

RESEARCH BRIEF

The Glass Ceiling

Based on BFI Working Paper No. 2018-38, "[The Glass Ceiling](#)," by Marianne Bertrand, UChicago professor of economics

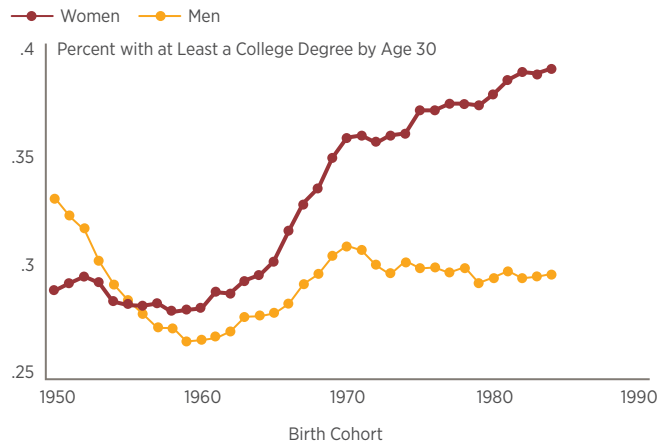
KEY TAKEAWAYS

- ✓ Women in higher-paying positions still make significantly less than men
- ✓ This so-called glass ceiling, which includes underrepresentation in higher-end jobs, has persisted over time and is a drag on the economy
- ✓ Discrimination is not the sole reason, as factors ranging from psychology to education to worker flexibility play key roles
- ✓ To break the glass ceiling, policies must address all of these factors, and also include incentives to increase fathers' involvement in non-market work

Since roughly 1955, women born every year in America were more likely to earn a college degree than men. At first the gap between men and women was narrow, but by 1970 it had widened considerably and has continued to expand over time. Indeed, the percent of women attaining a college degree continued to increase through the 1985 birth cohort while the percent of men holding a degree has actually declined since 1970. (See Figure 1.) What this means is that of all the women born in America in 1985, roughly 40 percent hold college degrees today, while just under 30 percent of men born in 1985 have a college degree.

Learning this, one might naively assume that the pay gap between men and women has closed and that, perhaps, women might be earning even more than men given their relative educational success. Of course, that is not the case, and Figure 2 shows that while the pay gap has narrowed since 1950, the downward trend in that gap has largely stalled since 1970.

Figure 1: Share of Women and Men with at Least a College Degree, by Birth Cohort



Women born in 1985 can still expect to earn upwards of 10 percent less than their male counterparts, regardless of how much schooling they have attained.

These facts, in particular the underrepresentation of women in the upper part of the earnings distribution, describe what is known as the glass ceiling. This phenomenon motivates UChicago Booth School of Business economist Marianne Bertrand's working paper of the same name, based on the Economica-Coase Lecture she delivered at the London School of Economics in March 2017. Bertrand reviews the extensive literature surrounding the glass ceiling, including her own work, stressing that an examination of the phenomenon must extend beyond discrimination and sexism to include other quantitative factors such as education, psychological attributes, work flexibility, childcare, and nonmarket work. She also reviews policies meant to help crack the glass ceiling and to get those lines in Figure 2 to start moving toward zero.

Why should we care about a glass ceiling?

The following data paint a vivid picture of the glass ceiling. A 2017 census of Fortune 500 companies in the US found that women hold only 19.9 percent of corporate board seats and comprise just 5.8 percent of CEO positions in those companies. In Europe, the numbers are 23.3 and 5.1 percent, respectively. Among women aged 25 to 64 who have earned at least a college degree, there was a rapid increase in labor force participation and likelihood of working full-time until 1990, with much slower progress since then. Also, the trend of women breaking into higher ranks accelerated between 1980 and 2000 but has since slowed. Finally, only 25 percent of college-educated women working full-time have earnings above the median of similarly educated men working full-time; only 6 percent have earnings that put them in the top 20 percent of the men's distribution; and just 2.7 percent have earnings that put them in the top 10 percent of the men's distribution.

For many, if not most, observers, we should care about these facts because they raise the question of fairness: equal pay for equal work and equal opportunity for all levels of work. However, while important, issues of fairness do not account for all earning disparity, Bertrand argues. Indeed, gender gaps in earnings are observable even when employers practice "equal pay for equal work." We should also care about the glass ceiling for what it says about the inefficient use of labor resources.

Bertrand begins with the position that in a world where talent is distributed equally among women and men, an economy that does not fully tap into the leadership skills offered by women is necessarily inefficient. In other words, talent is left on the table when women are not placed in leadership positions, and the economy suffers. Recent research (Hsieh et al. 2017) has suggested that one-quarter of growth in US GDP per person between 1960 and 2010 can be explained by declining barriers to entry for white women, black men, and black women in occupations where they were previously underrepresented. In addition, research in the fields of human resources and management have found that corporations that are more inclusive achieve better outcomes.

So, if it seems obvious that corporations should be promoting more women to the c-suite, why isn't this happening? Bertrand reviews four factors at length in her paper, which are briefly described here.

Education

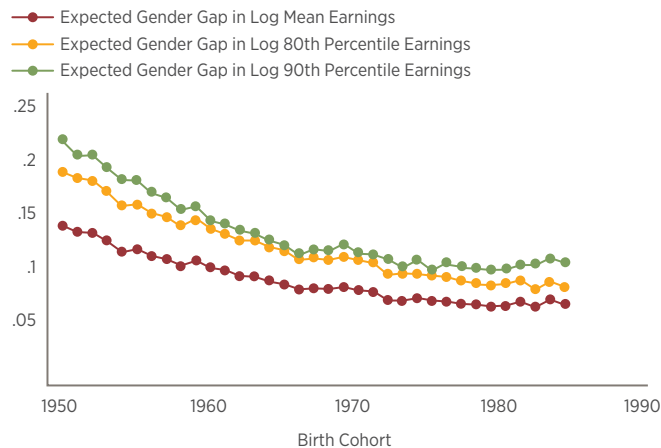
As Figure 1 shows, women have long since surpassed men in educational attainment, but Bertrand notes that those overall gains may mask factors that explain at least part of the persistent gender earnings differential at higher levels. For example, while more women earn college degrees than men, women have not overtaken men in the fields that provide the highest incomes. Figure 2, which reveals that women have chosen degrees that paid less than men, illustrates this point.

Thus, while the gap between women and men earning degrees has grown over time, this doesn't mean that women are selecting fields that offer the highest incomes. This means that people who assume education is no longer a factor in explaining gender pay gaps need to reconsider that view, according to Bertrand. Additional research is necessary to parse why women choose certain fields over others, and the other factors described below are suggestive in this regard.

Psychological attributes

Much of the research on the persistence of the glass ceiling has focused on gender differences in attitudes toward risk and competition, as well as attitudes toward negotiation. This work concludes that women are more risk-averse than men. Bertrand describes a laboratory experiment which, for example, finds that men choose riskier gambles with higher expected payoffs, and she cites a study which reveals that gender accounts for about a quarter of a standard deviation reduction in the willingness to take on risk. In other words, maybe women avoid occupations that have greater earnings risk and therefore sacrifice greater possible gains.

Figure 2: Men's vs Women's Potential Earnings Based on Degree-Field Combination of Highest Degree Completed



Further, Bertrand reviews a number of studies that suggest women have less taste for competition than men, and that they perform less well when competing against men. While the results have been challenged, these studies are influential and have inspired research in real world settings, one of which reveals that fewer girls in Dutch secondary schools choose the most prestigious study track (17 percent versus 40 percent for boys), while more girls than boys choose the least prestigious track. And these are girls who score equally well in math and have higher grade point averages than boys.

In one study that more directly addresses the glass ceiling issue, researchers surveyed MBA students at UChicago's Booth School. Even among these self-selected female students who have expressed an interest in succeeding in a competitive business environment, there is evidence that female students are, on average, more averse to competition than male students.

The UChicago study and others indicate that the gender gaps revealed in laboratory settings may explain part of the gender earnings differential at higher levels, and that further research on these psychological factors is necessary. Importantly, Bertrand warns against falling into a nature trap when trying

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to explain these differences, noting that it is just as likely that nurture plays an equally strong—and perhaps stronger—role. Understanding the role of nature versus nurture is key, as determining the cause of such differences leads to more effective policy responses.

Flexibility

Balancing work and family brings choices that can impact a career path; often, those choices impact women. In another study involving former UChicago Booth students, Bertrand cites her joint 2010 research which finds that employed women earn 50 percent less than their male counterparts 10 years after graduation. Most of this gap is explained by a labor supply differential: female graduates work shorter hours, have less work experience, and are more likely to have taken time off from their careers.

When considering hours worked among these 10-years-out graduates, a striking fact reveals that the difference between women and men is not that large—49 hours per week compared to 57 for men. However, the amount of flexibility that this difference reveals has a lot of explanatory power for the higher-end earnings gap. Other research reflects these findings, including one study that finds female undergraduates are more willing than men to pay for jobs that offer greater work flexibility and offer a part-time option, while male students are more willing to pay for jobs that offer stronger earnings growth over time. These researchers conclude that gender preferences for flexibility explain at least 25 percent of the early-career gender gap.

Childcare and non-market work

Research from Sweden and Denmark shows that earnings of husbands and wives move in parallel fashion prior to the birth of their first child; however, 15 years after becoming parents, the male-female gap has grown to 28 percentage points. A Danish study reveals similar results.

What these and other studies show, according to Bertrand, is that women continue to bear the brunt of childcare (or non-market work, to use the economists' term), and this is one of the most prominent factors holding back women's earnings at the executive level. But why does this child penalty still exist? One factor may be the unwillingness of wealthier families to outsource childcare, even though they have the resources, because of parental concern about preparing their children for their best educational options. When it comes to getting the kids into the best schools, in other words, trust no one but yourself.

If wealthier parents, then, are willing to sacrifice some income to raise their children, the mother is still generally expected to take the cut in pay, and this expectation holds among men and women. Studies in European countries reveal that these gender norms hold over time. Child care is still mostly viewed as a mother's job. These cultural norms will only likely evolve, Bertrand suggests, when and if women consistently earn more than men. However, as 2015 research by Bertrand et al. reveals,

when wives earn more than their husbands, trouble can ensue within the relationship. For example, among such couples, strife is reportedly higher, the marriage is less happy than otherwise, and divorce is a more likely outcome. In addition, when a wife earns more than her husband she is more likely to take on extra non-market work to assuage her husband's insecurities.

Finally, Bertrand describes two countervailing forces that continue to hinder female earning at the highest levels. The first is the increasing inflexibility of higher-end jobs. Bertrand presents data that show how jobs from 1980 to 2015 have demanded more time from workers, even as businesses generally become more open to flexible work schedules. Put simply, you have to show up to move up. Second, non-market work has squeezed the time availability of higher-end female workers because more of them have a family than in the past. In 1980, for example, women in higher-paying jobs were less likely to be married and have a child at home, whereas by 2010 such women are more likely to be married than women in lower-paying jobs and are as likely to have a child at home.

Policy options and conclusion

Bertrand discusses policy options that might crack, if not break, the glass ceiling:

Family-friendly policies

Such work-place policies that include, among others, longer and paid maternity leaves, optional part-time or shorter work hours, and the opportunity to work remotely, address the demand for greater flexibility, but they don't help address earnings gaps as long as they are negatively priced and as long as they are used mainly by women. There is some evidence suggesting that aggressive work-balance policies result in higher labor force participation by women.

Gender-neutralizing childcare

Sweden, Norway, and Quebec have introduced dedicated paternity leave into their parental leave policies, meaning that the time is lost if not taken by the father. Known as "daddy quotas" or "daddy months," these policies address a core problem for women who otherwise take a long absence from work and whose career and pay suffer. Early research suggests that such policies are effective in improving labor outcomes for mothers, as well getting husbands to take on more non-market

CLOSING TAKEAWAY

As more and more women earn higher degrees versus men, it is incumbent on society to address these issues and put those educations to good use in the highest positions, and with equal pay.

work. But the jury is still out on these policies; indeed, one study of academic labor markets suggests that fathers benefit from daddy months because they use that time to produce papers, while mothers typically use the time to spend with children.

Quotas

Following the lead of establishing quotas in political representation, some European countries have introduced quotas into corporate leadership policies. Norway, for example, in 2003 mandated 40 percent representation by women on the boards of public limited liability companies. Seven Eurozone countries followed suit, and in 2013 the European parliament approved a draft law that would require 40 percent female board members in about 5,000 listed companies in the European Union by 2020. Are such quotas effective? Recent research by Bertrand et al. (2017) finds the results are mixed. While the gender gap in earnings within boards fell, there was no such effect on women's salaries in the rest of the business world.

No policy by itself will likely break the glass ceiling and close the gap in earnings between men and women in high-position jobs. But further research is needed to determine their effects so the right mix of policies can achieve an efficient outcome. Also, of course, continued work is necessary on the degree to which actual discrimination plays a role in hardening the glass ceiling. As more and more women earn higher degrees versus men, it is incumbent on society to address these issues and put those educations to good use in the highest positions, and with equal pay.

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