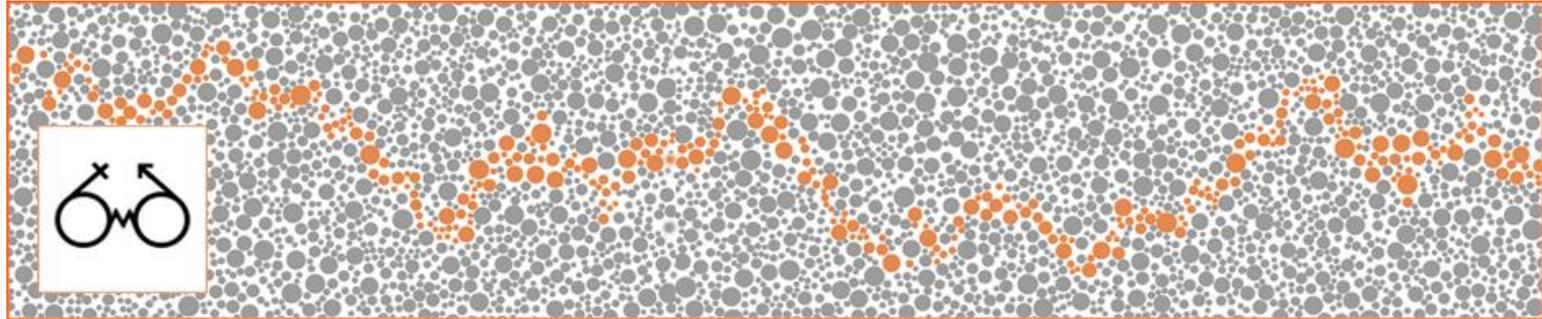


Gender & Finance Literature Review Series



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About the paper :

Claudia Goldin (2014)

“A Grand Gender Convergence: Its Last Chapter”



The Problem

- The roles of men and women have been converging with time.
- There must be a “last chapter” to solve the remaining inequality between the genders in the labor market.
- The Problem: there exists a gender pay gap.
- Changes are being made more obviously in some industries while not in others.



Gender Wage Gap

- Women's to Men's earning has improved from 59 cents on a dollar in 1970s to 77 cents recently
- There exists a 'residual' portion which is the portion of the population facing gender wage discrimination.
- Various plausible explanations to the residual wage gap:
 - Women have a lower ability to bargain and have lower willingness to compete
 - Women have a higher probability of leaving



Gender Wage Gap Continued

- Major issue: the amount of time out of the labor force + amount of time worked per day or week → impact on time-adjusted earnings in some occupations
- Though gender wage gap has reduced across all age groups from their previous statuses, the total gender wage gap remains unchanged.
- The reason for this is the baby boom. Women's earnings relative to men decrease with age.
- Workplace flexibility is a growing demand for middle aged women .



Investigating gender wage gap between occupations

- Using data in 2009-2011 from the American Community Survey, through regression analysis, Goldin (2014) finds that the coefficient on female for all occupations is negative.

TABLE 1—RESIDUAL GENDER DIFFERENCES IN EARNINGS AND THE ROLE OF OCCUPATION

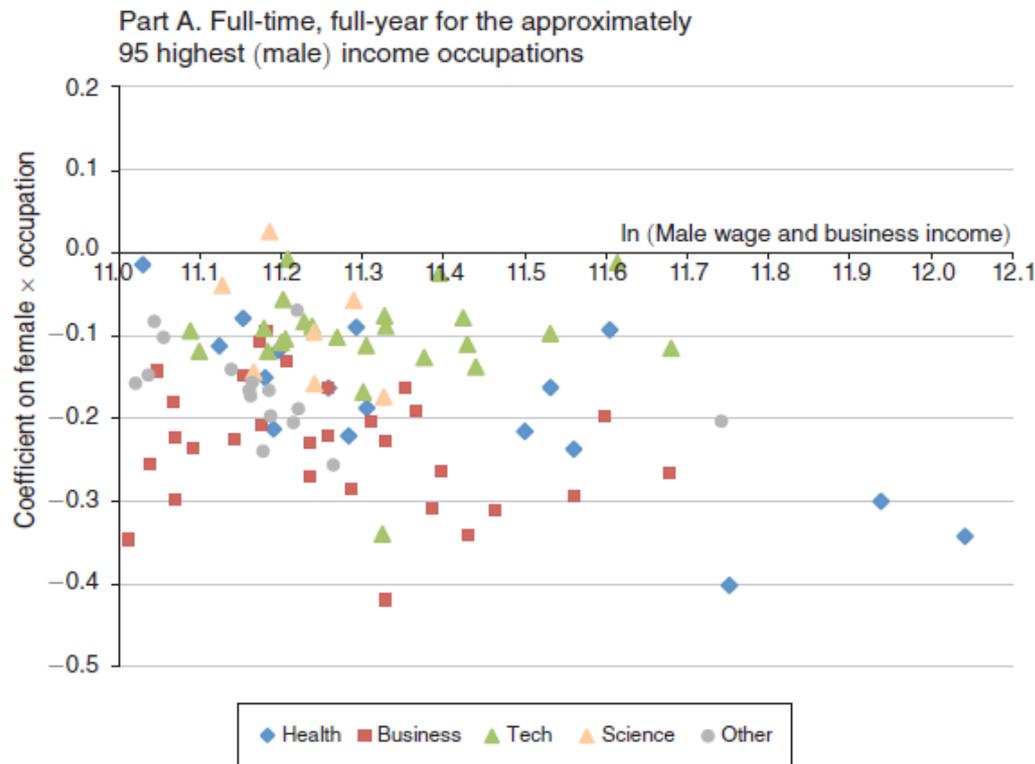
Sample	Variables included	Coefficient on female	Standard error	R ²
Full-time	Basic	-0.248	0.00101	0.112
Full-time	Basic, time	-0.193	0.00100	0.163
Full-time	Basic, time, education	-0.247	0.000905	0.339
Full-time	Basic, time, education, occupation	-0.192	0.00104	0.453
All	Basic	-0.320	0.00105	0.102
All	Basic, time	-0.196	0.000925	0.353
All	Basic, time, education	-0.245	0.000847	0.475
All	Basic, time, education, occupation	-0.191	0.000963	0.563
Full-time, BA	Basic	-0.285	0.00159	0.131
Full-time, BA	Basic, time	-0.230	0.00158	0.177
Full-time, BA	Basic, time, education	-0.233	0.00155	0.216
Full-time, BA	Basic, time, education, occupation	-0.163	0.00158	0.374
All, BA	Basic	-0.384	0.00173	0.119
All, BA	Basic, time	-0.227	0.00151	0.380
All, BA	Basic, time, education	-0.229	0.00148	0.407
All, BA	Basic, time, education, occupation	-0.163	0.00151	0.525

Notes: “Basic” regression is the log of annual earnings regressed on the female dummy, age as a quartic, race, and year. “Time” adds log hours per week and log weeks. “Education” adds dummies for education categories (and those above a BA for the college graduate sample). “Occupation” adds three-digit occupation dummies. “Full-time” is 35 and above hours per week and 40 and above weeks per year. “All” includes workers 25 to 64 years old with positive earnings and positive hours worked during the past year. The “full-time” 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). The “BA” sample includes workers with at least a college or university bachelor’s degree. The number of observations is 2,603,968 for full-time, 3,291,168 for all, 964,705 for full-time BA or more, and 1,162,638 for all BA or more.



Investigating gender wage gap between occupations continued

- *Goldin (2014) conducts further regression analysis and observes the interaction of being female to the occupation (Health, Business, Technology, Science and Other)*
- *For example, below is the graph for Gender Pay Gaps by Occupation for full-time, full-year workers.*



Goldin (2014) finds that:

Occupations grouped as 'Business' → have largest negative coefficients

Occupations grouped as 'Technology and Science' → have least negative coefficients (it is even positive for <45 years old group)

On investigating. Goldin (2014) finds that the 'Tech' industry has many perks- It allows women to work part-time and offers more flexibility.



Personnel Economics Theory of Occupational Pay Difference

- Linearity in pay occurs when earnings are proportional to the time worked. When it is not, it is called non-linearity. Gender Pay Gap is higher in cases with non-linearity.
- Non-linearity arises when perfect substitution (without transaction costs) of an employee is not possible. There is a higher penalty in this case, where fewer hours and more flexibility is needed.
- Across occupations, it varies with how the industry handles “temporal flexibility”



0*net characteristics

- Goldin (2014) tries to understand how 5 values (time pressure, contact, relationship management, structure and freedom to make decisions) affect the 4 major occupations.
- Technology and Science have lowest values → far greater time flexibility than other occupations → more linear characteristics, hence lower gender pay gap

TABLE 2—O*NET CHARACTERISTICS: MEANS (NORMALIZED) BY OCCUPATIONAL GROUP

O*Net characteristics	Technology and science	Business	Health	Law
1. Time pressure	-0.488	0.255	0.107	1.51
2. Contact with others	-0.844	0.171	0.671	0.483
3. Establishing and maintaining interpersonal relationships	-0.611	0.548	0.276	0.781
4. Structured vs. unstructured work	-0.517	0.313	0.394	1.22
5. Freedom to make decisions	-0.463	-0.00533	0.974	0.764
Number of occupations	31	28	16	1

Notes: The occupations are those in Figure 2, part A. When there is more than one O*Net occupation for an ACS occupation, the characteristic is weighted by the number of workers in each of the O*Net occupations. Each of the O*Net characteristics has been normalized to have a mean of 0 and a standard deviation of 1. The work setting characteristics and questions most relevant to the issues raised here are:

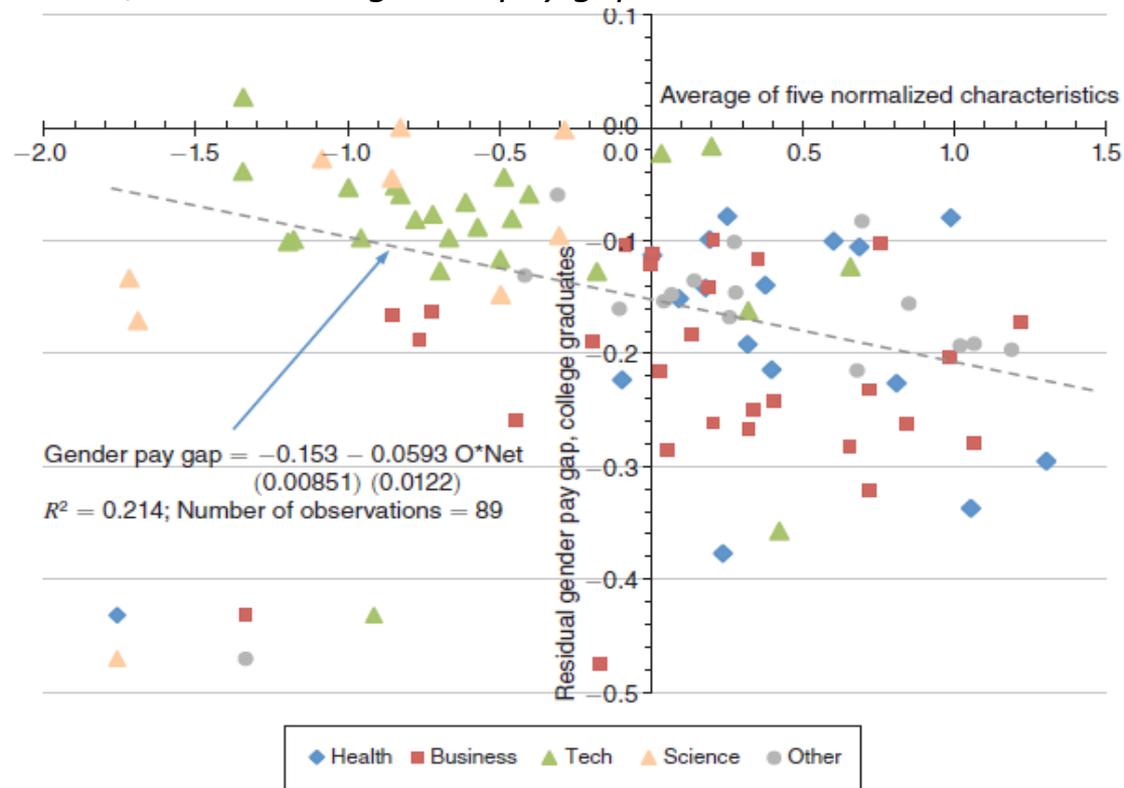


FIGURE 5. O*NET CHARACTERISTICS AND THE RESIDUAL COLLEGE GENDER EARNINGS GAP



Comparison across Occupations

Business/ MBA	Law	Pharmacy/Health
Linear Earning to Time Relationship	Non-Linear Earning to Time Relationship	Linear Earning to Time Relationship
Gender Pay Gap is observed after first 5 years as women having children work 24 percent fewer hours. This field is still attractive for women as income is substantial, even if it is far behind their male peers' earnings.	Gender Pay Gap is observed after 15 years, greatly convex in nature. This is due to decrease in participation-most women leave practice for family or join other firms/become partners. Spousal income is a large factor.	Female pharmacists with children get paid less as they work fewer hours. Many work part-time. Lowest gender earning gap and high level of linearity observed here as more women join (55% active pharmacists are women) and there is decreased cost for substitution.



The Last Chapter - Conclusion

- *Goldin (2014) finds that there exists a gender wage gap that has a relationship with age and varies across occupations.*
- *This residual gap exists because continuous hours of work are worth more in some occupations (leading to non-linear earnings). Flexibility comes at a high price in these occupations including in finance.*
- *The last chapter must revise how working time is accounted, used and compensated. Structure of work needs to be revised to allow temporal flexibility, easy substitution, more linear payment and thus reduced gender wage gap.*
- *Healthcare, pharmacies, retail, banking and real estate are already moving towards the last chapter. Greater flexibility will benefit every worker, not just women.*



References

Do you want to learn more?

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- Waldfogel, Jane. (1998) “Understanding the ‘Family Gap’ in Pay for Women with Children.” *Journal of Economic Perspectives*, 12, 137–56.



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