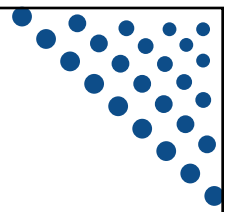




Osher Lifelong Learning Institute, Winter 2023 **Contemporary Economic Policy**

University of Pittsburgh
May-June, 2023

Host: Jon Haveman, Ph.D.
National Economic Education Delegation



Available **NEED** Topics Include:

- **Coronavirus Economics**
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- **Economic Mobility**
- **Trade and Globalization**
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- **Immigration Economics**
- **Housing Policy**
- **Federal Budgets**
- **Federal Debt**
- **Black-White Wealth Gap**
- **Autonomous Vehicles**
- **US Social Policy**



Course Outline

- **Contemporary Economic Policy**

- Week 1 (5/24): US Economic Update (Geoffrey Woglom, Amherst College)
- Week 2 (5/31): Federal Debt (Brian Peterson, Lagrange College)
- Week 3 (6/7): Economics of Immigration (Jon Haveman, NEED)
- Week 4 (6/14): Economic Mobility (Jon Haveman)
- **Week 5 (6/21): The Gender Wage Gap (Jon Haveman)**



3

Submitting Questions

- **Please submit questions of clarification in the chat.**
 - I will try to handle them as they come up.
- **We will do a verbal Q&A once the material has been presented.**
- **Slides will be available from the NEED website shortly after the talk (https://NEDEcon.org/delivered_presentations.php)**



4



The Gender Pay Gap

OLLI – University of Pittsburgh

June 21, 2023

Jon Haveman, Ph.D.



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5

Credits and Disclaimer

- **This slide deck was authored by:**
 - Mallika Pung, University of New Mexico
 - Jon Haveman, NEED
- **This slide deck was reviewed by:**
 - Donna Ginther, University of Kansas
- **Disclaimer**
 - NEED presentations are designed to be nonpartisan.
 - It is, however, inevitable that the presenter will be asked for and will provide their own views.
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6

6

Outline

- What is gender wage gap?
- Gender wage gap in numbers.
- What are the potential causes for this gender wage gap?
- What can we do?



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7

The Issue of Gender Wage Gap

“We have to pass pay equity for women workers. It is not acceptable that women are making 78 cents an hour compared to men.”

-- Sen. Bernie Sanders (I-Vt.), [speech to the National Press Club](#), March 9, 2015

“..42% [women] in the United States say they have faced discrimination on the job because of their gender... One of the biggest gender gaps is in the area of income: ...25% [women] say they have earned less than a man who was doing the same job..”

-- 2017 Pew Research Center [survey](#)



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8

8

Popular Theories

- Occupational segregation
- Biased managers and co-workers
- Inferior bargaining skills
- Lack of competitiveness
- Labor market incentives
- And more

We will delve deeper into what is meant by the gender wage gap and how economists think about the issue.



9

What is Gender Wage Gap?

- Gender wage gap represents the difference in average earnings of women relative to those of men.
- The gap is usually calculated as a ratio of women's earnings to men's earnings.

- For example, in 2023-Q1, median weekly earning for full-time women workers was \$955.5, and that for men was \$1,141.3.

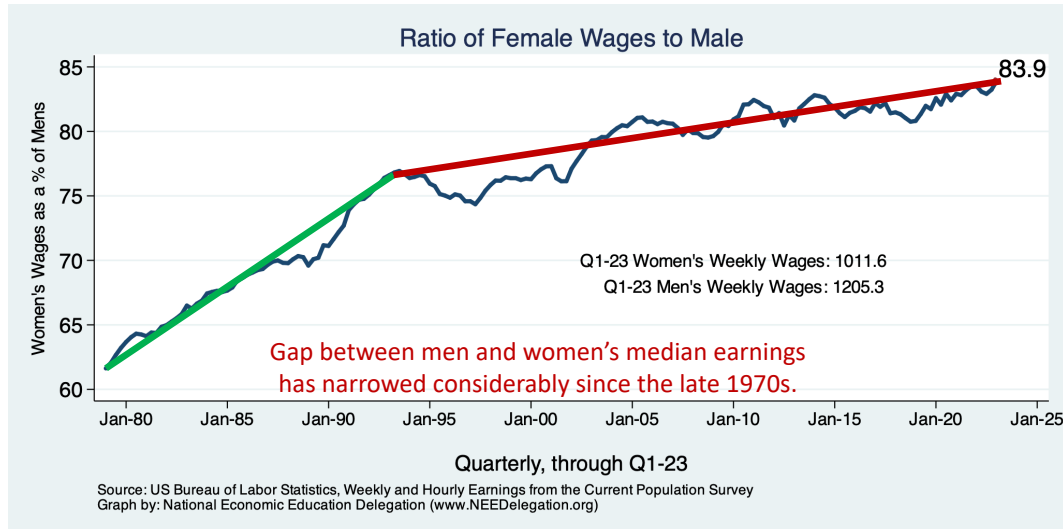
- Therefore, the gender wage gap in 2023-Q1 was:

$$\frac{\$1,011.6}{\$1,205.3} = 83.7\%$$



10

Relative Wage Gap Over Time



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11

11

Sources of Reduction

- **Relatively more women in jobs with collective bargaining.**
 - Falling for both since 1981, but more for men than women.
- **Women are getting more education than men.**
- **Women's devotion to the labor market is growing.**



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12

12

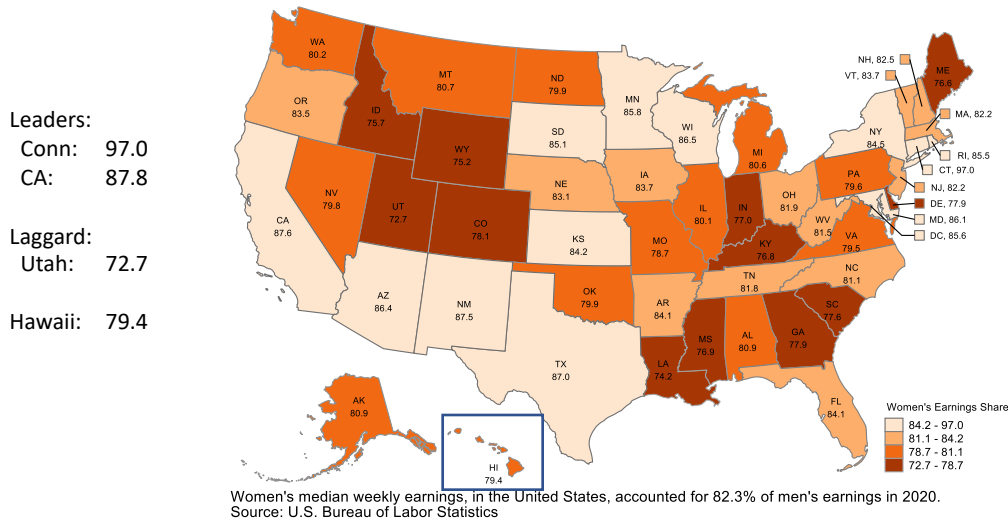
Significant Policy Strides Have Been Made

- **Progress made in combating gender inequality and discrimination against women in workplace since the 1970s**
 - The Fair Labor Standards Act of 1938,
 - The Equal Pay Act of 1963,
 - Title VII of the Civil Rights Act of 1964, and
 - The Pregnancy Discrimination Act of 1973 in conjunction with
 - Affirmative Action and other movements aimed at diversity
- **“Gender Revolution”**

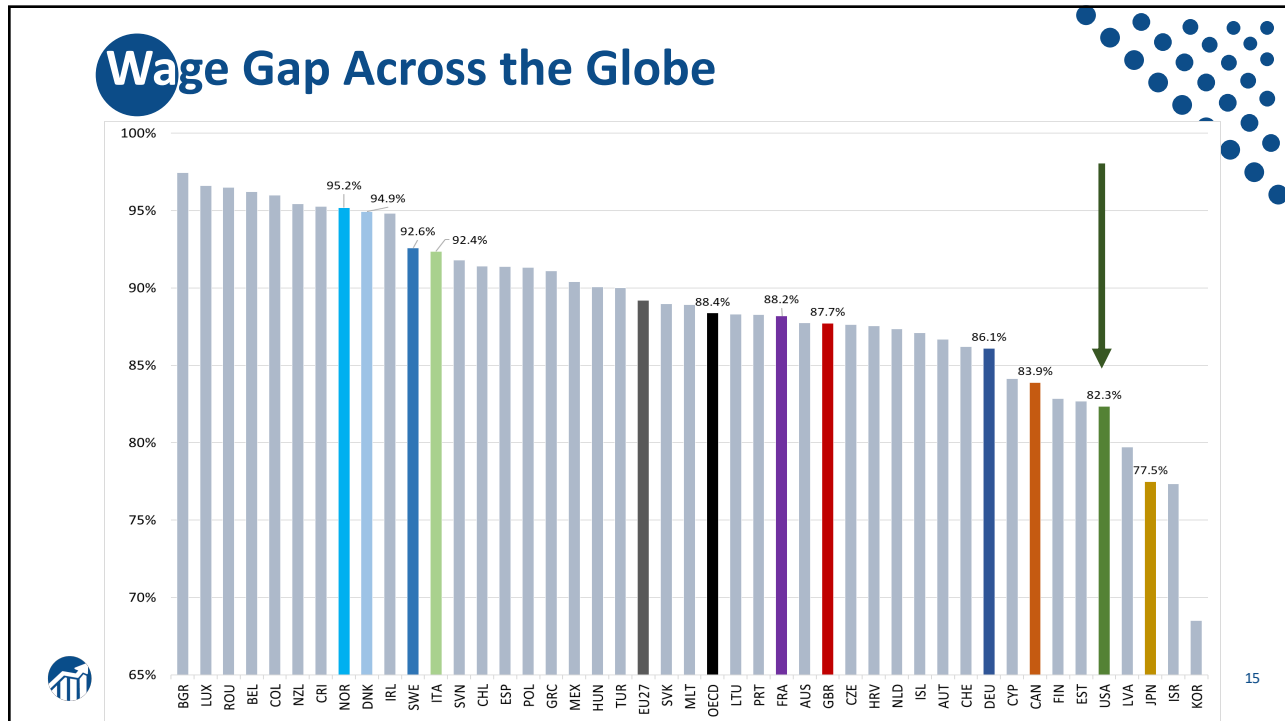
13

Wage Gap by State

Women's Median Weekly Earnings as a Percentage of Men's, 2020



14



15

The Wage Gap

- **Average wage comparison based on a limited sample. Men and women:**
 - Working full time
 - Working year round

- **Wage gap is not: Apples to Apples**
 - Does not compare wages of men and women in the same occupation or industry.

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16

16

What Does the Wage Gap Capture?

- **It reflects gender differences in:**
 - jobs,
 - hours worked,
 - years of experience,
 - educational attainment,
 - or personal choices that people make about their careers,
 - and discrimination.

- **Which begs the question of why the non-discrimination aspects differ by gender?**
 - Discrimination?
 - The structure of our economic system?



17

What is NOT included in these calculations?

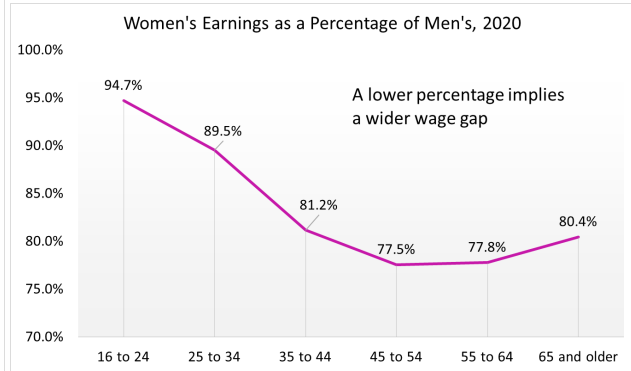
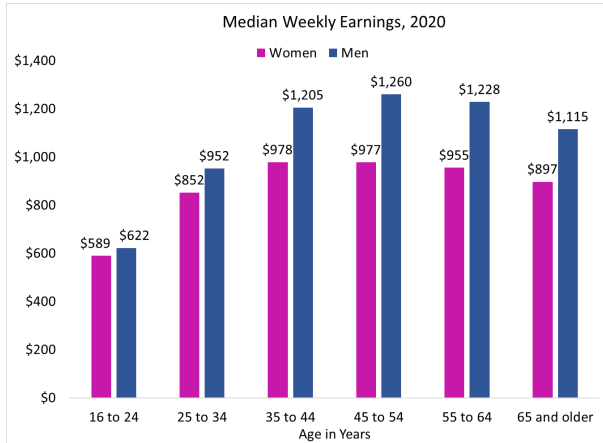
- **These are unconditional or uncontrolled or raw wage gap.**
- **The difference doesn't take into account important determinants of earnings such as:**
 - Age
 - Occupation
 - Educational attainment
 - Job skills and responsibilities
 - Work experience
 - Specialization
- **Gender wage gap is not a single statistic; it is dynamic.**



18

Wage Gap by Age

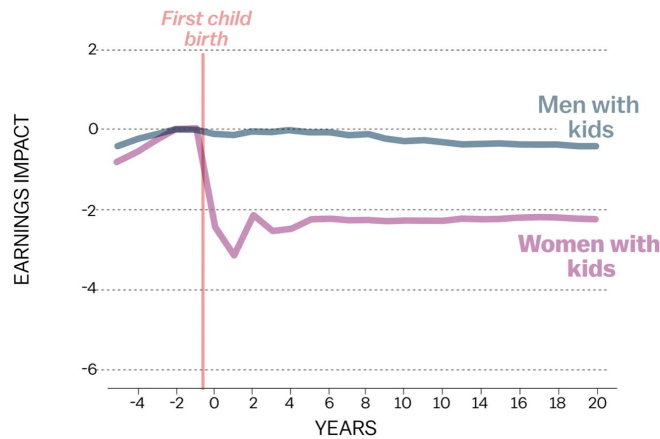
The gap between men and women's median earnings was the largest among those aged 45 years or older.



19

The Kid Effect

Women's earnings drop significantly after having a child. Men's don't.



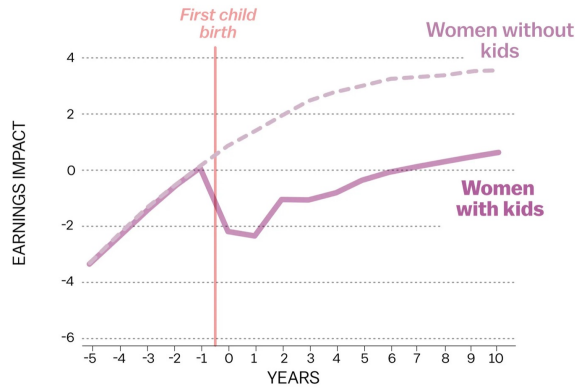
Source: "Children and gender inequality: Evidence from Denmark," National Bureau of Economic Research



20

The Kid Effect

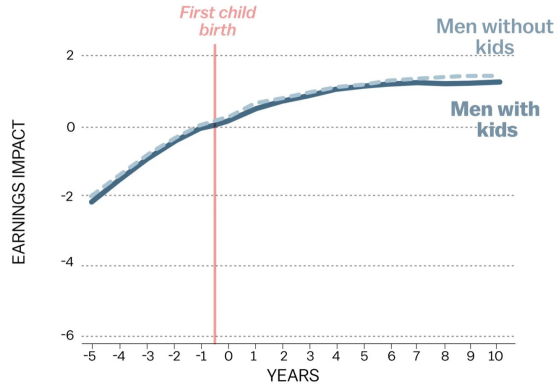
Having a kid correlates with lower earnings for women



Source: "Children and gender inequality: Evidence from Denmark," National Bureau of Economic Research



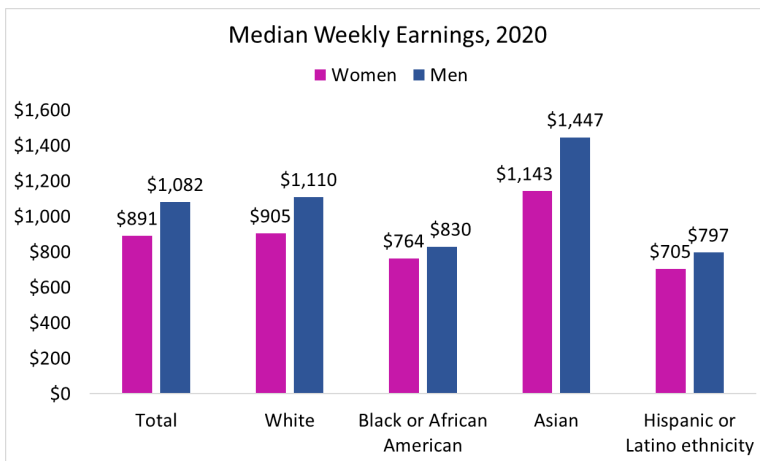
Having kids doesn't affect men's salaries



Source: "Children and gender inequality: Evidence from Denmark," National Bureau of Economic Research



Wage Gap by Race/Ethnicity

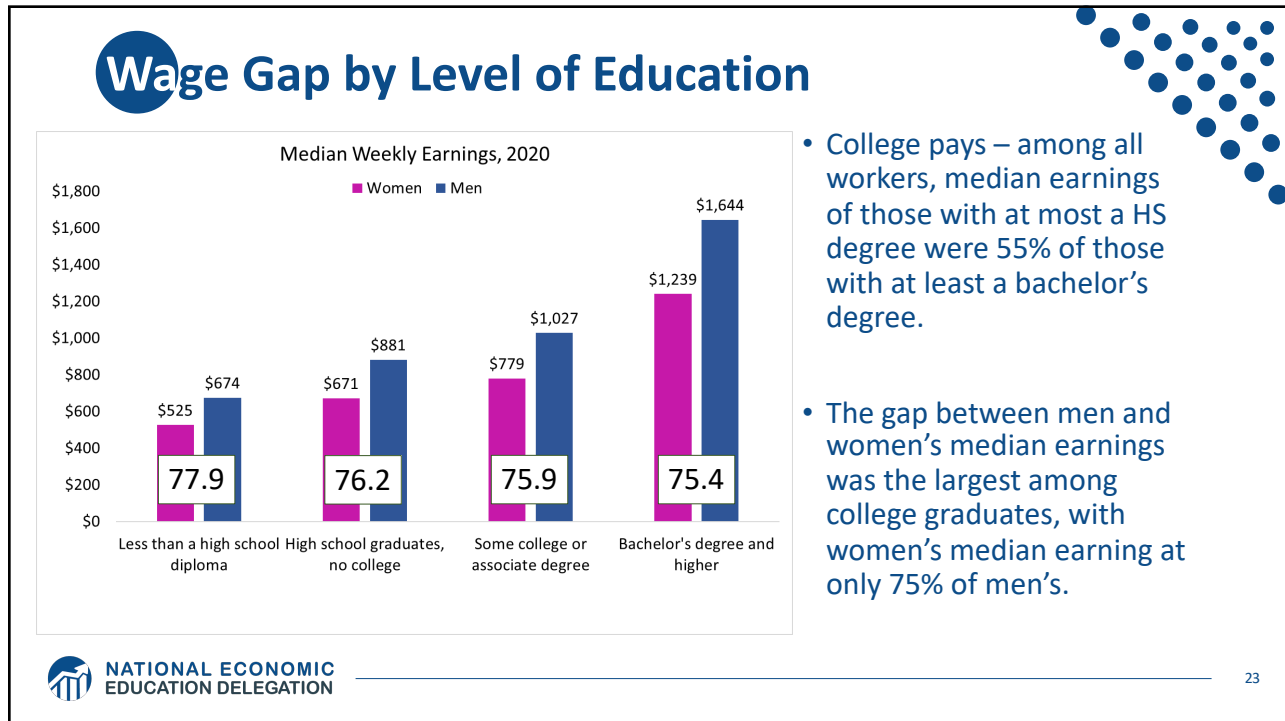


- Earnings differences between women and men were largest among Asians and among Whites.

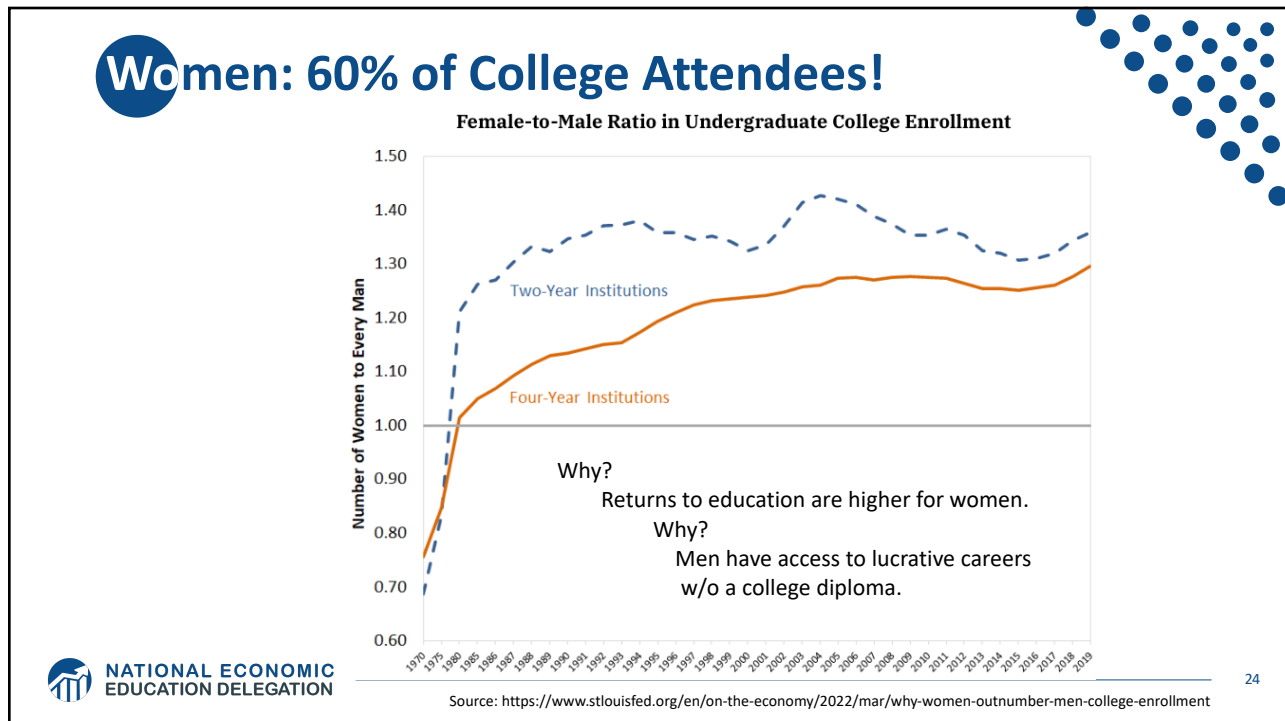
- Asian women earned 79% as much as Asian men, and White women earned 82% as much as White men.

- Black women had median earnings that were 92% of Black men's, and Hispanic women's earnings were 89% of Hispanic men.





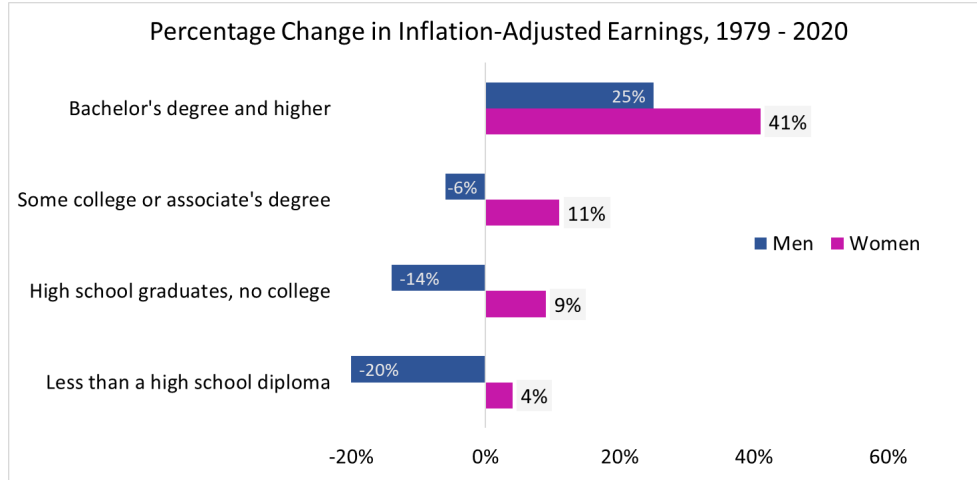
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24

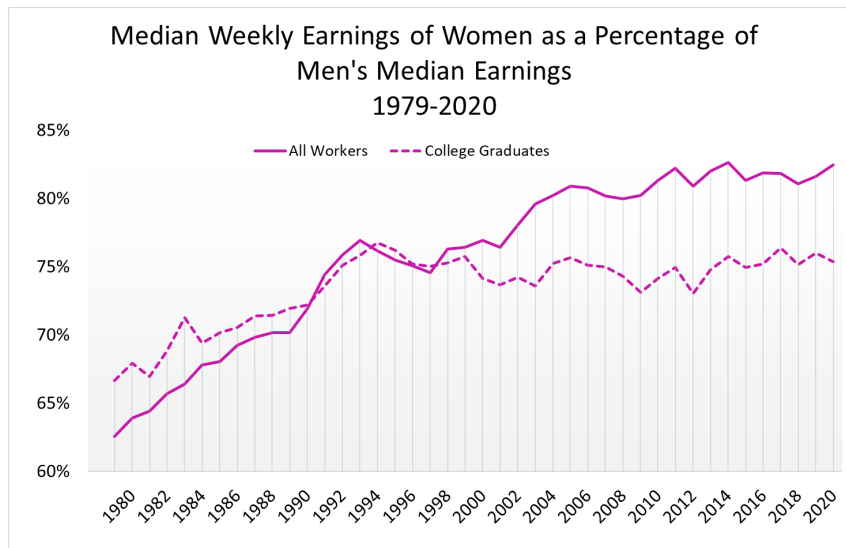
Wage Change by Level of Education

Long-term trend in inflation-adjusted earnings has been more favorable for women than for men.



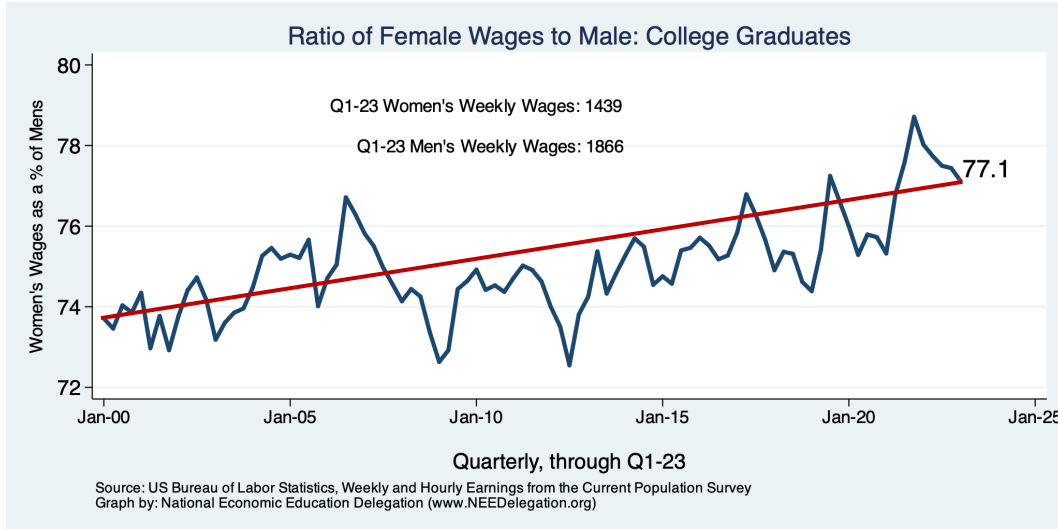
25

Gender Wage Gap Over the Years – College Graduates



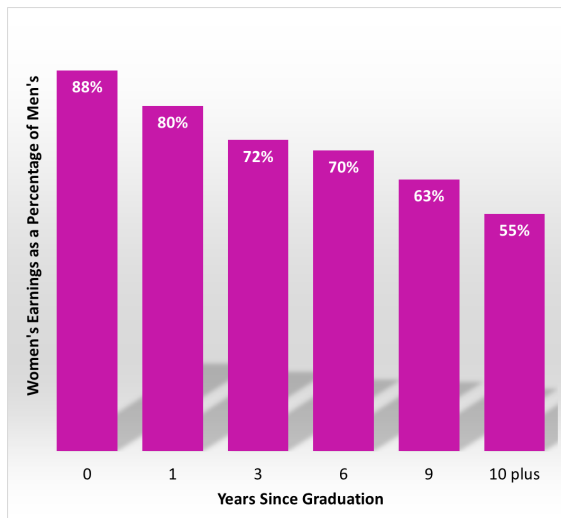
26

Relative Wage Gap Over Time



27

Wage Gap Widens with Age and with Years After Leaving School



- From Bertrand, Goldin, Katz (2010)
- Directly following MBA, average earnings are comparable among men and women, but they soon diverge.
- In the first 9 years after graduation, women's average earnings increase by 117%, while those of men increase by 208%.

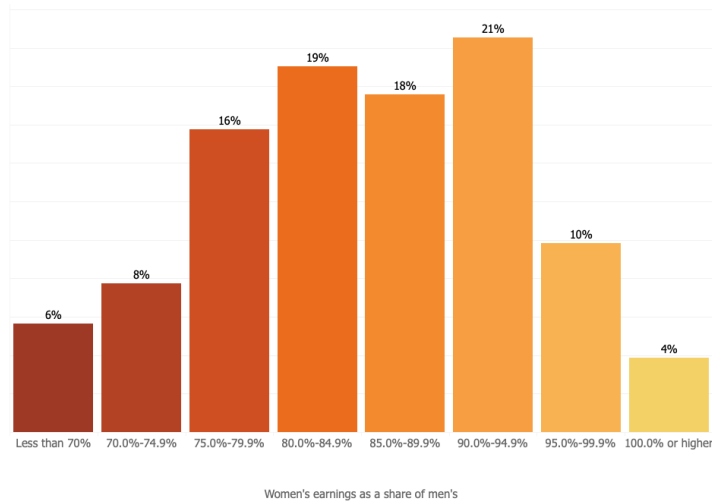
28

Wage Gap Among MBA Graduates Not Random

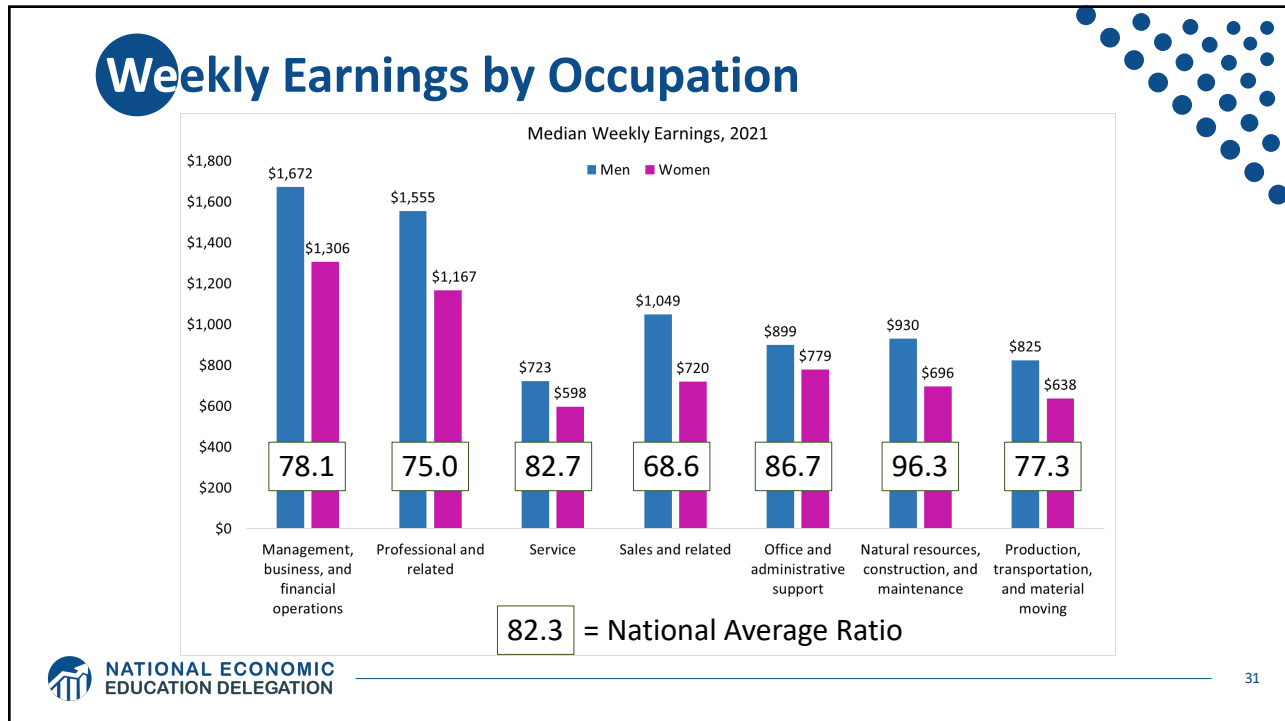
- **The sample controls for ability, training and education.**
- **Almost all the gap can be explained by:**
 - Career interruptions.
 - Differences in average weekly work hours.
 - o 49 hrs vs 57 hrs for men.
 - o More part-time, self-employed workers.
- **The gap grows largely with the arrival of children.**
 - Well-intentioned paternalism by supervisors.
 - Husband’s position on the earnings distribution and his interaction with children also a factor.
- **Several studies, even those from Nordic countries, support these results.**

Wage Gap by Occupation: 2021

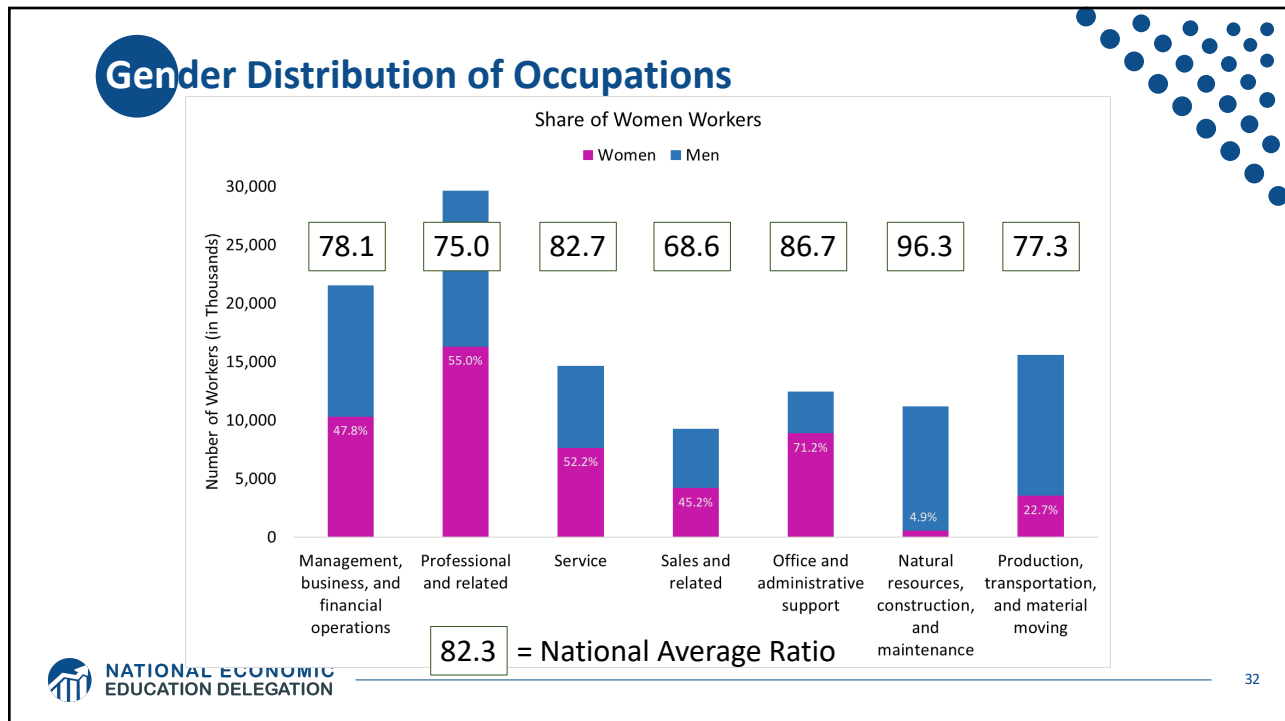
Women's Earnings as a Share of Men's Across the Occupational Distribution



Note: Full-time, year-round civilian employed 16 years and older. Occupations with at least 100 sample observations.
 Data: U.S. Census Bureau, American Community Survey 2021
 Graphic: U.S. Department of Labor, Women's Bureau

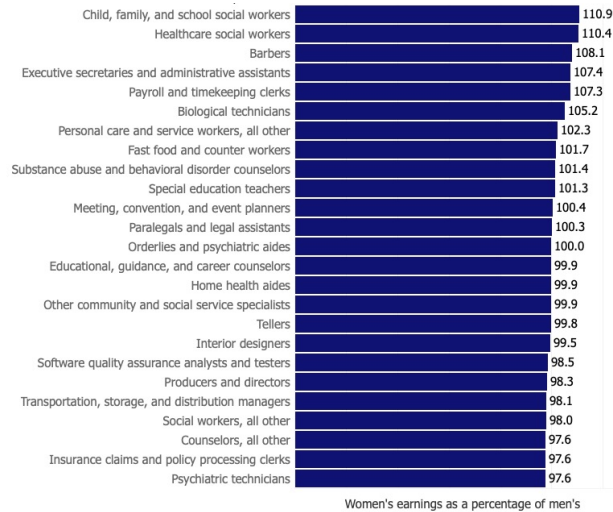


31



32

Small Gender Wage Gap



Note: Full-time, year-round civilian employed 16 years and older. Occupations with at least 100 sample observations.
 Data: U.S. Census Bureau, American Community Survey 2021
 Graphic: U.S. Department of Labor, Women's Bureau

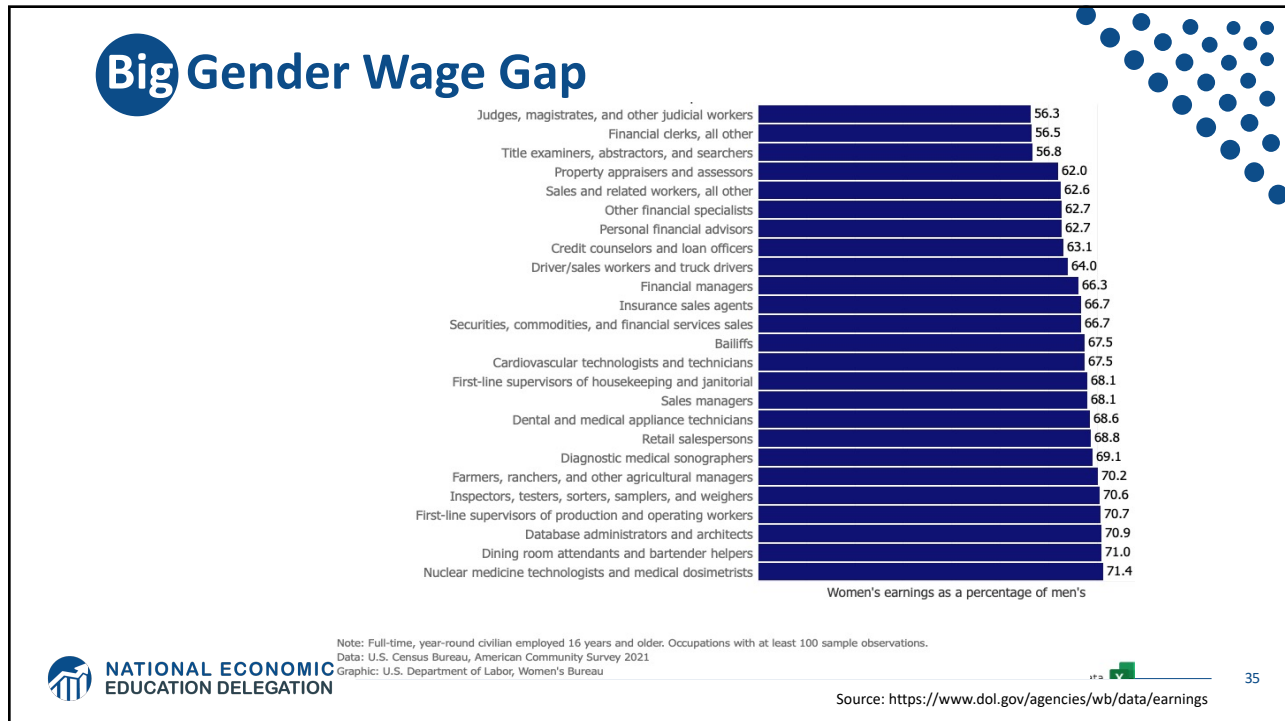


Source: <https://www.dol.gov/agencies/wb/data/earnings>

Occupations with the Smallest Wage Gap, 2021

Occupation	Female-Male Median Weekly Earnings Ratio	Share of Women in the Occupation	Share of Women Workforce
Compliance officers	107%	50%	0.3%
Graphic designers	106%	51%	0.2%
Clinical laboratory technologists and technicians	104%	65%	0.4%
Pharmacists	104%	54%	0.3%
Insurance claims and policy processing clerks	102%	77%	0.4%
Billing and posting clerks	101%	87%	0.7%
Teaching assistants	100%	86%	1.3%
Purchasing agents, except wholesale, retail, and farm products	100%	62%	0.3%
Cashiers	99%	72%	1.7%
Fast food and counter workers	98%	64%	0.3%
Bus drivers, school	98%	55%	0.1%
Stockers and order fillers	97%	35%	0.8%
Postal service mail carriers	97%	40%	0.2%
Pharmacy technicians	97%	77%	0.4%
Police officers	96%	15%	0.2%
Computer programmers	96%	20%	0.2%
Wholesale and retail buyers, except farm products	96%	55%	0.1%
Miscellaneous agricultural workers	96%	17%	0.2%
Industrial truck and tractor operators	96%	9%	0.1%
Computer support specialists	96%	24%	0.3%
Physical therapists	95%	64%	0.3%
Packers and packagers, hand	95%	57%	0.6%
Total			9.3%





35

Occupations with the Biggest Wage Gap, 2021

Occupation	Female-Male Median Weekly Earnings Ratio	Share of Women in the Occupation	Share of Women Workforce
Securities, commodities, and financial services sales agents	56%	33%	0.1%
Medical scientists	60%	51%	0.1%
Personal financial advisors	65%	40%	0.3%
Other engineering technologists and technicians, except drafters	66%	19%	0.1%
Insurance sales agents	67%	54%	0.5%
Medical assistants	68%	89%	0.8%
First-line supervisors of production and operating workers	70%	19%	0.3%
Chief executives	70%	30%	0.7%
Sales managers	70%	30%	0.3%
Bus drivers, transit and intercity	72%	39%	0.1%
Credit counselors and loan officers	72%	51%	0.4%
Supervisors of transportation and material moving workers	72%	22%	0.1%
Financial managers	73%	56%	1.3%
Inspectors, testers, sorters, samplers, and weighers	73%	38%	0.6%
Market research analysts and marketing specialists	73%	60%	0.4%
Claims adjusters, appraisers, examiners, and investigators	73%	58%	0.4%
First-line supervisors of retail sales workers	74%	46%	1.9%
Retail salespersons	74%	40%	1.3%
Total			9.8%

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36

Explaining Gender Wage Gap by Occupation

- **Women, traditionally, the “on-call” parent.**
- **Prefer occupations with:**
 - shorter hours,
 - fewer “on-call” hours,
 - predictable schedules,
 - standardized products/services, and,
 - greater substitutability of workers within teams.
- **Men, traditionally, opt for jobs with greater time demands but pay more.**
- **Men appear to care less about time flexibility.**
 - Ready to work evening/weekend hours to meet clients.
 - Affects occupation selection.



37

Explaining Gender Wage Gap by Occupation

- **High time demand occupations:**
 - Contact with others
 - Frequency of decision making
 - Time pressure
 - Structured vs. unstructured work
 - Establishing and maintaining interpersonal relationships
- **Level of competition within an occupation**
- **Income inequality among men within an occupation**



38

Gap Occurs Primarily WITHIN Occupations

Where does the wage gap come from?

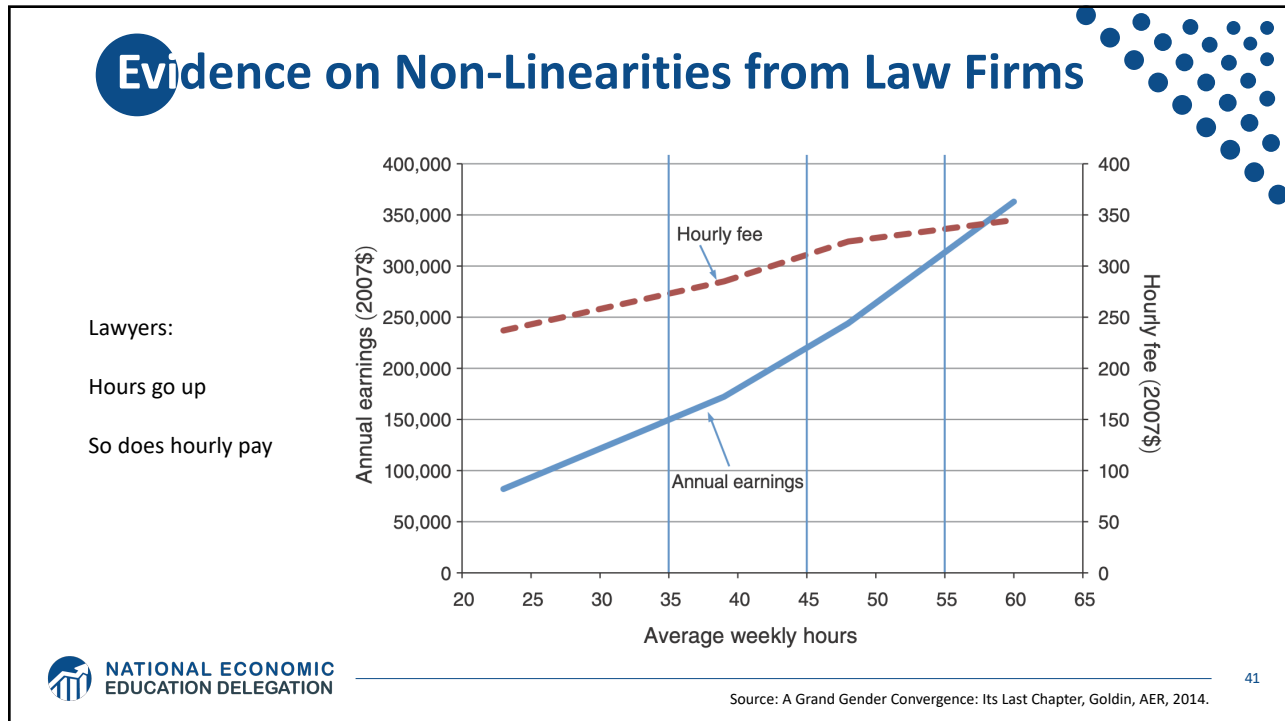
	Between Occupations	Within Occupations
All Workers	15%	85%
College Graduates	35%	65%

39

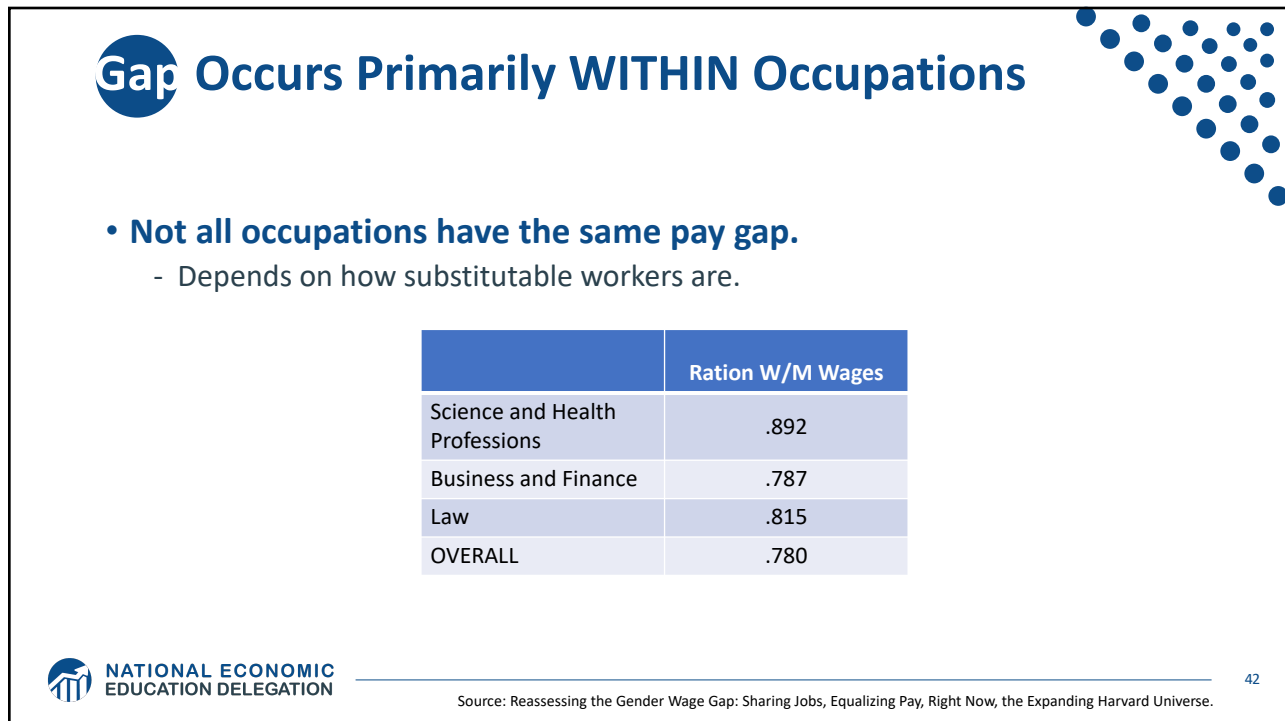
Non-Linearities in Pay and the Wage Gap

- **Pay increases with the number of hours worked each week.**
 - Why?
 - In some occupations, workers are not good substitutes for each other.
 - To ensure continuity, employers value individual workers working more hours.
 - Implications:
 - Households divide the work.
 - Rather than both working 40 hours, perhaps one works 80 and the other does not work.
 - Women are more likely to be the ones working fewer hours, receiving less pay.

40



41



42

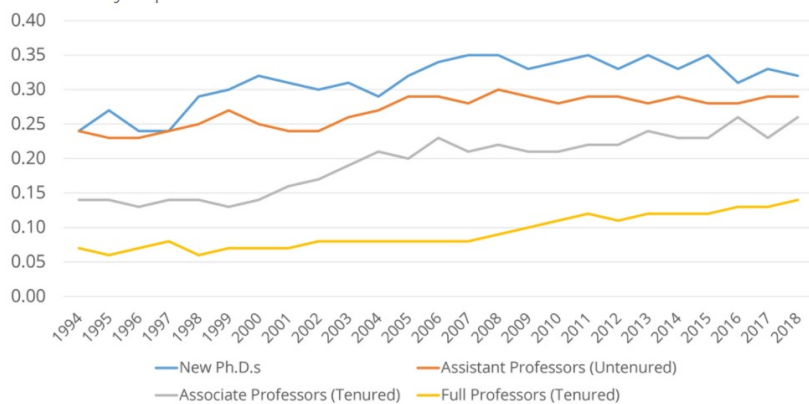
The Leaky Pipelines Phenomenon

- In many professional occupations

- There's a more equitable gender distribution at entry level.
- But at the higher ranks, number of female workers plummets.

- Time demands – likely explanation?

The Leaky Pipeline in Economics



Source: Committee on the Status of Women in the Economics Profession (CSWEP) Annual Survey of U.S. Economics Departments



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43

43

These are Still Unadjusted Wage Gap Numbers

- In the previous slides we controlled for one factor at a time that might affect earnings of workers.
 - Controlling for just one of the factors may not fully explain earnings differences.
- For example, when comparing median earnings differences by **occupation**, we still would like to know if these differences can be further explained by differences in other key factors such as:
 - age,
 - job responsibilities,
 - work experience, and
 - other individual life choices such as marital status or to have children and to take time off to raise them.



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44

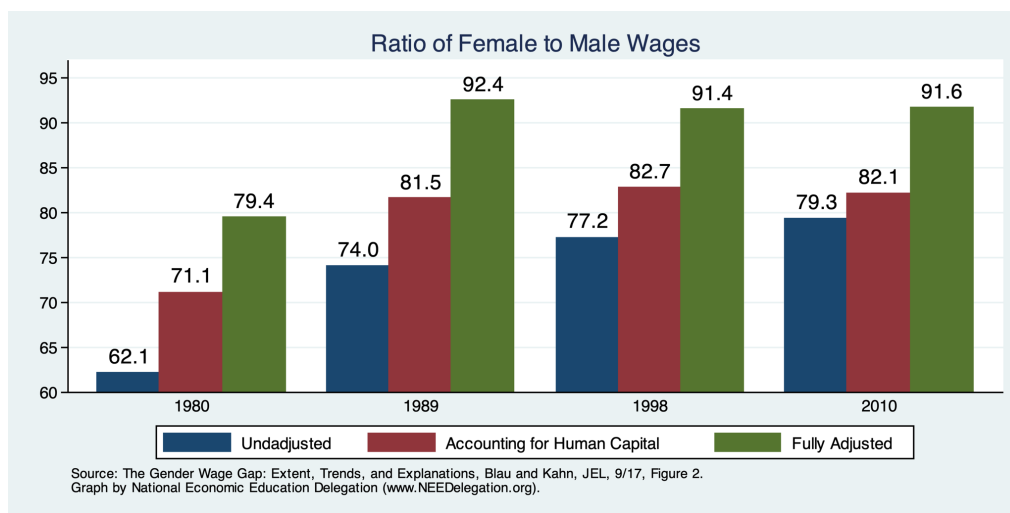
44

Adjusting the Wage Gap

- Men and women make different choices. It is possible to account for some of those choices to explain the wage gap.
- Two possible adjustments:
 - **Adjustment 1 accounts for human capital:**
 - Education
 - Experience
 - Geographic region
 - Race
 - **Adjustment 2 also accounts for:**
 - Unionization
 - Industry
 - Occupation

45

Wage Gap With Adjustments



46

What do the Adjustments Tell Us?

- **Human capital decisions, as well as region and race, matter for the wage gap.**
- **Ultimate job matters:**
 - Is it unionized?
 - Is it an industry with a large gap?
 - Is it an occupation with a large gap?
- **Still 10% unaccounted for.**
 - Is this discrimination?
 - Perhaps, but not all of it.
 - Labor market decisions are influenced by discrimination or perceptions of women's vs men's majors, occupations, or industries.

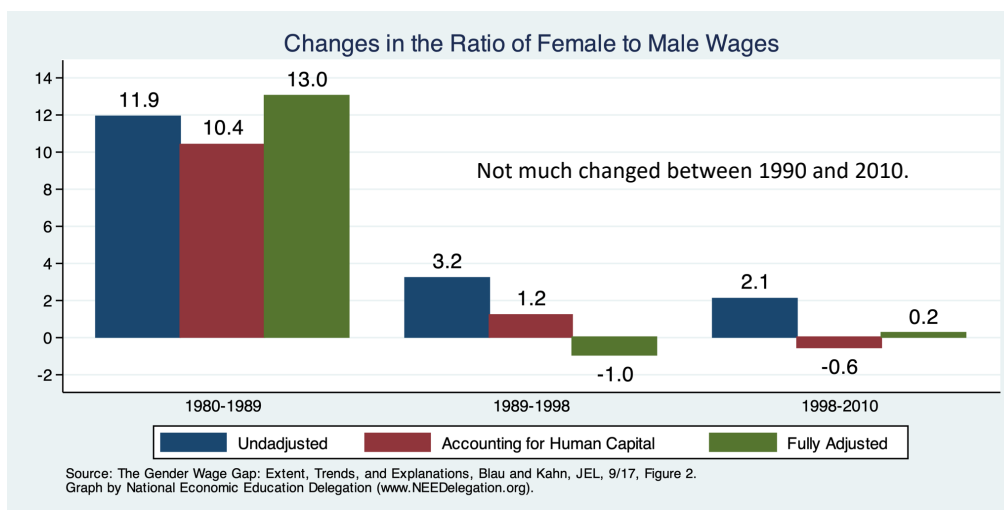


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47

47

Changes Over Time



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48

48

Sorting

- **Sorting happens:**

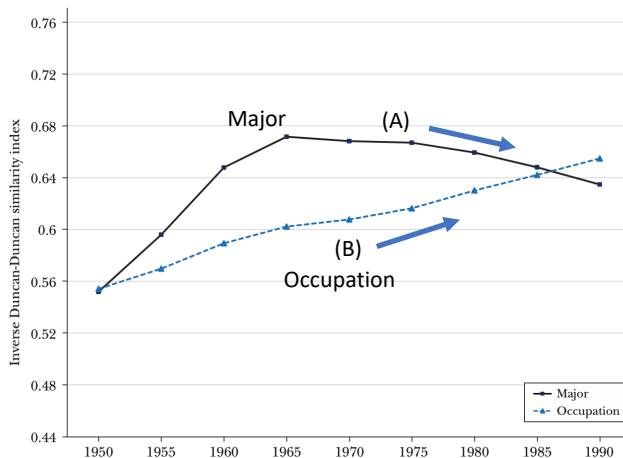
- With the decision to go to college.
- With the election of a major.
- With the choice of an occupation.

- **Women tend to:**

- Go to college **more** than men.
- Select majors with **lower** expected wages.
 - o Though convergence **WAS** happening.
- Within a major, select occupations with **lower** wages.
 - o Though convergence **IS** happening.

Occupation Convergence, Less So Majors

Gender Similarity in Major and Occupation by Cohort



Values close to 1 imply parity.

Less than 1

- women's choices correspond to lower wages

Greater than 1

- women's choices correspond to higher wages

(A) Women are increasingly choosing **majors** that **pay less than** the majors chosen by men.

(B) Women are increasingly choosing **occupations** that **pay as well as** the occupations chosen by men.

Occupation/Major Choices

- **Choice or change in the market?**

- **Majors:** Women are increasingly choosing majors that pay less than the majors chosen by men.

Or...

- **Majors:** Majors chosen by women are declining in pay relative to those chosen by men.

-
- **Occupations:** Women are increasingly choosing occupations that pay as well as the occupations chosen by men.

Or...

- **Occupations:** Occupations chosen by women are increasingly paying as well as those chosen by men.



51

Earnings Penalty for Taking Time Out

- Occupations with the largest wage gap tend to also be highly skilled.
- Earnings penalty for taking time out for career paths with the most prestigious degrees is generally very high.
- Goldin and Katz (2008), Harvard and Beyond study:
Earnings penalty for taking time off, at 15 years since leaving college with a Bachelors:
 - Lowest for MDs
 - Highest for MBAs - at 1.4 times the penalty for MDs
 - Followed by JDs and PhDs - at 1.2 times the penalty for MDs
- Women with children tend to do less well than men.



52

Solutions to the Gender Wage Gap

- **Debiasing the labor market**
 - Diversity training for supervisors and managers.
 - Changing the organizational culture.
 - Gender blind hiring/evaluation procedures.
- **Training women to be more competitive and removing unconscious bias.**
- **Legislative actions by federal and state governments.**



53

The System - Not Individual Bias is the Culprit

- **The “system” is characterized by:**
 - Decisions made by ordinary couples in terms of being on-call at work or at home.
 - Cost of time flexibility at work.
- **The higher the cost of time flexibility, the higher is the likelihood of a couple to forego equity in favor of higher family income.**
- **Substitution among workers needs to be encouraged in occupations with high gender pay gaps.**



54

Private Sector is Responding... Slowly

- With more women entering the profession.
- More men wanting equitable relationships with their life partners.
- Costly job training.
- Valuable client-employee relationships formed by the women in early years.

Firms have more incentive to retain the female employees now than ever.



Time Demand Tradeoffs and COVID-19

- COVID-19 may have accelerated some of the trends towards more workplace flexibility.
- Remote work may have lasting beneficial impact on all workers, including women.
- But there may also be losses.
 - WFH = Working from Home or Working from Hell?
- Women's attachment to labor market at risk due to:
 - Difficulty in obtaining affordable, dependable childcare.
 - Unpredictability in school closures/re-openings.



What can we do?

- Reduce the cost of flexibility
- Increase or incentivize substitutability
- Reduce the cost of caregiving – childcare as well as elderly care
- Alter societal norms

“We need men to lean out at work, support their male colleagues who are on parental leave, vote for public policies that subsidize childcare, and get their firms to change their greedy ways by letting them know that their families are worth even more than their jobs. Dreams won’t come true, aspirations won’t be realized unless men are brought along for the rest of the journey.”

-- Claudia Goldin



Flexibility and Substitutability?

Part B. Full-time, full-year college graduates (BA) for the approximately 95 highest (male) income occupations



What Have We Learned?

- **The gap is significant and seemingly stubborn.**
 - Some, but not very much progress in the last 20 years.
- **Discrimination clearly plays a role, but we can't identify how much.**
 - In wage setting, in people's choices, as a result of market structures.
- **Gender roles in child rearing play an enormous role.**
- **Government policy can help, by:**
 - Implementing policies that reduce the child-bearing penalty for women.
 - Access to childcare, for instance.
 - Influencing the structure of labor markets, the workplace, hiring practices, and job flexibility.
 - Generally, address the hours/compensation relationship.



59

Thank you!

Any Questions?

www.NEEDEcon.org

Jon Haveman, Ph.D.

Jon@NEEDEcon.org

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60