The Gender Wage Gap: Through the Industries

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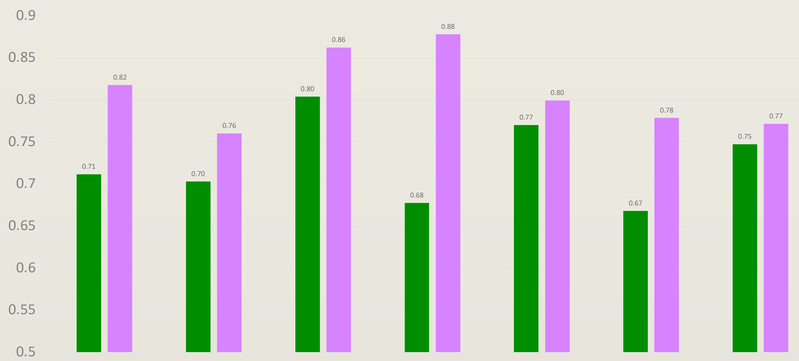
Abstract

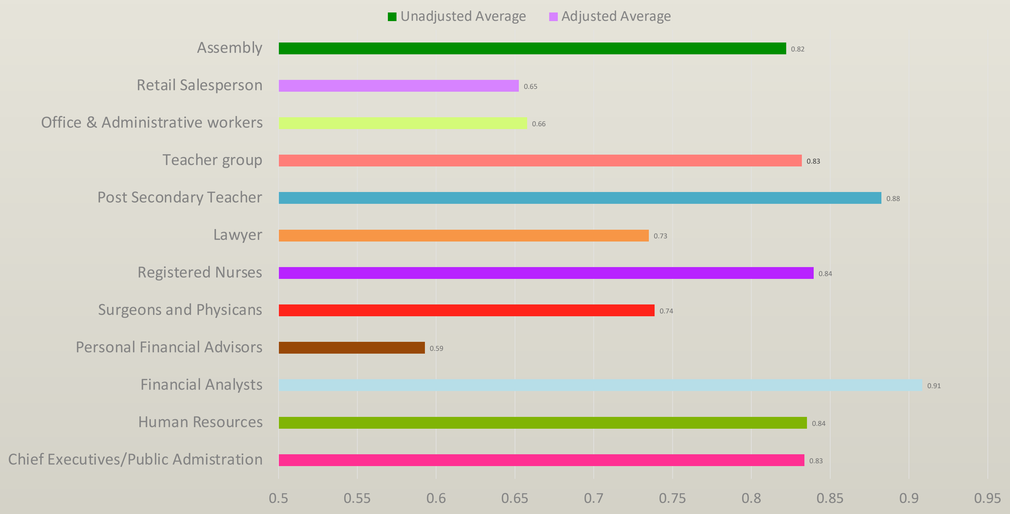
Since the 1860s, research has shown a difference in wages for men and women who are doing the same work which started the gender wage gap. In 2022, women earned an average of 82 percent of what men earned which is higher than the 60 percent in the 1950s. This paper examines the difference in jobs for men and women in which there is a gender difference in wages. Using the Current Population Survey (CPS) data for 2015-2021, I show which industries have the largest and smallest gender wage gap. This sample period includes the time of the COVID-19 pandemic during which both genders had worked fewer hours than in previous years but also shows that males work more hours than females on average. With the change in gender roles throughout history, women have become more educated relative to men. Factors that can affect the wage gap are age, experience, education, marital status, race, and the number of children under 18 an individual has. The results show the industries and occupations that have the largest gender wage gaps.

Summary Statistics	Full Sample	Women	Men
Asian	0.0688	0.0685	0.069
Black	0.1264	0.1425	0.1119
White	0.7748	0.7576	0.7902
Hispanic	0.176	0.1617	0.1887
Other Race	0.0301	0.0314	0.0288
Married	0.5261	0.5068	0.5434
One Child	0.1828	0.2054	0.1627
Two Children	0.1684	0.1758	0.1618
Three or More Children	0.0915	0.0887	0.0939
Four or More Children	0.0254	0.0233	0.0272
Less than High School	0.0651	0.0503	0.0784
High School or GED	0.2605	0.2247	0.2925
Some College or Associate's	0.1723	0.1745	0.1704
Bachelor's Degree	0.2511	0.268	0.236
Master's Degree	0.1065	0.126	0.0891
Doctorate or Professional Degree	0.0351	0.0347	0.0355
Central City or Outside Central City	0.7526	0.7521	0.7531
Union	0.0192	0.0192	0.0191
Men	0.5279	-	-
Women	0.4721	-	-
Number of Observations	506,463	242,650	263,813

Summary Statistics – Average Weeks Worked	Full Sample	Women	Men
2015	49.08	48.76	49.38
2016	49.17	48.80	49.51
2017	49.21	48.94	49.46
2018	49.30	48.97	49.61
2019	49.23	48.89	49.55
2020	47.20	46.76	47.60
2021	48.78	48.40	49.11

Summary Statistics-Industry	Full Sample	Women	Men
Agriculture, Forestry, & Fishery	0.0201	0.0117	0.0276
Mining	0.0054	0.0017	0.0088
Construction	0.0663	0.0149	0.1123
Manufacturing	0.1292	0.0799	0.1733
Communication	0.0107	0.0075	0.0135
Finance, Insurance, & Real Estate	0.4726	0.6021	0.3569
Healthcare	0.1316	0.2181	0.0543
Education	0.1056	0.1597	0.0573
Government	0.0442	0.0452	0.0433
Retail	0.0811	0.0763	0.0855
Service	0.1777	0.1722	0.1827





Findings

Based on industries and unadjusted, those working in education have the smallest gender wage gap, and the service has the largest. In the model that adjusts for individual worker characteristics, healthcare has the smallest gap and those working in retail trade have the largest. The adjusted model controls for an individual's education, number of kids, race, and metro status.

Looking at the occupations, my results show that Personal Financial Advisors have the largest pay gap. On average female financial advisers earn less than $0.60 for every dollar a male financial advisor earns. Financial analysts have the smallest gender wage gap based on occupation where women earn $0.09 less on average than men.

Overall, my results show that a gender wage gap is present in all industries and occupations and women continue to earn less than males.

Methods

Equation 1: (Unadjusted Model)

$$Earnings_i = \beta_0 + \beta_1(Year\ Fixed\ Effects)_i + \varepsilon_i$$

Equation 2: (Unadjusted Model)

$$Earnings_i = \beta_0 + \beta_1(Race)_i + \beta_2(Hispanic)_i + \beta_3(Marital\ Status)_i + \beta_5(Metropolitan\ Area)_i + \beta_6(Year\ Fixed\ Effects)_i + \varepsilon_i$$

Separate OLS regressions for men and women by industry and occupation. Gender wage gap estimated using Blinder-Oaxaca decomposition

Unadjusted Model

Male

VARIABLES	(1) Fin.	(2) Retail	(3) Education	(4) Healthcare	(5) Manufacturing	(6) Service
Constant	6.908	6.469	6.768	6.975	6.885	6.888
	(0.008)	(0.014)	(0.018)	(0.023)	(0.009)	(0.011)
Observations	94,851	21,981	15,350	14,288	45,099	46,633
R-squared	0.010	0.008	0.007	0.006	0.010	0.013

Robust standard errors in parentheses

Female

VARIABLES	(1) Fin.	(2) Retail	(3) Education	(4) Healthcare	(5) Manufacturing	(6) Service
Constant	6.568	6.117	6.550	6.586	6.624	6.485
	(0.006)	(0.015)	(0.011)	(0.009)	(0.015)	(0.012)
Observations	147,711	18,428	39,663	53,206	18,787	41,018
R-squared	0.016	0.018	0.013	0.015	0.017	0.021

Robust standard errors in parentheses

Adjusted Model

Male

VARIABLES	(1) Fin.	(2) Retail	(3) Education	(4) Healthcare	(5) Manufacturing	(6) Service
Married Spouse Present	0.265	0.330	0.231	0.270	0.245	0.281
	(0.006)	(0.013)	(0.014)	(0.015)	(0.007)	(0.009)
Less Than HS Diploma	-0.411	-0.319	-0.100	-0.453	-0.416	-0.388
	(0.018)	(0.028)	(0.078)	(0.053)	(0.016)	(0.022)
Some College	-0.056	-0.050	-0.070	-0.164	-0.047	-0.036
	(0.011)	(0.023)	(0.037)	(0.026)	(0.014)	(0.018)
Bachelor's Degree	0.269	0.204	0.229	0.203	0.324	0.387
	(0.010)	(0.024)	(0.030)	(0.022)	(0.013)	(0.015)
HS Diploma or GED	-0.194	-0.141	-0.059	-0.288	-0.182	-0.195
	(0.011)	(0.021)	(0.034)	(0.026)	(0.012)	(0.016)
Master's Degree	0.404	0.376	0.437	0.452	0.607	0.559
	(0.011)	(0.044)	(0.029)	(0.027)	(0.017)	(0.017)
Doctorate or Professional Degree	0.694	0.461	0.720	0.884	0.687	0.758
	(0.013)	(0.091)	(0.033)	(0.026)	(0.034)	(0.023)
Black	-0.150	-0.176	-0.012	-0.131	-0.185	-0.209
	(0.009)	(0.020)	(0.021)	(0.021)	(0.013)	(0.015)
Asian	0.034	-0.089	-0.085	-0.016	-0.064	0.019
	(0.009)	(0.027)	(0.029)	(0.021)	(0.013)	(0.012)
Hispanic	-0.111	-0.087	-0.033	-0.064	-0.166	-0.152
	(0.008)	(0.015)	(0.020)	(0.021)	(0.010)	(0.012)
Metropolitan central city status	0.021	0.032	0.020	0.039	0.025	0.012
	(0.003)	(0.007)	(0.007)	(0.008)	(0.003)	(0.005)
Constant	6.621	6.437	6.332	6.579	6.724	6.628
	(0.014)	(0.030)	(0.038)	(0.035)	(0.017)	(0.022)
Observations	68,709	13,816	10,767	10,170	31,856	33,549
R-squared	0.250	0.168	0.214	0.376	0.328	0.301

Robust standard errors in parentheses

Female

VARIABLES	(1) Fin.	(2) Retail	(3) Education	(4) Healthcare	(5) Manufacturing	(6) Service
Married Spouse Present	0.042	0.097	0.010	0.088	0.105	0.049
	(0.004)	(0.014)	(0.008)	(0.007)	(0.011)	(0.009)
Less Than HS Diploma	-0.523	-0.282	-0.184	-0.516	-0.356	-0.509
	(0.012)	(0.027)	(0.034)	(0.020)	(0.024)	(0.020)
Some College	-0.121	-0.008	-0.073	-0.186	-0.067	-0.036
	(0.008)	(0.024)	(0.019)	(0.011)	(0.022)	(0.018)
Bachelor's Degree	0.268	0.311	0.348	0.242	0.396	0.402
	(0.007)	(0.027)	(0.016)	(0.009)	(0.021)	(0.016)
HS Diploma or GED	-0.264	-0.111	-0.139	-0.307	-0.198	-0.216
	(0.008)	(0.022)	(0.018)	(0.010)	(0.019)	(0.016)
Master's Degree	0.487	0.574	0.686	0.452	0.723	0.629
	(0.007)	(0.051)	(0.015)	(0.012)	(0.025)	(0.019)
Doctorate or Professional Degree	0.799	0.449	0.860	0.816	0.949	0.923
	(0.012)	(0.179)	(0.022)	(0.019)	(0.053)	(0.027)
Black	-0.023	-0.090	0.042	-0.061	-0.075	-0.068
	(0.006)	(0.020)	(0.012)	(0.009)	(0.019)	(0.014)
Asian	0.063	-0.003	-0.059	0.052	-0.076	0.069
	(0.009)	(0.030)	(0.020)	(0.014)	(0.020)	(0.015)
Hispanic	-0.074	-0.052	0.000	-0.070	-0.188	-0.122
	(0.006)	(0.017)	(0.011)	(0.009)	(0.014)	(0.012)
Metropolitan central city status	0.021	0.016	0.017	0.030	0.026	0.010
	(0.002)	(0.007)	(0.004)	(0.003)	(0.006)	(0.006)
Constant	6.420	6.163	6.184	6.449	6.500	6.378
	(0.010)	(0.032)	(0.020)	(0.014)	(0.027)	(0.023)
Observations	107,056	11,275	28,628	38,842	13,542	29,693
R-squared	0.254	0.132	0.271	0.293	0.340	0.280

Robust standard errors in parentheses