

What Do We Really Know About the Gender Wage Gap

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Overview

- New empirical evidence on the extent, trends and sources of the gender wage gap in the US (1980-2010)
 - Gender wage gap has declined substantially
 - How much of a gap remains and what causes it?
 - How do we account for the decrease?

=> Questions addressed in terms of simple statistical analyses (decompositions)

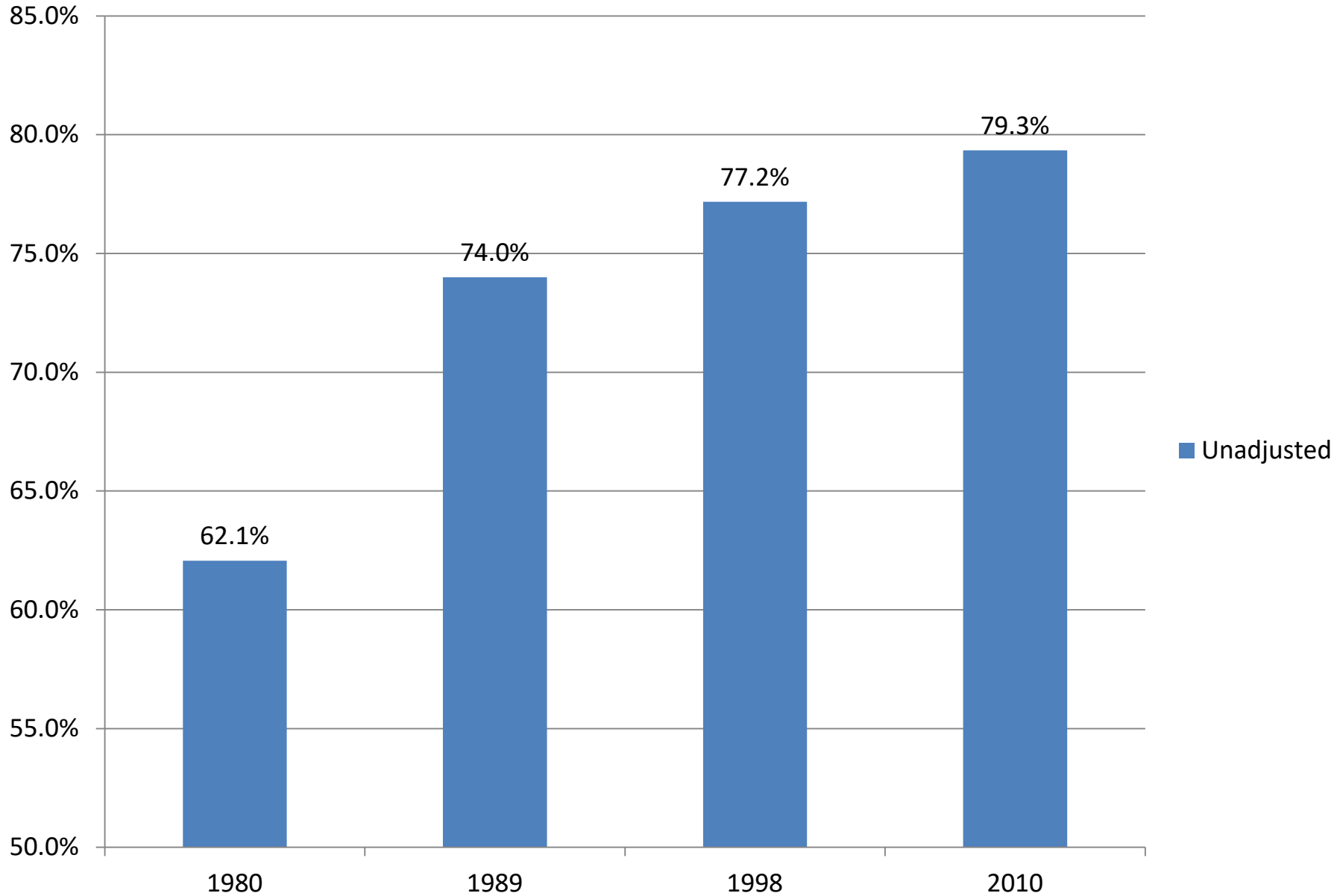
Overview

- New empirical evidence on the extent, trends and sources of the gender wage gap in the US (1980-2010)
- Use results as a springboard to review literature on explanations
 - Some build on measured factors included in analysis
 - Others not included, potentially impact “unexplained” gap
 - Caveat may be picked up by measured factors
- Explanations
 - Traditional explanations (e.g., human capital, discrimination, gender division of labor)
 - New approaches (noncognitive skills/psychological attributes, norms)
- Much of this is joint work with Lawrence M. Kahn (Cornell University)

Extent and Trends

- Primarily use data from the Panel Study of Income Dynamics (PSID)
 - Nationally representative, includes data on actual labor market experience
 - Focus on *full-time workers*, with considerable attachment over the year (26 weeks +), aged 25-64
- Regression analyses:
 - Human capital specification—controls for education and experience (also race and region)
 - Full specification—additionally controls for occupation, industry and unionism

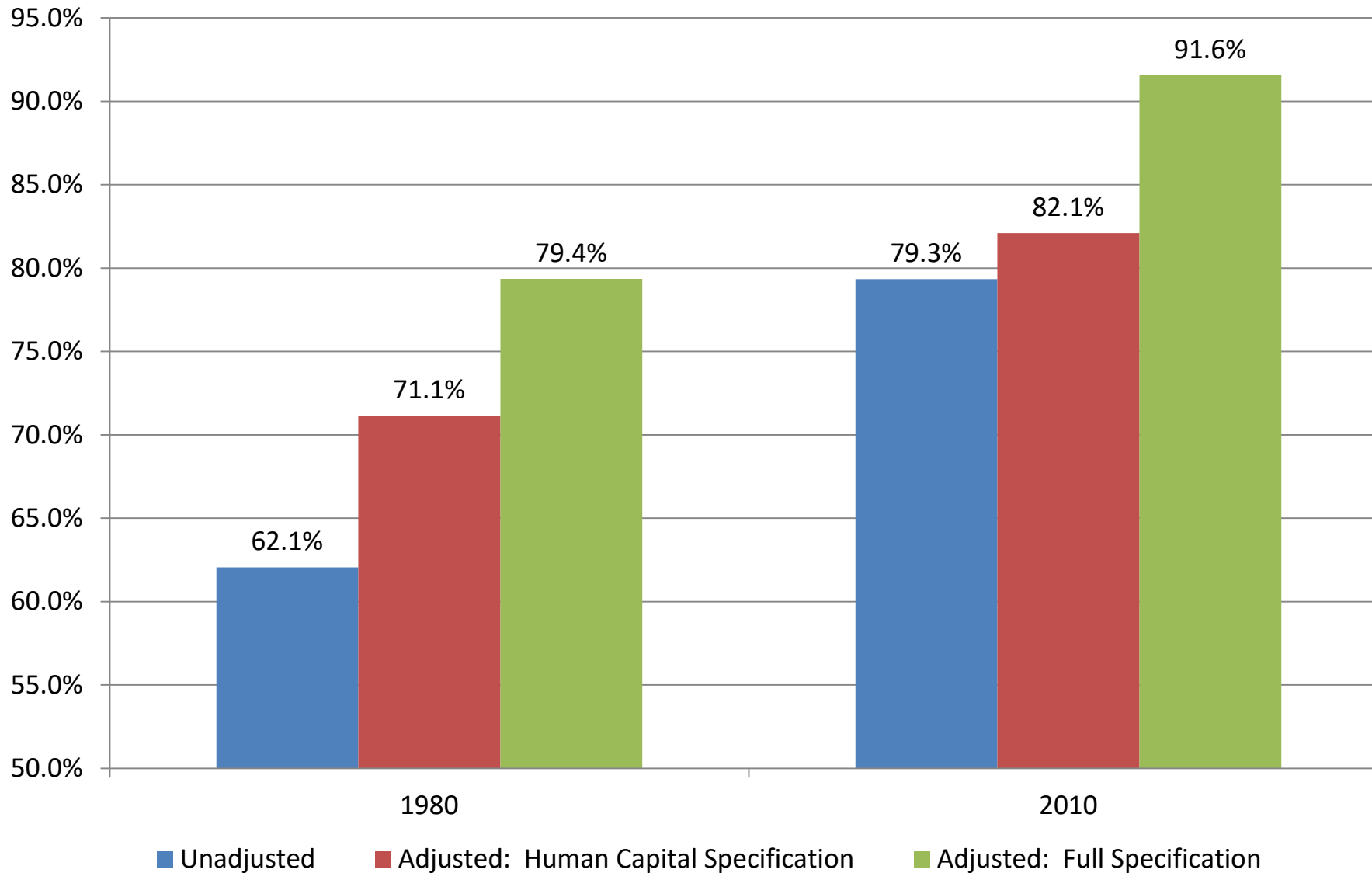
Unadjusted Female to Male Wage Ratios, (PSID)



Unadjusted ratio is the raw ratio in the data

- Between 1980 and 2010, the gender ratio *rose* from 62% to 79%
(=>Gender wage gap *fell* from 38% to 21%)
- Considerable progress but a substantial gap remains
- What accounts for the gap and how has it changed over time?

Female to Male Log Wage Ratio, Unadjusted and Adjusted for Covariates (PSID)



Unadjusted ratio is the raw ratio in the data

Adjusted ratio controls for gender differences in:

- (i) education & experience
- (ii) adds controls for occupation, industry, unionism

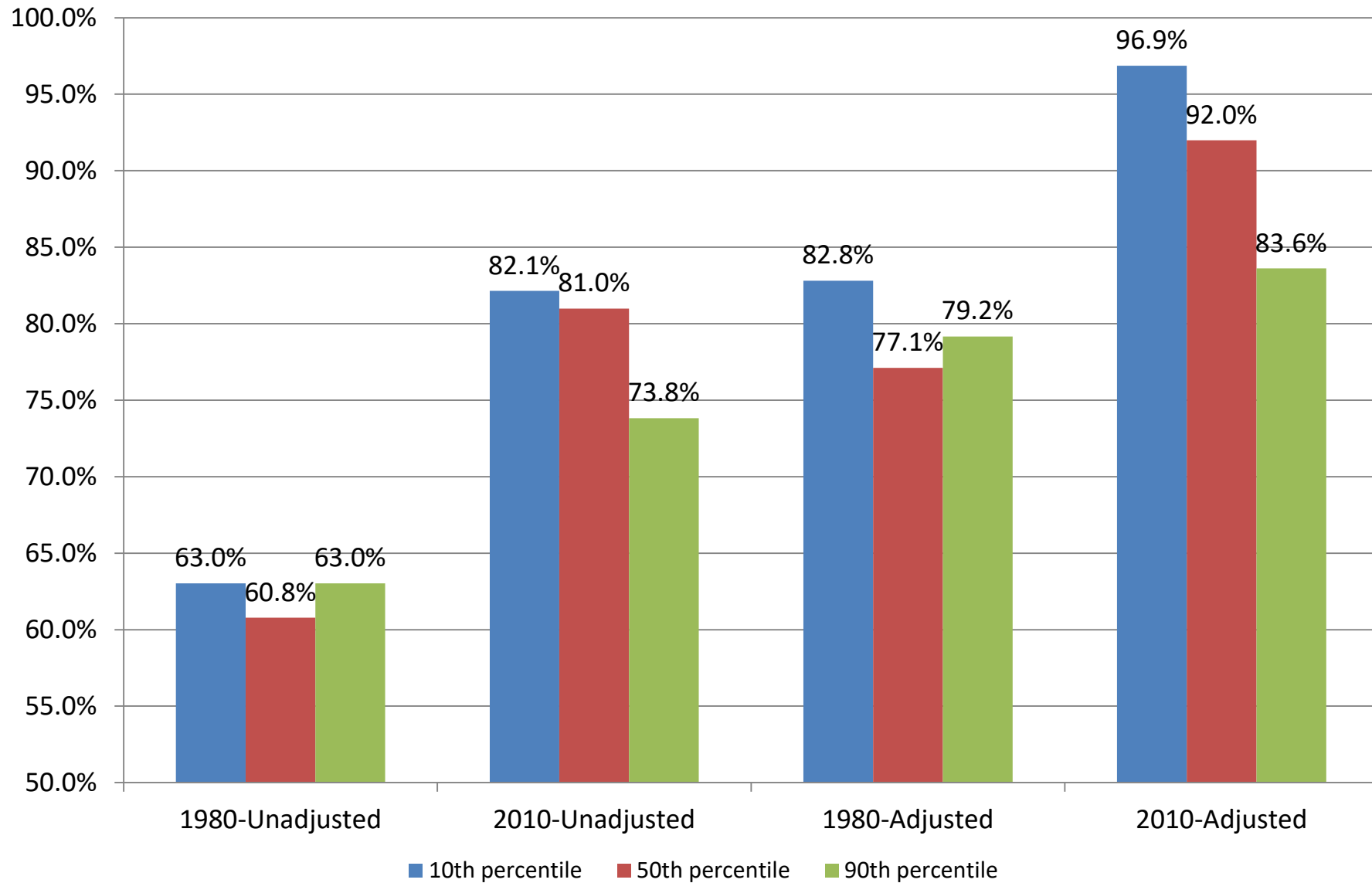
What Does the **Unexplained Gap** Mean?

- Some of the gap is *unexplained* by measured characteristics
- What does this mean?
 - Could be discrimination **BUT**
 - Unmeasured characteristics (unmeasured in our analysis)
 - If men better qualified on unmeasured characteristics could help to explain the gap -- unexplained gap would **overestimate** discrimination
 - Some control variables might reflect discrimination (e.g., in hiring)
 - If we “overcontrol” unexplained gap would **underestimate** discrimination
 - Portion of gap that is unexplained:
 - **84%** in human capital specification
 - **38%** in full specification

How are more skilled women faring?

- Gender wage gap larger and closing more slowly at the top, both unadjusted and controlling for covariates
- Glass ceiling?

Female to Male Wage Ratios by Percentile, Unadjusted and Adjusted for All Covariates--Full Specification (PSID)



What Accounts for the Decrease in the Overall Gender Wage Gap?

- Between 1980 and 2010, the gender ratio *rose* from 62% to 79%
(=>Gender wage gap *fell* from 38% to 21%)
- Can our analysis tell us something about the sources of this decrease?

What Accounts for the Decrease in the Gender Wage Gap?

- **Women improved their skills**
 - **Labor force attachment and experience**
 - Gender experience gap fell from 6.8 to 1.4 years (female gains but also recession impact for men) [*explains 14%*]
 - **Education**
 - Women now receive 57% of Bachelors Degrees (full population, women more likely to have college or more) [*explains 18%*]

What Accounts for the Decrease in the Gender Wage Gap?

- **Women upgraded their occupations** [*explains 15%*]
 - Women moved out of traditionally female clerical and service jobs and into traditionally male managerial and professional occupations
 - =>Related to increase in women's skills and reduction in discrimination
 - Men moved out of production into service jobs
- **Narrowing of the gender gap in unionism** [*explains 12%*]
 - Men used to have a large advantage in unionization
 - Unionization declined precipitously in the U.S; men disproportionately affected

What Accounts for the Decrease in the Gender Wage Gap?

- **On net, changes in returns worked to *raise* the gender gap [16%]**
 - With rising inequality, some price changes worked against women (Blau and Kahn, 1997 & 2006)
 - Mostly reflects returns to occupations

What Accounts for the Decrease in the Gender Wage Gap?

- **Decrease in the “Unexplained” Gap [explains 58%]**
 - Decrease especially large in the 1980s
 - Lack of substantial decline in the “unexplained” gap after the 1980s, one of the major reasons for slower progress since then
- **Why did the “unexplained gap” decrease?**
 - Decline in discrimination
 - Improvement in women’s unmeasured skills
 - Economy-wide trends favoring women—raising the demand for women workers relative to men

Summary

- Wage gap fell, most rapidly in the 1980s with slower convergence thereafter
- Most important factors accounting for the decrease: ed, exp, and occs, and unionism, and decline in unexplained gap
- By 2010, HC accounted for little of gap (women had *more* ed than men and had reduced the experience gap—but experience still favors men)
- In 2010, gender differences in occupation and industry still important; and there was still an unexplained gap
- Slower decrease in the wage gap at the top, both unadjusted and controlling for measured characteristics

Explanations: Human Capital

- In the aggregate education and experience, *taken together*, don't explain much tho experience still favors men
- Experience and hours remain particularly important in high skilled jobs (recall gap fell less for those jobs)
 - Noonan, Corcoran, Courant (2006) Lawyers
 - Bertrand, Goldin, Katz (2010) MBAs-- emphasize extremely large penalties for taking any time out

Explanations: Temporal Flexibility (Goldin 2014)

- *Temporal flexibility* refers to the flexibility of work schedules as they relate to hours worked per day and per week, where the work is performed, and the need to work specific days and times
- Goldin especially emphasizes the need to work long hours and particular hours in some highly skilled occupations like law and business
- Results in a *compensating differential*—workers willing to do this get a substantial wage premium; workers not willing incur a substantial wage penalty

Explanations: Temporal Flexibility (Goldin 2014)

- Given traditional division of labor women more likely to value flexibility and pay a wage penalty for shorter hours, workforce interruptions, etc.—contributes to the gender wage gap
- Goldin focuses on the impact of women's preferences for temporal flexibility on the gender wage gap *within* occupations (like law and business)
- Tho she doesn't mention it, this could also be a factor in *occupational choice*, with women avoiding jobs that have a high penalty for temporal flexibility

Traditional division of labor in home

- Motherhood wage penalty; male marriage premium; joint location issues
- Evidence that discrimination plays a role in the motherhood penalty
 - Correll, Benard, and Paik (2007)—Lab and field experiments (equally qualified résumés)
 - Field experiment: mothers received lower callbacks than nonmothers; no difference in callbacks for fathers compared to nonfathers

Discrimination: Experimental Evidence

Statistical findings complemented by experimental evidence

- Goldin and Rouse (2000) symphony orchestras
- Neumark (1996) waiters and waitresses
- Moss-Racusin et al (2012) science lab managers
- Reuben et al (2014) performing math tasks
- Correll, Benard, and Paik (2007) parenthood, different effects for men and women

Discrimination: Experimental Evidence

- Lends support to the idea that at least some portion of the unexplained gap is due to discrimination
- Does not identify a particular magnitude or prove economy-wide

Newer Factors: Noncognitive skills/ Psychological attributes

- **Negotiation** (Babcock and Laschever 2003); (Bowles, Babcock, and Lai 2007); Leibbrandt and List (2015)
- **Competition** (Niederle and Vesterlund 2007); Flory, Leibbrandt and List (2015)
- **Risk Aversion** (Croson and Gneezy 2009-review)

But

- **Interpersonal Skills** favor women (Borghans, ter Weel, and Weinberg)

Some Caveats

- Factors favoring men may not be optimal in all circumstances
- Women sometimes encounter negative reactions when they act in “unfeminine” ways, e.g, negotiate

Newer Factors: Noncognitive skills/ Psychological attributes

- How important are noncognitive skills?
- Mainly evidence from lab experiments but some confirmation from field experiments and follow-ups
- To get some indication of *quantitative importance*, we reviewed evidence from studies where quantitative indicators of noncognitive skills were included in statistical analyses (Blau and Kahn 2017)
 - We find **modest** effect, not a “silver bullet;” similar in size to the effect of experience differences between men and women

SELECTED STUDIES ASSESSING THE ROLE OF PSYCHOLOGICAL TRAITS IN ACCOUNTING
FOR THE GENDER PAY GAP

Study	Sample	Traits examined	Raw gender wage gap (logs)	Effect of gender differences in psych. factors on gender pay gap (logs)	Percentage of gender pay gap due to gender differences in psych. traits
Mueller and Plug (2006)	Wisconsin 1957 HS grads, 1992 data	"Big 5": extroversion; agreeableness; conscientiousness; neuroticism; openness	0.587	0.043–0.095	7.3–16.2
Semykina and Linz (2007)	Russia 2000–2003	Locus of control; challenge/affiliation	0.311–0.397	0.012–0.026	3.0–8.4
Fortin (2008)	US NELS 1972 and 1988 cohorts: 1979, 1986, and 2000	Self-esteem; locus of control; money/work importance; people/family importance	0.181–0.237	0.008–0.032	4.4–14.0
Manning and Swaffield (2008)	British cohort study: 1970 birth cohort, 2000 data	Risk; competitiveness; self-esteem; other-regarding; career orientation; locus of control	0.203	0.005–0.056	2.5–27.6
Nyhus and Pons (2012)	Netherlands 2005	Locus of control; time preference	0.246	0.028–0.035	11.5–14.1
Reuben, Sapienza, and Zingales (2015)	2008 Univ. of Chicago Booth MBA cohort	Taste for competition	0.119	0.010–0.012	8.4–10.1
Cattan (2014)	NLSY 1979, 4 points in life cycle	Self-confidence	0.18–0.30	0.010–0.036	5.4–14.5

Source: Blau and Kahn (2017)

Newer Factors: Gender Identity/Norms

- Akerlof and Kranton (2000)—identity=sense of belonging to a social category with view about how people should behave (norms)
- Bertrand, Kamenica, and Pan (2015) investigate the norm wife should not earn more than husband
 - Within marriage markets, if wives potentially would earn more than husbands, marriage rates are reduced
 - Within couples, if a wife is predicted to earn more than her husband, she is less likely to participate in the labor market, or, if she does, her income is lower than predicted
 - Within couples, if a wife earns more than her husband, couple more likely to divorce

- Things may be changing

- The share of wives with higher incomes than their husbands has been rising, now 29%, up from 16% in 1981
- In 2013, only 28 percent of adults agreed that “It’s generally better for a marriage if the husband earns more than his wife” (compared to 40 percent in 1997)
- College graduates had especially permissive views, with only 18 percent agreeing

- **BUT** still some signs that the issue of how successful women are is an issue, even among the highly educated
- **Study of MBAs** Bursztyn, Fujiwara and Pallais (2017)
 - Single women gave different responses on career orientation depending on whether they expected responses would be shared with MBA classmates
 - Gave *less* career-minded responses when they expected responses to be shared, perhaps to make themselves appear less ambitious and more attractive in the marriage market

Conclusion

- Women have made significant and dramatic progress in the labor market
- But inequalities remain
- Probably no one single, unified explanation to explain gender gaps: combination of factors
- Traditional factors, including gender roles and discrimination, likely important; hours and experience in skilled occupations
- Differences in occupations and industries of men and women most important *measurable* factors—would be helpful to understand more about the reasons for these differences
- Newer insights are emerging about gender differences in noncognitive skills/ psychological attributes—a factor but not a “silver bullet”
- Sexual harassment—little work by economists at this point

Some Thoughts on Policy

- Gender gaps have multiple causes, likely require multiple approaches to reducing them
- Some approaches to resolving work-family issues may have the unintended consequence of marginalizing women in the organization
- To counter this:
 - Emphasize benefits that facilitate combining family responsibilities with strong commitment and attachment like child care versus benefits like extended parental leave and part-time work
 - To the extent women need to get off the main track, encourage them to get back on as quickly as possible
 - Encourage men to also use family-friendly benefits like parental leave