Some reasons for that increase:
 - ▶ Rising wages
 - ▶ Increasing educational attainment
 - ▶ greater availability of market substitutes for home work and improvements in household technology
 - ▶ development and dissemination of the birth control pill
 - ▶ demand shifts that favored occupations like clerical work where women were well represented

Increase in women's education: the reversal

The Growth in Female Enrollment Has Outpaced the Growth in Male Enrollment

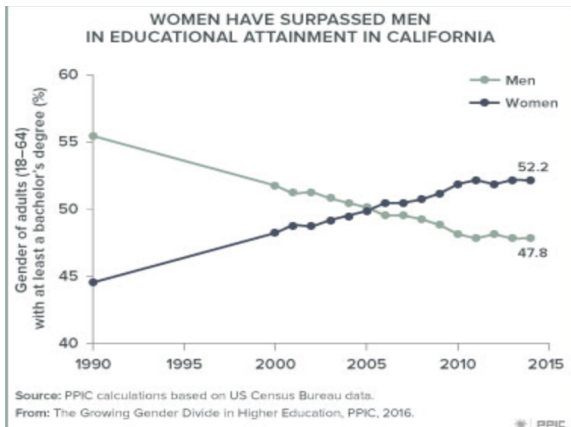
Share of 18- to 24-year-olds enrolled in college, 1967-2009



Source: National Center for Education Statistics, *Digest of Education Statistics 2010*, Table 212

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Increase in women's education: the case of california



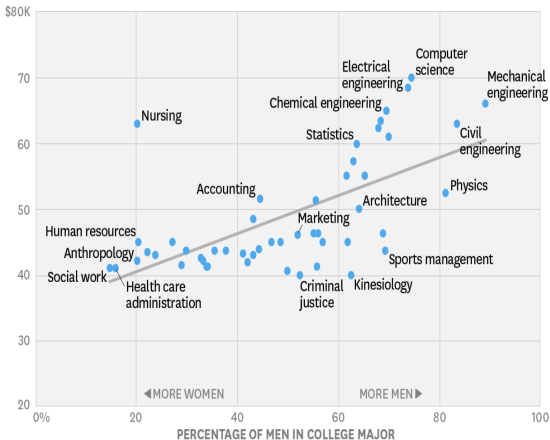
Reasons for the increase in women's education

- From the human-capital perspective, women's rising labor-force attachment is expected to raise the returns to their investment
- reductions in occupational segregation
 - ▶ Role of government: antidiscrimination in employment effort spearheaded by the enforcement of Title VII of the Civil Rights Act.
- pill facilitated a delay in marriage and childbearing
- These reasons explain the increase of female participation but what could explain why it surpassed male's?
 - ▶ assortative matching gains
 - ▶ gender differences in noncognitive skills

Major and occupation sorting issue

Men Sort Into College Majors That End Up Paying More

ESTIMATED MEDIAN BASE PAY



SOURCE "THE PIPELINE PROBLEM," GLASSDOOR, 2017

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Is this only a selection issue?

- So are women simply selecting into lower-paying majors/jobs?
- The issue is more complicated:
 - ▶ Certain jobs pay less *because* women take them.
 - ▶ Wages in biology and design were higher when the fields were predominantly male; as more women became biologists and designers, pay dropped/
 - ▶ The opposite happened in computing, where early programmers were female.

Gender stereotypes and programming

- It is actually six women who developed the new field of computer programming during World War II
- Originally, the military had hired them as “computers” to calculate ballistics trajectories by hand.
- two male engineers designed the machine to make computations faster (ENIAC - Electronic Numerical Integrator And Computer) but it's women who developed the software to run on the computer

Gender stereotypes and programming

- while the male inventors of the ENIAC received awards and publicity, these women received no recognition for their pioneering efforts.
- In the beginning, there was a general sense that the computer itself was doing the work, and building the computer was the really important thing.
- Therefore, even after the war programming was often conflated with low-level clerical work commonly performed by women like typing or filing
 - ▶ kept the pay very low

Grace Hopper



A publicity shot of American computer scientist Grace Hopper advertising the Common Business Oriented Language (COBOL), a more user-friendly computer language, 1952.

How did programming become a boys' club?

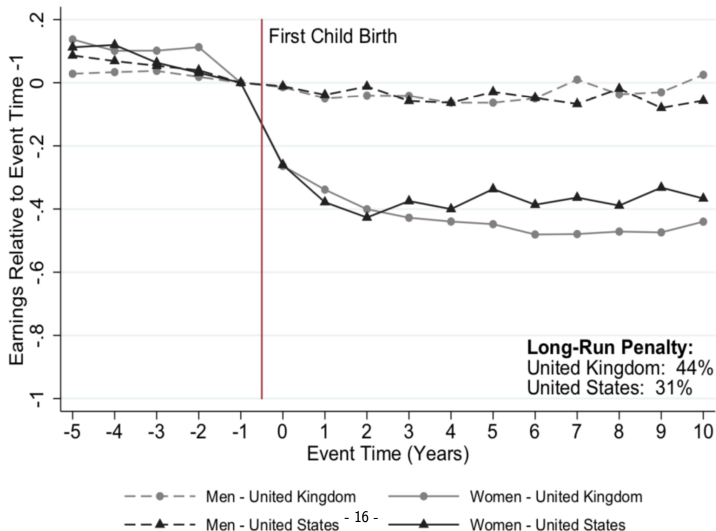
- In the 1950's and '60s, employers began relying on aptitude tests and personality profiles that weeded out women by prioritizing stereotypically masculine traits and, increasingly, antisocialness.
- Jane Margolis, a senior researcher at the University of California-Los Angeles and author of *Unlocking the Clubhouse*, cites the introduction of the home computer as a “boys toy” in the 1980s as a factor that pushed more men than women into computer science.

Countervailing forces: motherhood

- Considerable empirical evidence indicates a negative relationship between children and women's wages, commonly known as the motherhood wage penalty.
- The most recent compelling evidence comes from Kleven, Landais and Sogaard (2017).
 - ▶ administrative data from 1980-2013
 - ▶ event study approach
 - ▶ shows that most of the remaining gender inequality in earnings is due to children.
 - ▶ channel: driven in roughly equal proportions by labor force participation, hours of work, and wage rates

Motherhood penalty

Figure 2: Child Penalties in Earnings in English-Speaking Countries



How do we explain the residual pay gap

- The reasons mentioned above (eg labor force participation and education) explain why the raw gender gap has decreased
- Doesn't address the question of the residual pay gap that remains even after controlling for observables such as education
- For the residual gap, there are two prevailing stories
 - ▶ labor demand side: discrimination on the part of employers
 - ▶ labor supply side: differences in psychological attributes between men and women

Evidence of discrimination 1: the case of symphony orchestras

- Seminal paper in the gender discrimination literature: Goldin and Rouse (2000)
- Investigation of the impact of the natural experiment created when symphony orchestras:
 - ▶ began to adopt blind auditions for musicians in which a screen is used to conceal the identity of the candidate.
- adoption of the screen substantially increased the probability that a woman would advance out of preliminary rounds and be the winner in the final round
- switch to blind auditions was found to explain one-quarter of the increase in percentage female in the top five symphony orchestras in the United States, from less than 5 percent of all musicians in 1970 to 25 percent in 1996

Evidence of discrimination 2: audit studies, Neumark (1996)

- Male and female pseudo- job-seekers were given similar resumes and sent to apply for jobs waiting on tables at the same set of sixty-five Philadelphia restaurants.
- Result: female applicant's probability of getting an interview was 40 percentage points lower than a male's and her probability of getting an offer was 50 percentage points lower.

Evidence of differences in psychological attributes

- General idea: men and women have different psychological attributes (e.g. men are more competitively inclined than women) and that leads them to different career choices.
 - ▶ Note: we are not taking a stance on nature vs nurture here. Could very much that these psychological attributes are purely a result of education/culture.
- Big proponent of this theory and how to resolve it: Sheryl Sandberg, “lean in” book (2003)
- Sheryl Sandberg’s Ted talk

Differences in psychological attributes: what should be done?

- It is not clear that changing these psychological attributes will resolve the pay gap as there are gender differences in how these traits are perceived.
- Often the research on this is based on laboratory experiments or surveys and it's hard to quantitatively assess how it impacts the gender pay gap
 - ▶ My research leverages a novel dataset with both salary expectations and salary offers so that one can directly assess the impact of the former on the latter

Recruitment process on Hired.com

