What Do We 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) from Blau and Kahn (2017)
  - 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

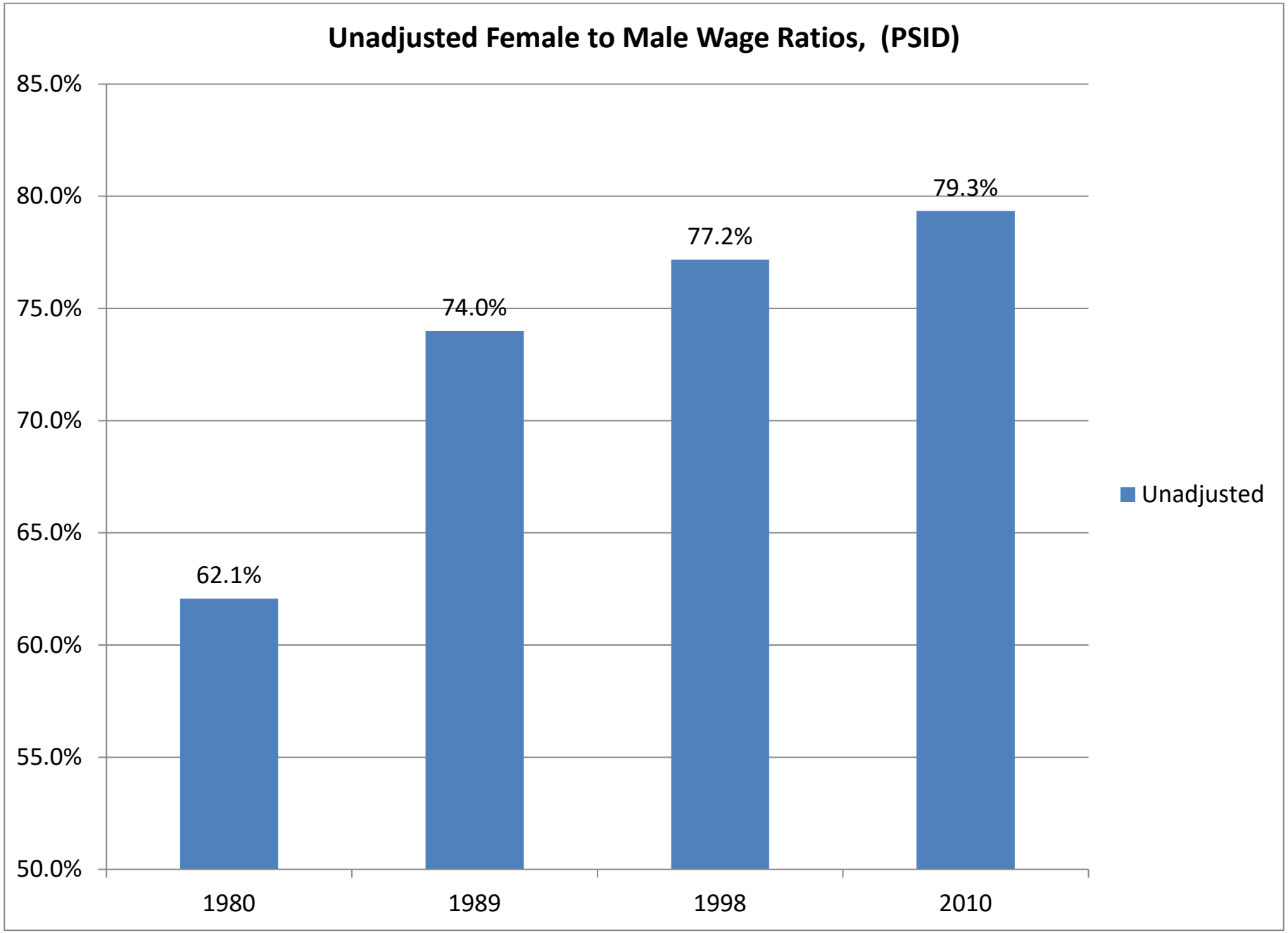
- New empirical evidence on the extent, trends and sources of the gender wage gap in the US (1980-2010)
- Use results as a springboard to review literature on explanations
  - Some build on measured factors included in analysis
  - Others not included, potentially impact “unexplained” gap
    - Caveat 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, gender norms)
- Policies

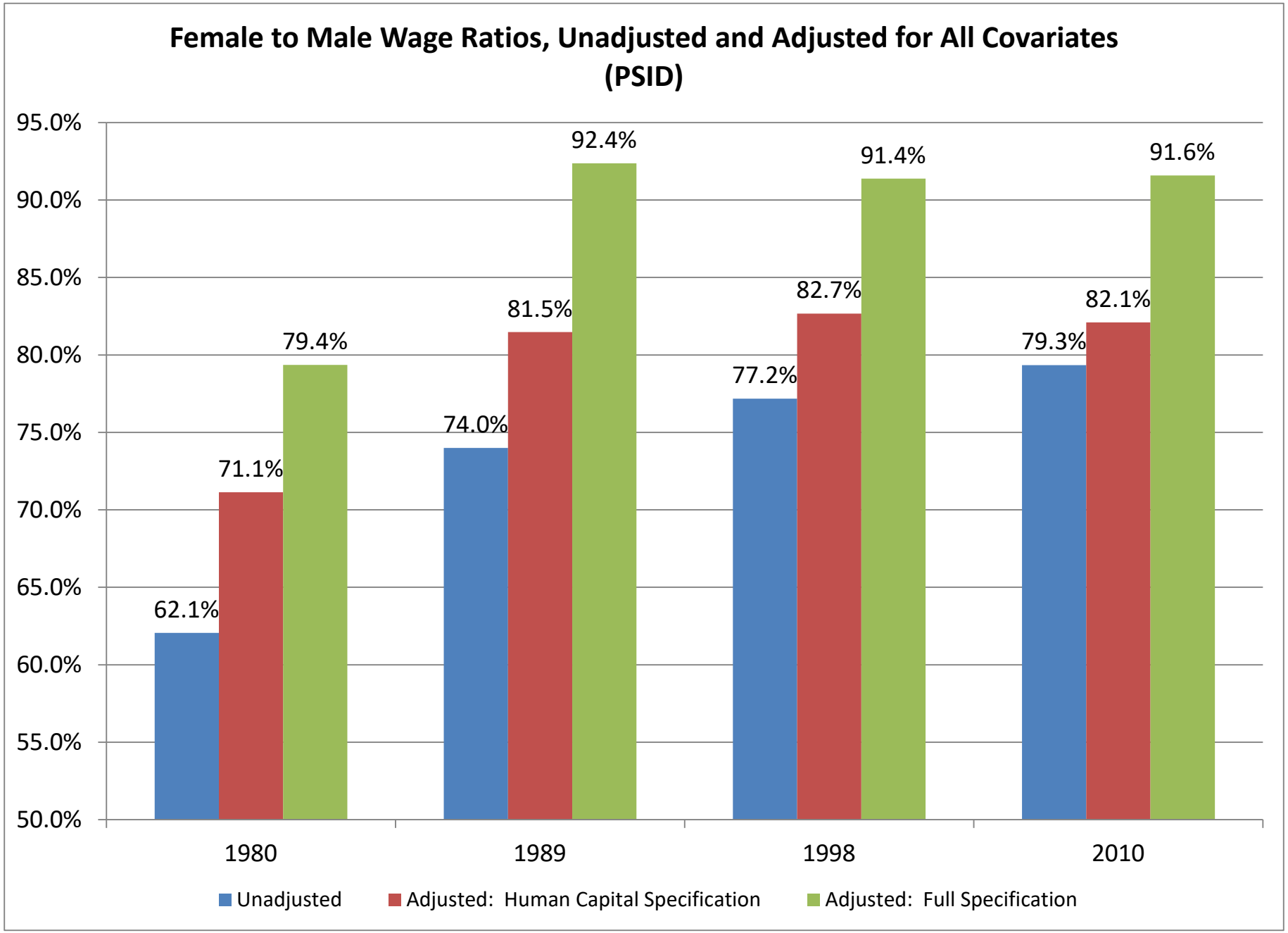
Overview

- Drawing on much joint work with Lawrence M. Kahn, especially Blau and Kahn *JEL* (2017)

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)
85.0%
80.0%
75.0%
70.0%
65.0%
60.0%
55.0%
50.0%
62.1%
74.0%
77.2%
79.3%
1980
1989
1998
2010
Unadjusted

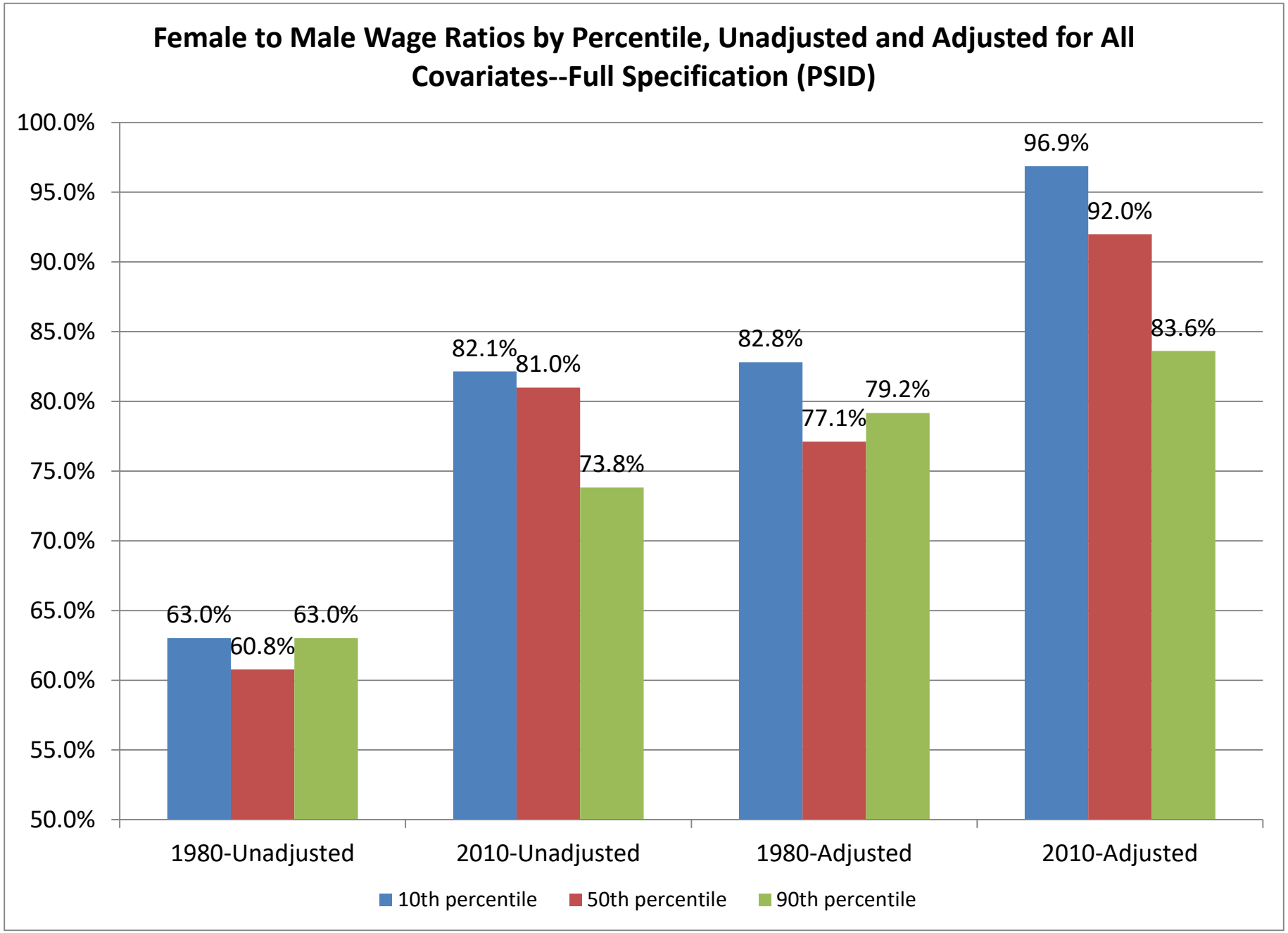

Female to Male Wage Ratios, Unadjusted and Adjusted for All Covariates (PSID)
95.0%
90.0%
85.0%
80.0%
75.0%
70.0%
65.0%
60.0%
55.0%
50.0%
62.1%
71.1%
79.4%
74.0%
81.5%
92.4%
77.2%
82.7%
91.4%
79.3%
82.1%
91.6%
1980
1989
1998
2010
Unadjusted
Adjusted: Human Capital Specification
Adjusted: Full Specification

Contribution of Measured Characteristics to the Gender Wage Gap (Percent Explained)

	1980		2010	
Variables	Human Capital Specification	Full Specification	Human Capital Specification	Full Specification
Education	3%	3%	-8%	-6%
Experience	24%	21%	16%	14%
Unionization	--	6%	--	-1%
Industry	--	10%	--	18%
Occupation	--	11%	--	33%
Other	2%	1%	7%	5%
Total Explained	29%	52%	15%	62%
Total Unexplained	71%	48%	85%	38%
Total Pay Gap	100%	100%	100%	100%

How are more skilled women faring?

- Gender wage gap closing more slowly at the top, both unadjusted and controlling for covariates
- Decomposition of unconditional quantiles based on Chernozhukov, Fernández-Val, and Melly (2013), see also Firpo, Fortin, and Lemieux (2009)


Female to Male Wage Ratios by Percentile, Unadjusted and Adjusted for All Covariates--Full Specification (PSID)
100.0%
95.0%
90.0%
85.0%
80.0%
75.0%
70.0%
65.0%
60.0%
55.0%
50.0%
63.0%
60.8%
63.0%
82.1%
81.0%
73.8%
82.8%
77.1%
79.2%
96.9%
92.0%
83.6%
1980-Unadjusted
2010-Unadjusted
1980-Adjusted
2010-Adjusted
10th percentile
50th percentile
90th percentile

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

- Between 1980 and 2010, the gender wage gap fell by .246 log points
- What are the sources of this decrease?
- Use decomposition based on Juhn Murphy and Pierce (1991) to identify contributions of changes in:
  - Means
  - Coefficients
  - Unexplained gap

Sources of the Change in the Gender Wage Gap, 1980-2010 (full specification)

Sources	Percent
Effect of Changing Means	**57.5**
Education	14.0
Experience	17.6
Unionization	12.3
Industry	-1.3
Occupation	15.0
Other	-0.2
Effect of Changing Coefficients	**-15.7**
Effect of Changing Unexplained Gaps	**58.3**
Change in the Total Wage Gap (-.246 log pts)	**100.0**

What does the decrease in the Unexplained Gap mean?

- Decrease in discrimination
- Relative improvement in women's unmeasured characteristics
- Changes in selection
- Increases in demand for women workers relative to men workers

See Blau and Kahn (2017, 1997, and 2006), Mulligan and Rubinstein (2008), Welch (2000), Bacolod and Blum (2010)

Summary

- 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 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: Human Capital

- Goldin (2014): Emphasizes temporal (in)flexibility and compensating differentials
  - Some jobs require long hours and work performed at particular times and places and disproportionately reward this; given the gender division of labor in most families, this generates a gender wage gap
  - Less emphasized by Goldin, this also applies to large penalties for workforce interruptions
  - Alternative to human capital story
  - Especially applies to high skill women in law and business
  - Goldin emphasizes a within occupation story—but might help explain occupational segregation

Traditional division of labor in home

- *Motherhood wage penalty*; male marriage premium; joint location issues
- Important to note that the aggregate gender wage gap reinforces the traditional division of labor
- Also, there is evidence that discrimination plays a role in the motherhood penalty
  - Correll, Benard, and Paik (2007)—Lab and field experiments (identical 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
- *This does not mean discrimination is overt and conscious*
  - Implicit discrimination—draws on literature in social psychology (in economics see Bertrand, Chugh, and Mullainathan 2005)
  - For a measure see, Implicit Association Test (IAT) https://implicit.harvard.edu/implicit/
  - Some research is starting to correlate scores on test with discrimination (e.g, Reuben et al (2014))

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)

Newer Factors: Noncognitive skills/ Psychological attributes

Some Caveats

- May be to some extent captured by measured variables
- Factors favoring men may not be optimal in all circumstances
- Women sometimes encounter negative reactions when they act in "unfeminine" ways, e.g, negotiate
- Mainly evidence from lab experiments but some confirmation from field experiments and follow-ups
- Difficult to measure *quantitative importance*; our (imperfect) effort to do so in Blau-Kahn (2017) suggests modest effect, not a "silver bullet"

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, it increases her housework time, couple more likely to divorce

- Things may be changing
  - The share of wives in the US 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 how successful women are is an issue, even among the highly educated
- Study of MBA Students Bursztyn, Fujiwara and Pallais (2017)
  - Single women gave *less* career-minded responses to a survey when they expected responses to be shared with their MBA classmates, perhaps to make themselves appear less ambitious and more attractive in the marriage market

Some Comments on Policy

- Family friendly policies
  - parental leave and part-time mandates: trade off between encouraging employment and gender equity within the labor market (e.g., Blau and Kahn 2013; Ruhm 1998)
  - early education and child care most positive effect (Olivetti and Petrongolo (2017)
- Wage setting institutions—role of unions and government (Blau and Kahn 1996, 2003)
- Continued importance of antidiscrimination laws

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
- Differences in location of men and women (by occupation and industry) 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”

Conclusion

- Sexual harassment—little work by economists at this point
- Women's gains vs. men's losses
  - Less skilled men fairing particularly poorly: labor force participation; wage inequality; real wage trends, loss of union jobs
  - Similar trends among women, but in general women faring a bit better
  - Fates intertwined by the family—growth of female headship