

Female labor force participation

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See The Boston Globe article "[Mayor Walsh Pushes to Gather Data on Gender Wage Gap.](#)"

- 1 Facts: Goldin (2006) Ely lecture
- 2 Compensating differentials: Goldin (2014), Bertrand et al. (2010), Goldin-Katz (forthcoming)
- 3 Roy model: Mulligan-Rubinstein (2008)
- 4 Looking ahead

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Historical trends in labor force participation

Arguably the most significant change in labor markets over the past century was the increased participation of women in the labor market.

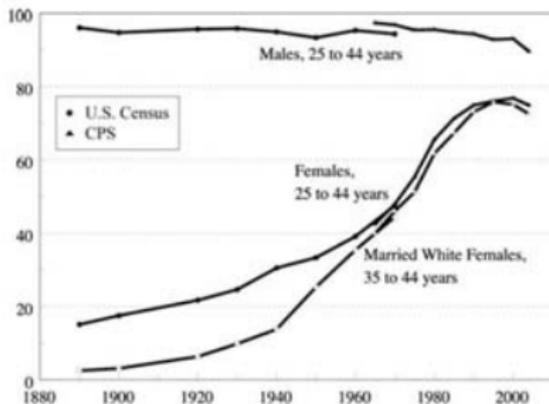


FIGURE 1. LABOR FORCE PARTICIPATION RATES FOR FEMALES AND MALES BY AGE AND MARITAL STATUS: 1890 TO 2004

Notes: All races, marital statuses, and education groups are included unless indicated otherwise. The labor force participation rate from 1890 to 1930 is the fraction of “gainful workers” in the relevant population. The difference between the Census and CPS for females is small, and somewhat larger for males.

Sources: 1890 to 1970, Goldin (1990) from U.S. Population Census; 1965 to 2004, March Current Population Survey (CPS).

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Goldin: Three important factors

Goldin argues there were four distinct phases in this shift, and argues that three factors in particular were important:

- 1 “Horizon”: whether, at the time of human capital investment, a woman perceives that her lifetime labor force involvement will be long and continuous or intermittent and brief
- 2 “Identity”: whether a woman finds individuality in her job, occupation, profession, or career
- 3 “Decision making”: whether labor force decisions are made fully jointly, if a woman is married or in a long-term relationship, or whether the woman is a “secondary worker” who optimizes her time allocation by taking her husband’s labor market decisions as given to her

Goldin: Describing the transition

- 1 Horizon: Change from static decision making with limited horizons, to dynamic decision-making with long-term horizons
- 2 Identity: Change from agents who work because they and their families “need the money” to those who are employed at least in part because occupation and employment define one’s identity
- 3 Decision making: Change from “jobs” to “careers,” where the distinction concerns both horizon and human capital investment

Goldin: Phase I

- Late nineteenth century to the 1920s
- Female workers in the labor market (largely piece workers in manufacturing or services) were generally young and unmarried
- Women almost always exited the workforce at marriage

Goldin: Phase II

- 1930 to 1950
- Driven by increased demand for office and other clerical work due to the arrival of new types of IT and growth in high school education
- Until 1940, few remained employed after marriage, partly due to marriage bars, regulations that forced single women to leave employment upon marriage and banned the hiring of married women

Goldin: Phase III

- 1950 to mid-to-late-1970s
- Driven partly by the creation of part-time employment, and partly by the elimination of marriage bars
- But women were still largely secondary earners. Interviews for first jobs, even for women with college degrees, would often begin with “How well do you type?”
(Anecdote about US Supreme Court Justice Sandra Day O’Connor)
- Even though many women would eventually be employed for a significant portion of their lives, their expectations of employment while young were quite different: most woman had anticipated brief and intermittent employment in various jobs, not in a career

Goldin: Phase IV

- Beginning in the late 1970s
- Goldin brings in many data series to illustrate the changes during Phase IV, because she argues that changes in labor force participation understate the amount of underlying change during this period

Figure 2: Expectations of paid employment at age 35

Young women in the 1970s began with expectations similar to the actual participation of their mothers' generation (0.3), but in the next ten years began to correctly anticipate their future labor force participation rates.

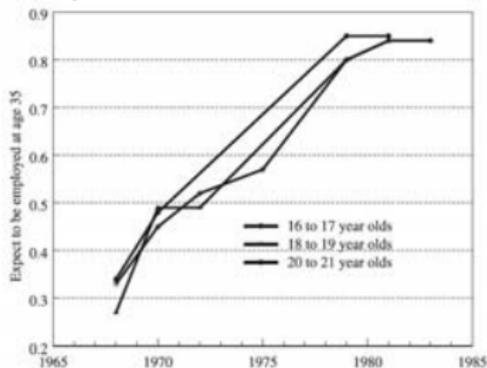


FIGURE 2. EMPLOYMENT EXPECTATIONS OF FEMALE YOUTH BY AGE: 1967 TO 1984

Notes: The NLS data are the response to whether an individual stated she expected to be in the paid labor force at age 35 and are given here for white women. The NLS data link the averages for each age group over time. Thus, the 14- to 15-year-olds in the NLS68 in 1968 became 16 to 17 years old in 1970 and are linked to the 16- to 17-year-olds in 1979 in the NLSY.

Sources: 1968 National Longitudinal Survey of Young Women (NLS68) and 1979 National Longitudinal Survey of Youth (NLSY). See Goldin (2005) for details.

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Figure 3: College attendance and graduation rates

Goldin argues that these revised expectations of future employment led young women to continue with college.

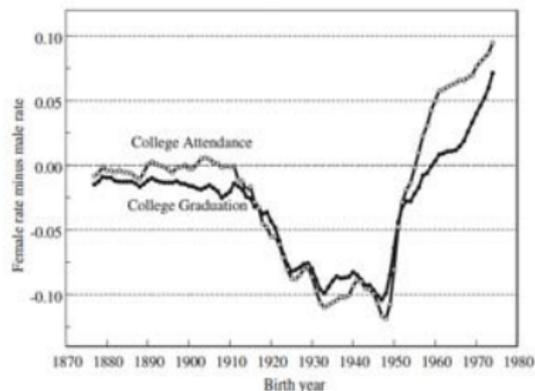


FIGURE 3. FEMALE MINUS MALE COLLEGE ATTENDANCE AND GRADUATION RATES: BIRTH COHORTS, 1877 TO 1974

Notes: The underlying data are the fraction of four-year college attendees or graduates by birth cohort and sex adjusted to 35 years of age for the U.S. born. College graduates are those with 16 or more completed years of schooling for the 1940–1980 samples and those with a bachelor’s degree or higher in the 1990–2000 samples. The underlying samples include all U.S.-born residents aged 25 to 64 years. For information on the age-adjustment regressions, see De Long et al. (2003, fig. 1) and Goldin et al. (2005).

Sources: 1940 to 2000 Census of Population Integrated Public Use Micro-data Samples (IPUMS).

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Figure 4: Median age at marriage

Median age at first marriage increased by 2.5 years for female college graduates born between 1949 and 1956

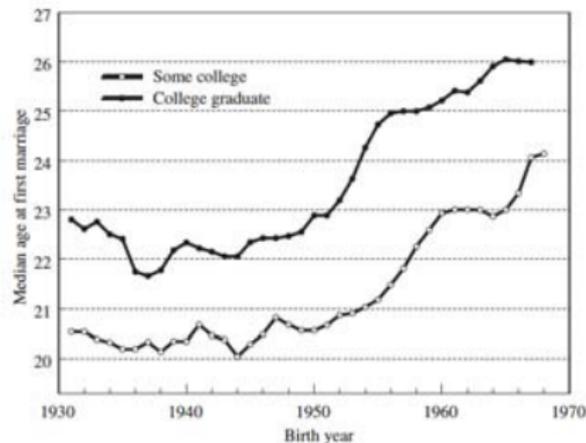


FIGURE 4. MEDIAN AGE AT FIRST MARRIAGE FOR BIRTH COHORTS OF FEMALE COLLEGE GRADUATES AND ATTENDEES: 1931 TO 1968 BIRTH YEARS

Notes: Three-year centered moving averages are shown.

Sources: Current Population Survey; Fertility and Marital History Supplement, 1990 and 1995.

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Figure 5: Professional/graduate school

Women also began to further their education in professional and graduate schools around 1970

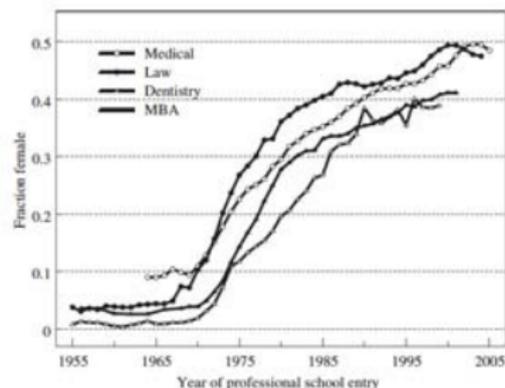


FIGURE 5. FRACTION FEMALE AMONG FIRST-YEAR STUDENTS IN PROFESSIONAL PROGRAMS: 1955 TO 2005

Sources: First-year law students from the American Bar Association Web site: <http://www.abanet.org/legaled/statistics/femstats.html>. First-year medical students (to 1994) from *Journal of the American Medical Association* (various years 1978 to 1998) and (from 1994 to 2005) from the American Association of Medical Colleges Web site <http://www.aamc.org/data/facts/2005/2005summary.htm>. First-year dentistry students extrapolated from dental degrees awarded lagged four years, from U.S. Department of Education, NCES (2005, table 257). Masters in business administration first-year students extrapolated from MBA degrees awarded lagged two years, from U.S. Department of Education, NCES (2005, table 278).

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Figure 7: Male/female earnings gap

The earnings of women relative to men began to increase around 1980, after remaining flat since the 1950s

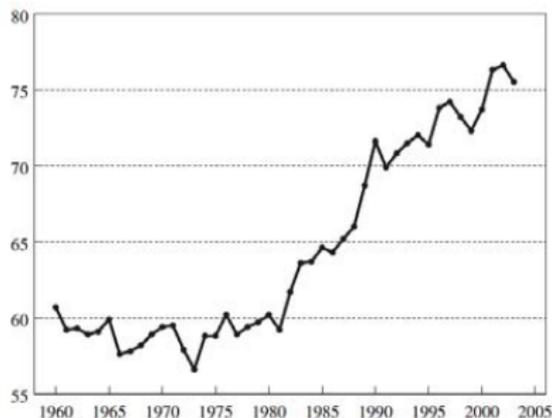


FIGURE 7. WOMEN'S EARNINGS AS A PERCENTAGE OF MEN'S EARNINGS: 1960 TO 2003

Notes: Based on median earnings of full-time, year-round workers 15 years old and over as of March of the following year. Before 1989, earnings are for civilian workers only.

Source: <http://www.census.gov/hhes/income/histinc/p40.html>.

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Figure 8: Occupations

Occupations shifted away from “traditional” women’s occupations

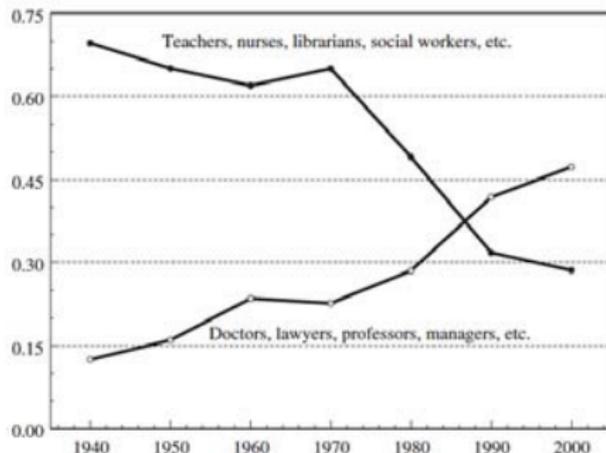


FIGURE 8. OCCUPATIONS OF COLLEGE GRADUATE WOMEN, 30 TO 34 YEARS OLD: 1940 TO 2000

Notes: The occupations in the two groups are: grade school teachers, nurses, librarians, social or religious workers, secretaries and other clerical workers; and doctors, lawyers, professors, managers, and scientists.

Sources: Integrated Public Use Micro-data Sample of the U.S. Federal Population Census, 1940 to 1960; March Current Population Survey 1970 to 2000.

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Goldin: Potential drivers of Phase IV trends

- Learning from earlier cohorts
- Introduction of the pill

My sense: Lots of unexplored/interesting economics here

- Common argument: Gender gap in outside job offers / negotiations for salary increases (Babcock and Laschever 2003)
- One idea: High-income women may be more likely to be in dual career households than are high-earning men, and dual earners in general (regardless of gender) may be less able / willing to credibly engage in such negotiations
- Suggests that it may be interesting to compare earnings of high-income dual career women with high-income dual career men
 - ▶ Even then, not really apples-to-apples: Alan Bensons' work on women sorting into lower paying geographically dispersed occupations
 - ▶ Could try to focus on couples where that isn't an issue
 - ▶ Related to Costa-Kahn work on power couples
- Advert for Melanie Wasserman's lunch in a few weeks

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Goldin: 2014 AEA Presidential Address

- Follows on her Ely lecture, with a focus on the convergence in earnings between men and women
- Figure 1 plots earnings gap by cohort:
 - 1 Each cohort has a higher ratio of female to male earnings than the preceding one
 - 2 Ratio is closer to parity for younger individuals than for older individuals
 - 3 Ratio increases again when individuals are in their forties

Figure 1: Earnings gap by cohort

The main conclusion she draws from this is that differences in earnings by sex greatly increases during the first several decades of working life.

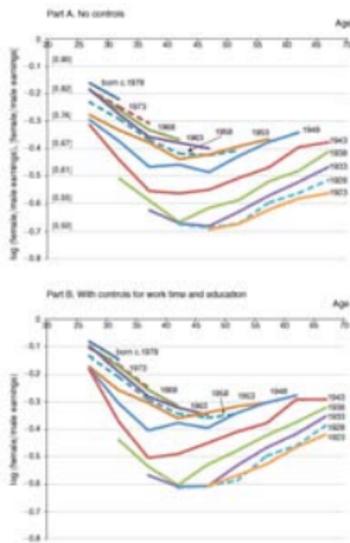


FIGURE 1. Relative Earnings of (Full-Time, Full-Year) College Graduate Men and Women for Synthetic Cohorts Born 1925 to 1978

Note: Sample consists of full-time (35+ hours), full-year (40+ weeks), college-graduate (16+ years of schooling), men and women (white, native-born, non-military, 25 to 69 years old), using trimmed annual earnings data (excluding 1,000 lowest = 0.5 + 2000 minimum wage) corrected for income truncation (top-coded values = 1.5). Part B contains controls for education beyond 16 years, log hours, and log weeks. Age is entered in five-year intervals with an interaction with female. In each graph the lines connect the coefficients on the five-year intervals for each birth cohort.

Sources: US Census Micro-data 1975, 1980, 1990, 2000, and American Community Survey 2004 to 2006 (for 2005), 2009 to 2011 (for 2010).

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Residual earnings gap

- Most studies of the gender wage gap produce estimates of an “explained” (by covariates) and “residual” (unexplained) portion
- Goldin estimates such specifications in the 2009 to 2011 American Community Survey, and plots the residual gender difference by occupation against the log male wage in that occupation in Figure 2A.
- In almost all cases, coefficient on female is negative
- She categorizes occupations into five broad sectors, which illustrates that business has the largest negative coefficients whereas technology and science have the smallest
- She argues these patterns are unlikely to be driven by selection

Figure 2: Residual earnings gaps by occupation

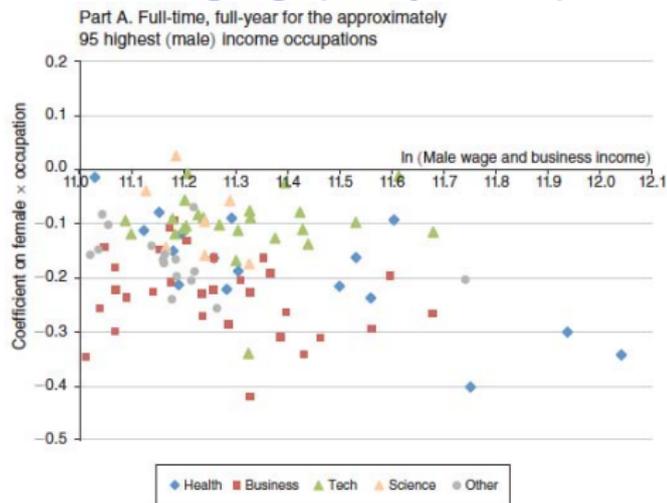


FIGURE 2A. GENDER PAY GAPS BY OCCUPATION: 2009 TO 2011

Notes: Sample consists of full-time, full-year individuals 25 to 64 years old excluding those in the military using trimmed annual earnings data (exceeding 1,400 hours \times 0.5 \times 2009 minimum wage). Regression contains age in a quartic, race, log hours, log weeks, education levels, census year, all occupations (469), and an interaction with female and occupation. Part A contains all full-time, full-year workers (2,603,968 observations); part B has those who graduated (BA) college (964,705 observations); part C has the group < 45 years old among those included in part A (1,333,013 observations). Each of the symbols in part A is an occupation for which the mean annual income for males exceeds \$60K (current \$) and is limited to occupations with at least 25 males and at least 25 females. For parts B and C the same occupations are graphed.

Source: American Community Survey 2009 to 2011.

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Personnel economics theory of occupational pay differences

- Starting point: observation that individuals in some occupations work 70 hours a week and receive far more than twice the earnings of those who work 35 hours a week, but in some occupations they do not
 - ▶ Linearity with respect to time worked vs. nonlinearity (convexity)
- Her claim is when earnings are linear with respect to time worked the gender gap is low; when there is nonlinearity the gender gap is higher
- Total hours vs. particular hours worked
- Costs of transferring client information across employees
- Key point: whenever an employee does not have a perfect substitute, nonlinearities can arise. When there are perfect substitutes for particular workers and no transaction costs, there is never a premium in earnings with the respect to the number or the timing of hours.

MBA: Bertrand et al. (2010)

- Despite the narrowing of the gender gap in business education, there is a growing sense that women are not getting ahead fast enough in the corporate and financial world
- Document:
 - ▶ Male and female MBAs have nearly identical earnings at the outset of their careers
 - ▶ Male earnings advantage reaches almost 60 log points a decade after MBA completion
- Attempt to decompose underlying drivers

Data

- Surveys of UofC MBAs graduating 1990-2006
- Linked to administrative data
- Respondents (31%) look similar on observables to nonrespondents

Table 1: Summary statistics

Early in their careers, labor force participation for MBAs is extremely high and similar by gender. Hours decline with time for both men and women, in part reflecting a move out of investment banking and consulting and towards general management positions in corporations. But the gender gap in labor force participation widens as careers progress.

TABLE 1—LABOR SUPPLY BY GENDER AND NUMBER OF YEARS SINCE MBA GRADUATION:
DESCRIPTIVE STATISTICS

	Number of years since MBA graduation					
	0	1	3	6	9	≥ 10
Share not working at all in current year						
Female	0.054	0.012	0.027	0.067	0.129	0.166
Male	0.028	0.005	0.003	0.008	0.011	0.010
Share working full time/full-year (52 weeks and > 30 to 40 hours per week)						
Female	NA	0.89	0.84	0.78	0.69	0.62
Male	NA	0.93	0.94	0.93	0.93	0.92
Cumulative share with any no work spell (until given year)						
Female	0.064	0.088	0.143	0.229	0.319	0.405
Male	0.032	0.040	0.064	0.081	0.095	0.101
Cumulative years not working						
Female	0	0.050	0.118	0.282	0.569	1.052
Male	0	0.026	0.045	0.069	0.098	0.120
Mean weekly hours worked for the employed						
Female	59.1	58.8	56.2	54.7	51.5	49.3
Male	60.9	60.7	59.5	57.9	57.5	56.7
Share working part time (≤ 30 to 40 hours per week)						
Female	0.04	0.05	0.07	0.09	0.15	0.22
Male	0.02	0.02	0.02	0.03	0.03	0.04
Share working fewer than 52 weeks						
Female	NA	0.07	0.07	0.09	0.06	0.06
Male	NA	0.05	0.04	0.03	0.03	0.03

Note: Individuals who do not work at all in a given year are excluded from those "working part time" and "working fewer than 52 weeks" and are included as zeros in the definition of "working full time/full year."

Courtesy of Marianne Bertrand, Claudia Goldin, Lawrence F. Katz, and the American Economic Association. Used with permission.

Figure 1: Earnings by sex

Mean earnings comparable directly following MBA, but soon diverge.

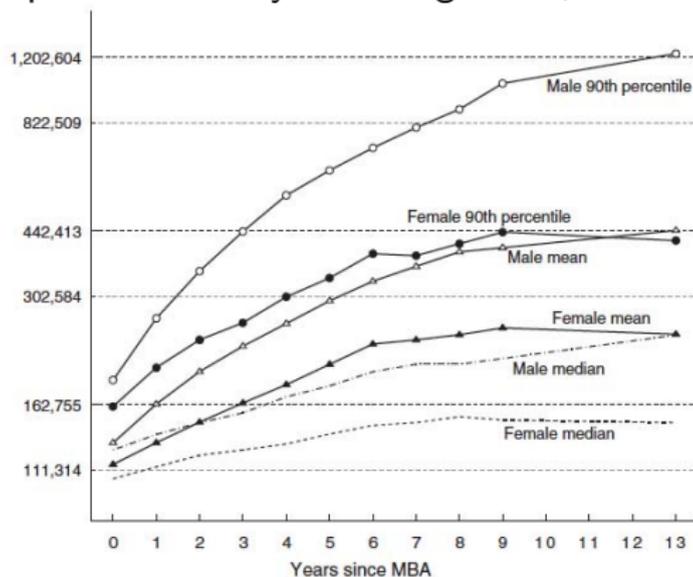


FIGURE 1. MALE AND FEMALE MEAN, MEDIAN, AND NINETIETH PERCENTILE ANNUAL SALARIES (2006 DOLLARS) BY YEARS SINCE MBA

Notes: Web Appendix Table A5 contains the data points for a selected group of years since MBA. Nominal earnings in each year are converted into real earnings in 2006 dollars using the Consumer Price Index for All Urban Consumers (CPI-U). The vertical axis uses a natural logarithm (ln) scale.

Courtesy of Marianne Bertrand, Claudia Goldin, Lawrence F. Katz, and the American Economic Association. Used with permission.

Table 4: Decomposition

Differences in three factors - MBA performance (24%; GPA and finance courses), career interruptions and job experience (30%), and hours worked (30%) - account for 84 percent of the gender gap in earnings.

TABLE 4—GENDER WAGE GAP BY YEARS SINCE MBA

	Number of years since MBA receipt					
	0	1	3	6	9	≥ 10
1. With no controls	-0.089 [0.020]***	-0.154 [0.025]***	-0.253 [0.038]***	-0.308 [0.056]***	-0.376 [0.079]***	-0.565 [0.045]***
With controls:						
2. Pre-MBA characteristics	-0.080 [0.021]***	-0.136 [0.026]***	-0.204 [0.039]***	-0.248 [0.057]***	-0.320 [0.084]***	-0.479 [0.045]***
3. Add MBA performance	-0.054 [0.021]***	-0.103 [0.025]***	-0.154 [0.037]***	-0.180 [0.055]***	-0.257 [0.082]***	-0.446 [0.044]***
4. Add labor market exp.	-0.053 [0.021]**	-0.093 [0.025]***	-0.134 [0.037]***	-0.143 [0.055]***	-0.181 [0.082]**	-0.312 [0.044]***
5. Add weekly hours worked	-0.036 [0.020]	-0.073 [0.023]***	-0.073 [0.036]**	-0.079 [0.053]	-0.047 [0.078]	-0.098 [0.042]**
6. Add reason for choosing job	-0.033 [0.020]	-0.067 [0.023]***	-0.064 [0.035]	-0.075 [0.053]	-0.031 [0.079]	-0.066 [0.042]
7. Add job setting characteristics	-0.025 [0.019]	-0.060 [0.022]***	-0.064 [0.032]**	-0.080 [0.048]	0.002 [0.071]	-0.010 [0.037]

Courtesy of Marianne Bertrand, Claudia Goldin, Lawrence F. Katz, and the American Economic Association. Used with permission.

Role of children

- Perhaps unsurprisingly, children appear to be a main contributor
- Women with children work 24% fewer hours per week than men or than women without children
- The association between children and female labor supply differs strongly by spousal income, with MBA moms with high-earning spouses having labor force participation rates that are 18.5 percentage points lower than those with lesser-earning spouses

Table 8: Children

The authors use the (retrospectively-constructed) panel structure of the data to explore the effect of children on careers. MBA male labor supply is virtually unaffected by fatherhood. MBA women reduce their labor supply on both the extensive and intensive margins after a birth.

TABLE 8—IMPACT OF FIRST BIRTH ON EMPLOYMENT STATUS, SALARY, AND WORKING HOURS

	Not working		Log (annual earnings)		Annual earnings (0 if not working)		Log (weekly hours worked)	
	Male (1)	Female (2)	Male (3)	Female (4)	Male (5)	Female (6)	Male (7)	Female (8)
Year of birth of first child	-0.001 [0.007]	0.096 [0.032]***	0.008 [0.036]	-0.096 [0.054]	-2,315 [20,942]	-45,666 [20,936]**	-0.006 [0.010]	-0.126 [0.029]***
Years after birth of first child:								
1 or 2	-0.009 [0.007]	0.131 [0.036]***	0.040 [0.040]	-0.164 [0.066]**	5,117 [24,118]	-64,586 [26,335]**	-0.013 [0.011]	-0.168 [0.036]***
3 or 4	-0.007 [0.008]	0.178 [0.045]***	0.065 [0.049]	-0.292 [0.092]***	9,721 [29,915]	-99,397 [34,839]***	-0.011 [0.013]	-0.238 [0.049]***
5 or more	0.000 [0.0012]	0.190 [0.054]***	0.162 [0.060]**	-0.301 [0.119]**	62,581 [37,872]	-101,719 [44,384]**	0.000 [0.017]	-0.233 [0.071]***
Years before birth of first child:								
1 or 2	-0.006 [0.005]	-0.015 [0.021]	-0.008 [0.030]	-0.051 [0.041]	-7,830 [16,303]	-19,137 [15,226]	-0.005 [0.009]	-0.043 [0.023]
Observations	14,490	5,070	13,969	4,545	14,523	5,070	14,193	4,560
R ²	0.29	0.46	0.77	0.73	0.66	0.68	0.72	0.68

Courtesy of Marianne Bertrand, Claudia Goldin, Lawrence F. Katz, and the American Economic Association. Used with permission.

Goldin (2014): JDs

Goldin (2014) uses data on JDs graduating from University of Michigan Law School to document similar trends for lawyers

Goldin and Katz (2015): Pharmacists

- In contrast to MBAs and JDs, argue that pharmacy is an example of an occupation with fairly linear earnings with respect to hours worked and a negligible penalty to time out of the labor force
- Managers of pharmacies get paid more because they work more hours
- Female pharmacists get paid less because they work fewer hours
- But there is no “part time penalty”

Goldin and Katz (2015): Pharmacists

- Study closely how pharmacy became the most egalitarian profession over the time period 1970-2010
- Argue that three production and healthcare changes are the forces behind the evolution of the pharmacy sector:
 - ① Technological changes increasing the substitutability among pharmacists (electronic records, decline in compounding)
 - ② Growth of pharmacy employment in retail chains and hospitals (due to increase in scale/scope of drug stores)
 - ③ Related decline of independent pharmacies
- Context: demand growth (with licensing)
- Worth thinking about: job satisfaction
 - ▶ Pharmacist/patient interactions (anecdote: my dad)
 - ▶ Self-employment vs. CVS
 - ▶ Decline in skilled tasks (compounding)

Compensating differentials framework

- A demand side shift raising the demand for an amenity would imply an increase in the cost of the amenity and hence a likely decline in women's relative earnings
- In contrast, a supply side shift lowering the cost to firms of providing the amenity implies a decrease in the cost of the amenity and hence a likely increase in women's relative earnings
- They argue that the data and institutional context are more consistent with the latter than the former

Some comments

- Paper does little to tease out channels. Could go beyond one case study, or use cross-geography variation
- Does not take a stance on welfare
- Would be interesting to look at changing selection into the profession

Goldin (2014) concludes her AEA Presidential Address by arguing that there are many occupations and sectors that have moved in the direction of less costly flexibility (physicians are a good example). But she stresses that not all positions can be changed.

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Goldin (2006): Gender wage gap

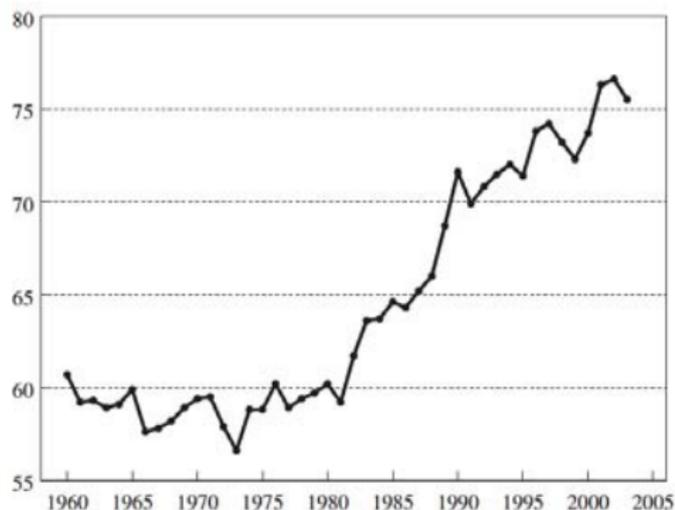


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Source: <http://www.census.gov/hhes/income/histinc/p40.html>.

Courtesy of Claudia Goldin and the American Economic Association. Used with permission.

Mulligan and Rubinstein (2008): Gender wage gap and 90/10 male earnings inequality

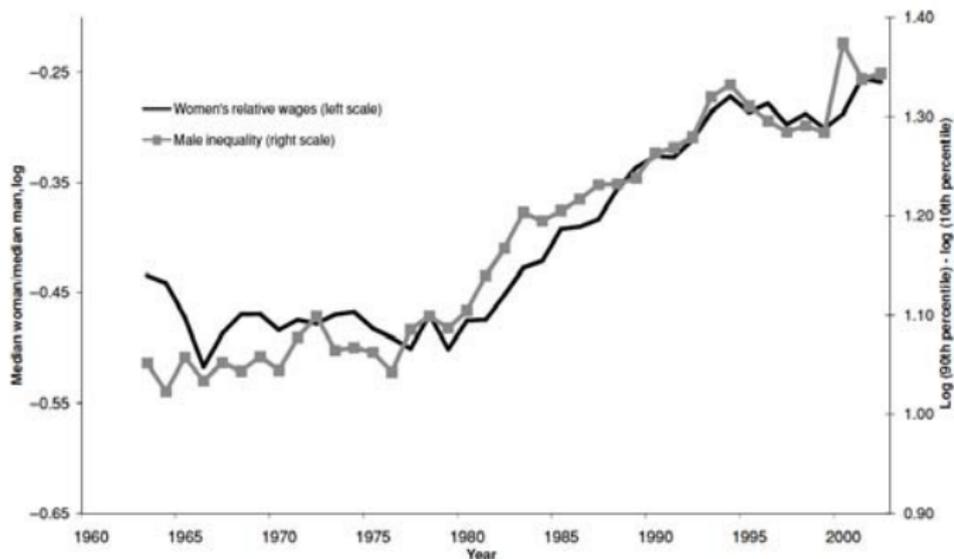


FIGURE I
Wage Inequality within and between Genders

The figure graphs time series of (a) the log of the ratio of the wage of the median woman to that of the median working man (left scale, no markers), and (b) the log of the ratio of the wage of a man at the 90th percentile of the male wage distribution to that of a man at the 10th percentile (right scale, square markers). The calculations use our CPS wage sample of white persons aged 25–54, without trimming of outliers or adjusting topcodes.

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Mulligan and Rubinstein (2008)

Roy model explanation for why these series might move together

- Growing w/in-gender wage inequality \Rightarrow composition change?
- Analogously to the Borjas model where self-selection depends on relative inequality and the correlation of ability in the two markets, similar structure here (market and non-market returns)
- Could explain trends in relative wage growth
- Difficult to test empirically, but results suggest most of the narrowing of the wage gap could be due to compositional changes

Data and estimation

- March Current Population Survey (CPS)
- Two main specifications:
 - 1 Heckman two-step estimator
 - 2 Identification at infinity analysis

Recovering the latent gender gap is difficult, and neither of these strategies is perfect.

Heckman two-step estimator

- Follows directly from Roy model (taking normality seriously)
- Estimate probit model of FLFP as a function of:
 - 1 Demographic characteristics (\mathbf{X}_{it})
 - 2 Excluded instrument: ($\#$ children aged 0-6)*(marital status)
- \mathbf{Z}_{it} denotes \mathbf{X}_{it} together with the excluded instrument

$$P_t(\mathbf{Z}_{it}) = \Pr(\text{work} | \mathbf{Z}_{it}, \text{female})$$

Heckman two-step estimator (continued)

- $P_t(\mathbf{Z}_{it})$:
 - ▶ Women: fitted values from probit equation
 - ▶ Men: set to = 1
- On sample of employed men and women, estimate log wages as a function of \mathbf{X}_{it} and Inverse Mills Ratio $\lambda(\mathbf{Z}_{it}\delta_t) = \frac{\phi(\mathbf{Z}_{it}\delta_t)}{\Phi(\mathbf{Z}_{it}\delta_t)}$:

$$w_{it} = \mathbf{X}_{it}\beta_t + g_i\gamma_t + g_i\theta_t\lambda(\mathbf{Z}_{it}\delta_t) + u_{it}$$

Heckman two-step estimator (continued)

Without an excluded instrument, Heckman correction lives off functional form: Inverse Mills Ratio is a non-linear function of same \mathbf{X}_{it} included linearly in second (wage) regression

- Mulligan-Rubinstein exclusion restriction not very plausible
- Motivates second, identification at infinity strategy

Identification at infinity

Roy model suggests that selection bias disappears for groups with characteristics \mathbf{X}_{it} such that practically all individuals work, even dropping the normality assumption

- Motivates identification at infinity method
- Key idea: Estimates wage equation on a sample *selected* such that almost all of the sample works

Identification at infinity (continued)

Estimate probit for LFP separately by gender as a function of \mathbf{X}_{it} 's

- Selects demographic groups to include in wage equation
- In wage equation, include only men and women who:
 - 1 Are employed
 - 2 Have demographic characteristics such that their predicted probability of employment α is close to one
- In practice, show results for several α 's
- Selection-corrected gender wage gap is calculated as conditional gender wage gap for this selected sample

But schooling is a choice variable, and selection of women vs. men into higher education levels has changed over time. Seems unlikely that this method is taking care of selection given the changing selection into education over time (differentially by gender).

Results

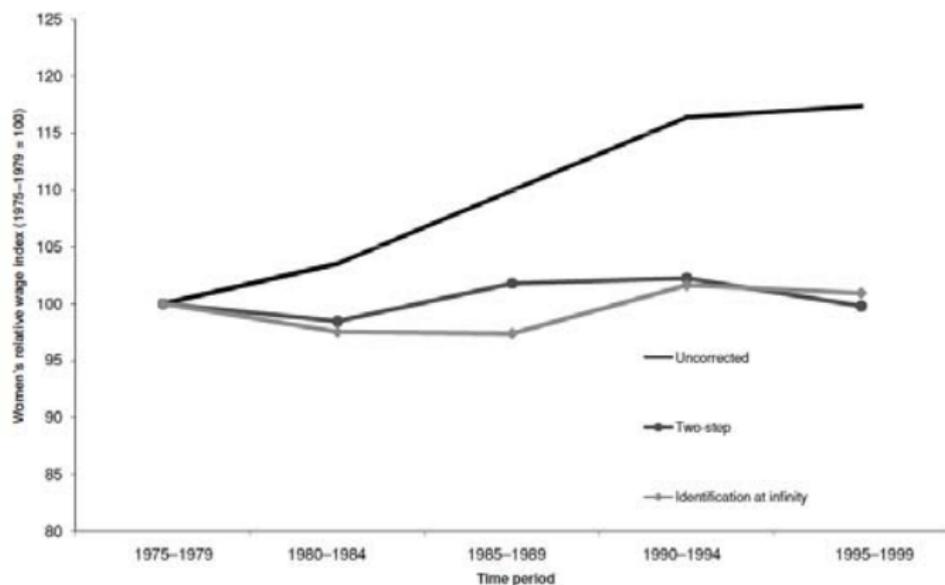


FIGURE VI

Gender Relative Wage Indices with and without Selection Corrections

The figure graphs three time series of indices of women's wages as a ratio to men's (1975-1979 = 100), net of demographic characteristics. The series differ according to the method for correcting selection bias. The calculations use our CPS sample of white persons aged 25-54, trimming outliers and adjusting topcodes as described in Appendix I.

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Take-aways

- As with the Chandra-Staiger paper, the ‘facts’ on gender wage and employment trends have been around a long time
- Simple model based on an interesting insight
 - ▶ “Various observers have noted that wage inequality within gender and wage equality between genders have been curiously coincidental, if not paradoxical...”
- Empirics here are more difficult to tackle (or done so less convincingly), but the proposed idea is very intriguing

- 1 Facts: Goldin (2006) Ely lecture
- 2 Compensating differentials: Goldin (2014), Bertrand et al. (2010), Goldin-Katz (forthcoming)
- 3 Roy model: Mulligan-Rubinstein (2008)
- 4 Looking ahead

Looking ahead

Applying the Roy model and equalizing wage differentials:
The scientific workforce

Please comment on Stern (2004)

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