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CLOSING THE GENDER GAPS 2.0

Fresh data show more work to do

Amanda Hindlian
amanda.hindlian@gs.com

Sandra Lawson
sandra.lawson@gs.com

Sonya Banerjee
sonya.banerjee@gs.com

Hui Shan
hui.shan@gs.com

Table of Contents

Executive summary	3
An updated look at the wage gap figures	4
Women still outpace men in education but lag in seniority	6
Key findings from our granular analysis of the gender pay gap	15
Concluding thoughts	17
Disclosure Appendix	19

The Global Markets Institute is the research think tank within Goldman Sachs Global Investment Research. For other important disclosures, see the Disclosure Appendix.

Executive summary

This report updates the analysis originally published in “[Closing the gender gaps: Advancing women in corporate America](#)” (October 2018) using the latest available data. Please refer to the original report for further detail on our framework and recommendations.

The gender wage gap among prime-age US workers remains 20%. Our updated analysis, which uses US Current Population Survey data from 2015 to 2019, shows that the economy-wide gender wage gap for prime-age workers is unchanged from the 20% figure seen in our earlier work, which used 2013 to 2017 data. On our math, if this wage gap were to narrow by roughly 2 percentage points every 10 years, consistent with performance over the past decade, it would take about another 100 years for women to reach wage parity with men on an economy-wide basis.

The latest data show there’s more work to do. The 20% gap compares wages for women and men without regard for differences in their educational backgrounds, their work experiences or the nature of their jobs. After controlling for the factors that are captured in the US Current Population Survey data, our analysis shows that most of the 20% gap – 18.1 percentage points – cannot be explained. This is a marginal widening of the unexplained gap, which in our previous work was 17.5 percentage points. Small changes in the data may not indicate a broader shift in the trend, given both the limited passage of time since our previous paper and the methodology the government uses to compile these datasets. Nonetheless, our updated analysis suggests that there’s still more work to do to narrow the wage gap.

Our preliminary analysis suggests that bans on salary-history inquiries may be helping. Some states and localities have banned employers from asking candidates about their salary histories. Many of these laws are relatively new, and more robust data over a longer timeframe are needed to draw firm conclusions. Still, some progress in these states suggests that active governmental policy changes – beyond the measures companies themselves can take – may help to narrow the gender wage gap over time.

The gender gap in corporate leadership remains stark. The data continue to point to the dearth of women in senior roles as a likely contributor to the gender wage gap. Although disclosures remain limited, the latest metrics for US-headquartered S&P 1500 companies indicate that while women are about 40% of all employees, they are only 5% of CEOs and 21% of directors.

“Action from the top” matters. Because men remain over-represented in corporate leadership positions and on corporate boards, as the data show, they hold the bulk of the decision-making authority today. This means that the gender gaps are unlikely to close without broad commitment and active participation by men and women alike. To be effective, the “tone from the top” needs to be accompanied by both action and accountability.

An updated look at the wage gap figures

To provide context for our analysis of why women continue to earn less than men and why the share of women working in senior corporate positions in the US today is so low, we highlight four key conclusions from our updated analysis.¹

First, women have made substantial gains in joining the US labor force over the last 60 years. In the early 1960s, fewer than half of prime working age women (ages 25-54) were participating in the labor force; today three quarters are. Roughly 48 million women now make up just under half of all prime-age workers in the US labor force.

Second, women remain considerably better educated than men. Continuing a trend that has been underway for the past 30 years, more women continue to earn post-secondary degrees than men, across all types of degrees including advanced ones. However, the data also continue to show some tendency for women and men to pursue different fields of study, which can influence their industry and job selections and thus can affect their pay.

Third, despite some progress over many years, a significant gender wage gap persists. The latest available US Current Population Survey data from the US Census Bureau and the US Bureau of Labor Statistics show that among prime-age people who worked full-time, women earned 20% less than men, on average, between 2015 and 2019. On our math, if this wage gap were to narrow by roughly 2 percentage points every 10 years, consistent with performance over the past decade, it would take about another 100 years for women to reach wage parity with men on an economy-wide basis.

This 20% figure compares women and men across the economy and as a result does not account for differences in factors like education, industry, occupational choices or level of work experience, for example. These are all important determinants of pay. Thus we take a more nuanced look at the gender wage gap by controlling for these important worker and job characteristics.

Controlling for the factors that are captured in the US Current Population Survey data, we find that 18.1 percentage points of this 20% gap cannot be explained. This is a marginal widening of 60 basis points compared to our prior published analysis, which found that the comparable unexplained figure was 17.5 percentage points of the 20% gap between 2013 and 2017. The implied lifetime income disparity remains significant: in a like-for-like situation, a woman would need to work more than four years longer than a man in order to close the cumulative income gap.

Fourth, the gender gap isn't just seen in wages. Consistent with current discourse on the subject, our work suggests that women remain far under-represented at the top of corporate America. Although public disclosures of corporate gender diversity figures are limited, the data that are available for US-headquartered companies included in the S&P

¹ The data are largely unchanged from our prior work. Given the nature of the available data, our analysis tends to apply best to publicly-listed companies and to professional services firms, although we assess broader demographic trends as well.

S&P 1500 Index indicate that in 2018, women comprised around 40% of all employees and 33% of managers – but just 5% of CEOs and 21% of directors.² Given the apparent importance of factors such as title and work experience, we believe the fact that there are so few women in senior corporate leadership positions is a significant driver of the unexplained 18.1 percentage point wage gap.

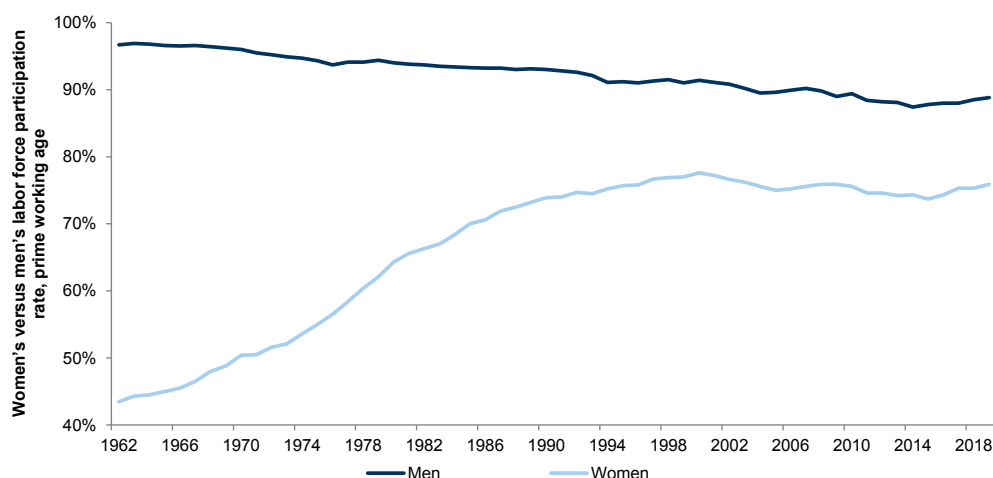
² Our prior work referenced the percentage of female CEOs at S&P 1500 firms in 2017 on the basis of what had been disclosed as of October 2018. As more disclosures have occurred over time, the 2017 figure moved to 5% from the 6% cited in our prior report. It is also worth noting that the constituents of the S&P 1500 change over time, although the index nevertheless is a representative measure of corporations listed in the US.

Women still outpace men in education but lag in seniority

In this section we provide a snapshot of women in the US labor force today.³ Women make up close to half of the US civilian labor force: more than 75 million women ages 16 and older are currently working or looking for work. Within this group, roughly 48 million women are considered to be of prime working age (25 to 54 years old).

Women's participation in the labor force has increased meaningfully over the past 60 years, though it continues to lag behind men's. As Exhibit 1 shows, in the early 1960s fewer than half of prime working age women were in the labor force; today, three quarters are.

Exhibit 1: Women's labor-force participation rate has risen since the 1960s while men's has declined
Labor-force participation rates for prime working age women and men

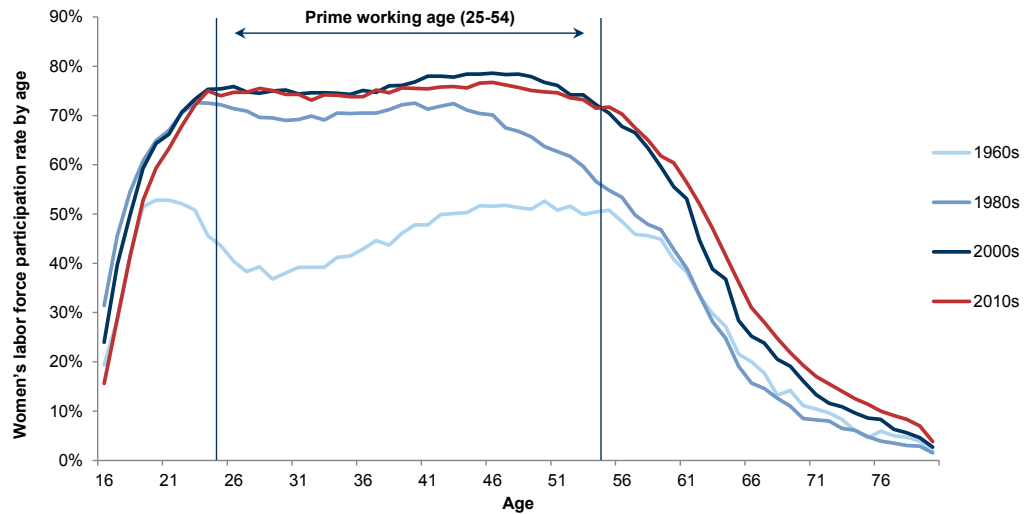


Source: IPUMS-CPS, Goldman Sachs Global Investment Research

Women's participation has risen across nearly all age groups since the 1960s, and considerably more mid-career women remain in the labor force today than in the past, as Exhibit 2 shows.

³ These data are relatively unchanged from our previously published work.

Exhibit 2: The early career fall-off in women's participation rate is much less dramatic than in the past
 Women's labor force participation rate, highlighting prime working age



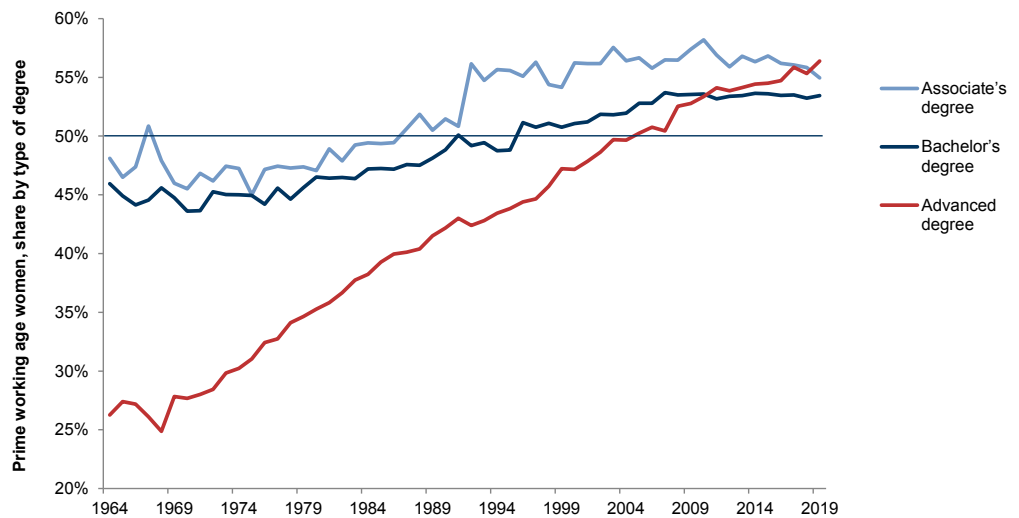
Source: IPUMS-CPS, Goldman Sachs Global Investment Research

Education: women continue to earn more post-secondary degrees than men

Women's gains in the labor force have been part of broader social trends that include greater access to higher education. More bachelor's degrees have gone to women than to men each year since the early 1980s. As Exhibit 3 shows, among people of prime working age, women now hold 55% of associate's degrees, 53% of bachelor's degrees and 56% of advanced degrees.

Exhibit 3: Women remain better educated than men

Prime working age women's share of associate's degrees, bachelor's degrees and advanced degrees



Survey question changed in 1992, resulting in a discrete jump in the series.

Source: IPUMS-CPS, Goldman Sachs Global Investment Research

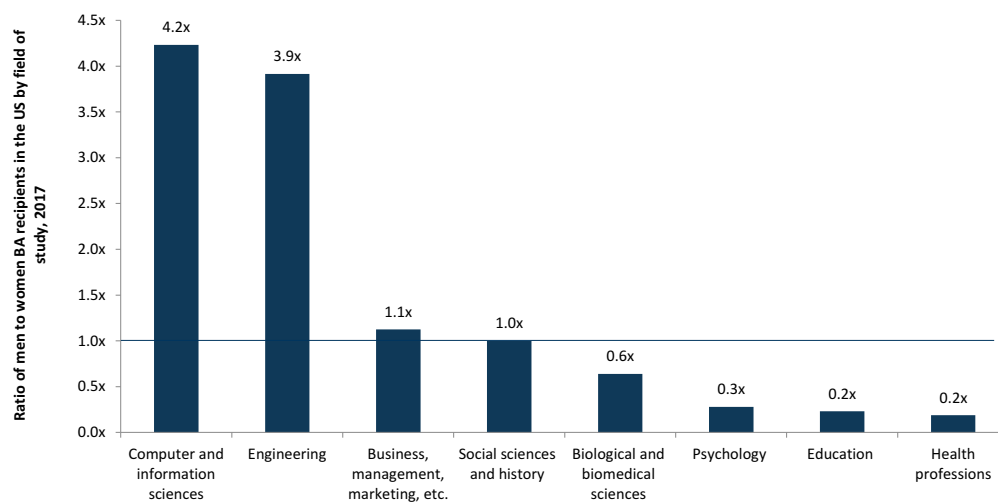
The data show some tendency for women and men to pursue different fields of study, which can influence their industry and job selections and thus ultimately affect their pay.

For example, across STEM fields broadly, roughly twice as many degrees were awarded to men than to women between 2009 and 2016. As data from the US Department of Education show in Exhibit 4, in 2017:

- Men dramatically outpaced women in obtaining bachelor's degrees in computer and information sciences and engineering.
- Roughly similar numbers of men and women received bachelor's degrees in the fields of social sciences, history and business.
- Considerably more women than men earned bachelor's degrees in the fields of biological or biomedical sciences, psychology, education and health.

Exhibit 4: Men were far more likely than women to receive college degrees in computer science and engineering but far less likely to receive college degrees in education or health in 2017

Ratio of men to women among bachelor's degree recipients in the US in 2017



Source: US Department of Education, Goldman Sachs Global Investment Research

The seniority gap: the dearth of women at the top remains a key challenge

Yet, despite significant increases in women's labor force participation since the 1960s, and despite women's higher educational attainment, US corporate leadership remains disproportionately male.

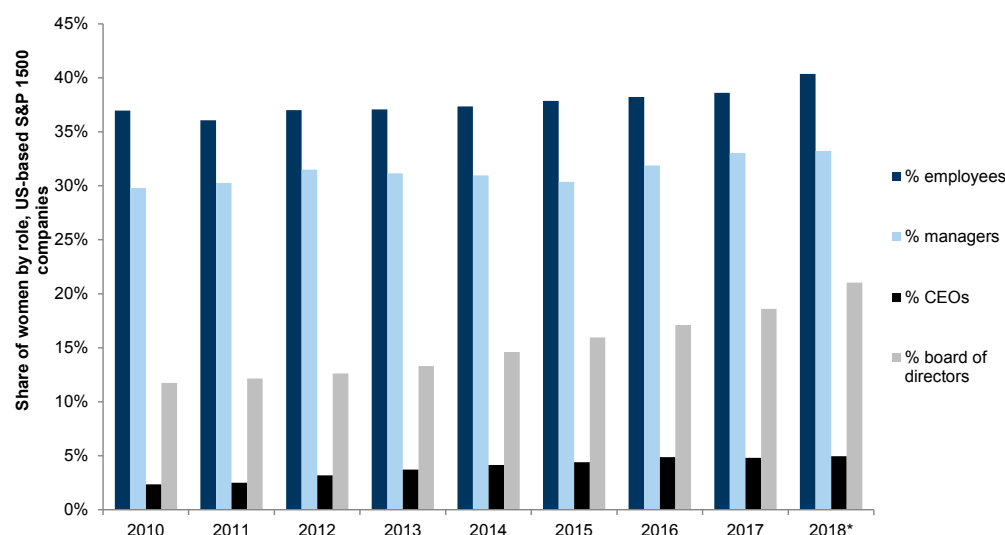
While data on the gender breakdown of senior leadership in US corporations are limited, the data that are available point to a notable lack of women. To assess women's representation at different levels of seniority within corporations, we analyzed public disclosures on gender diversity made by US-headquartered firms included in the S&P 1500 Index.

This Index covers approximately 90% of US market capitalization across large, mid and small cap companies and therefore captures the bulk of American public corporations. Although the constituents of the Index change over time, the general trends these firms display are representative of corporate America broadly. However, the number of firms with relevant disclosures is limited, and the extent and consistency of the metrics these firms provide vary.

Bearing these data limitations in mind, we find that, across the firms that have disclosed gender-diversity metrics for 2018, women on average constituted about 40% of all employees and 33% of managers – but just 5% of CEOs and 21% of directors.⁴ See Exhibit 5.

Exhibit 5: Women are under-represented at the top of US corporations

Among S&P 1500 companies with these disclosures, workforce breakdown by gender



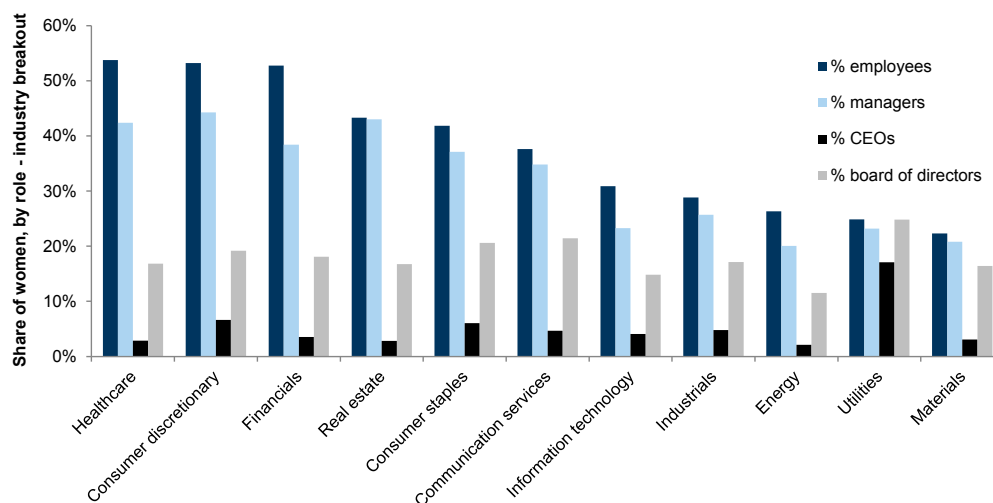
(*) 2018 data reflect disclosures by firms through October 2019.

Source: Refinitiv, Bloomberg, Goldman Sachs Global Investment Research

As Exhibit 6 shows, an examination of these same data by industry shows that over the last five years, on average, in the healthcare, consumer discretionary and financials sectors, women have made up more than half of all employees but roughly 40% of managers and 4% of CEOs. In contrast, there is less than a 5 percentage point differential between the share of female employees and female managers in the real estate, utilities, materials, industrials and communication services sectors, though it is also worth noting that women make up less than 30% of all employees and managers in utilities, materials and industrials.

⁴ These figures are based on public disclosures from US-based firms included in the S&P 1500 and were pulled from Bloomberg and Refinitiv databases. Where there were discrepancies between these two data sets, we opted to include the metric indicating greater gender diversity. Bloomberg defines managers as the “percentage of women employed in senior management positions at the company,” while Refinitiv simply refers to the “percentage of women managers.”

Exhibit 6: Only a few sectors show an equivalent share of female employees and female managers
Among S&P 1500 companies with these disclosures, workforce breakdown by gender and industry



Average of 2014-2018 data, reflecting disclosures by firms through October 2019.

Source: Refinitiv, Bloomberg, Goldman Sachs Global Investment Research

Does this under-representation of women at the top reflect a “stock vs. flow” problem? Some might argue that the prevalence of men in senior positions reflects the notion that men were historically better educated than women, and that the educational gains are still limited to younger women who are not yet sufficiently senior. But the “stock” of well-educated women has been high for quite some time, as we noted above in Exhibit 3, and so has women’s labor force participation. There has been sufficient time for well-educated women to reach senior levels in many professions. This suggests that many visible labor-market dynamics, such as educational achievement, generally do not explain the lack of women in senior positions. As we discuss next, other factors may remain at play.

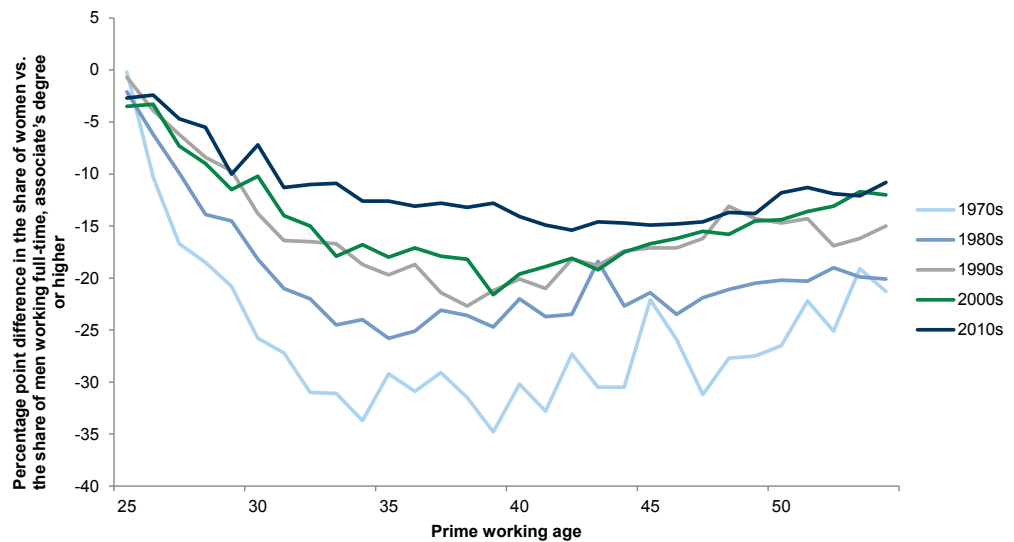
Is attrition the explanation?

Are women leaving the labor force at crucial points in their careers? And if so, does that explain the dearth of women at the top of corporate America? Our own answer is “likely, but only in part.”

To address this question, we compared the employment share of full-time working women who have at least an associate’s degree to the equivalent figure for men, by age, since the 1970s. As Exhibit 7 shows, based on this analysis, we find that a 25-year-old woman with at least an associate’s degree is only incrementally less likely (three percentage points) to be employed full-time than her male counterpart. But this likelihood increases as she grows older, and by her early 40s, the likelihood that she is not in the labor force is meaningfully higher (around 15 percentage points) compared to a man of the same age. This disparity begins to narrow once women reach their late 40s, but it never returns to the levels seen early on in women’s careers.

Exhibit 7: Women still leave the labor force relatively early in their careers compared to men, but are now far less likely to do so than in the past

Difference in the share of women versus men working full-time with an associate’s degree or higher, prime working age

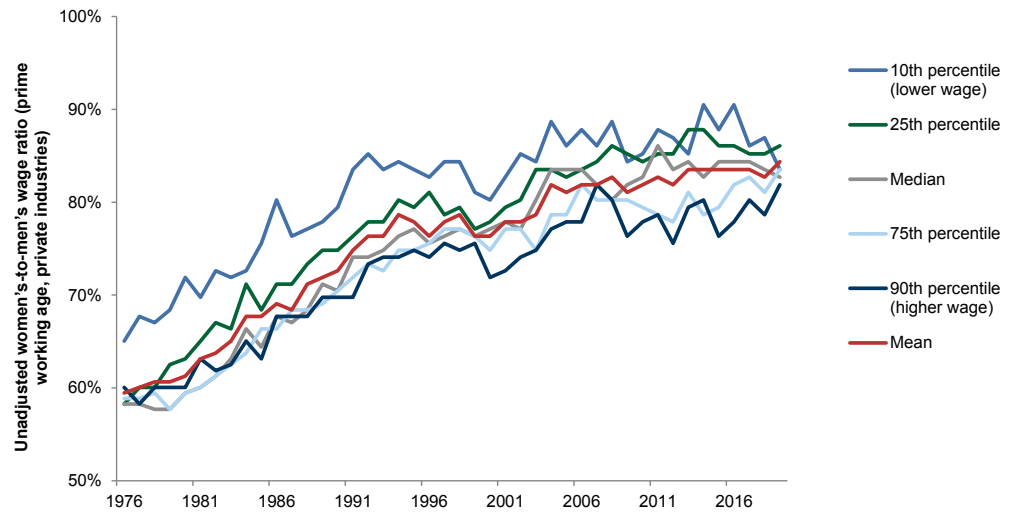


Source: IPUMS-CPS, Goldman Sachs Global Investment Research

The pay gap: prime working age women still earn less than men

Moreover, despite some progress, a significant gender pay gap persists. US Current Population Survey data show how the pay gap has evolved. In 1976, which is the first available data point, the median wage gap across prime working age women and men employed in private industries was more than 40 percentage points. This gap narrowed during the 1980s, but women’s gains began to stall in the 1990s, with only limited improvement since then. What’s more, it is worth noting that the wage gap among high earners – meaning among women and men in the 90th percentile – is the widest across income groups. See Exhibit 8.

Exhibit 8: The gender wage gap has been persistent, particularly among high earners
 Wage gap among prime working age women and men in private industries, by earnings category



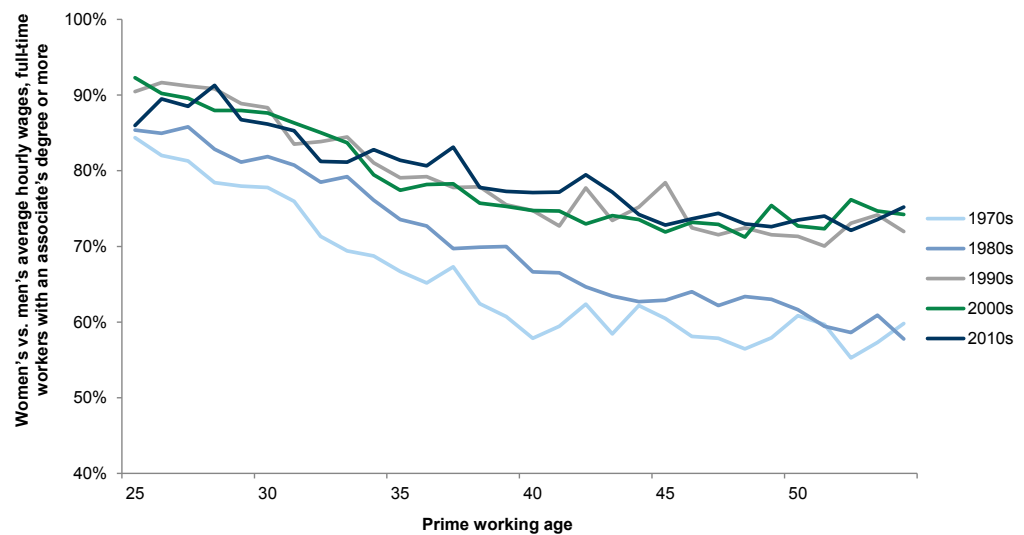
Sample includes non-farm full-time private wage and salary workers age 25-54.

Source: IPUMS-CPS, Goldman Sachs Global Investment Research

The wage gap data we reference above varies over the course of an individual’s career, as we show in Exhibit 9. Based on an analysis of wage data for women and men with at least an associate’s degree who work full-time, we find that the wage gap emerges quite early. As early as age 25, women earn nearly 15% less than their male counterparts on average. The wage gap widens further with age: by 50, women earn around 25% less than do men of the same age.

Exhibit 9: The wage gap varies over the course of women’s careers, but far less dramatically than in the 1970s

Gender difference in average hourly wages, among full-time workers with at least an associate’s degree, prime working age



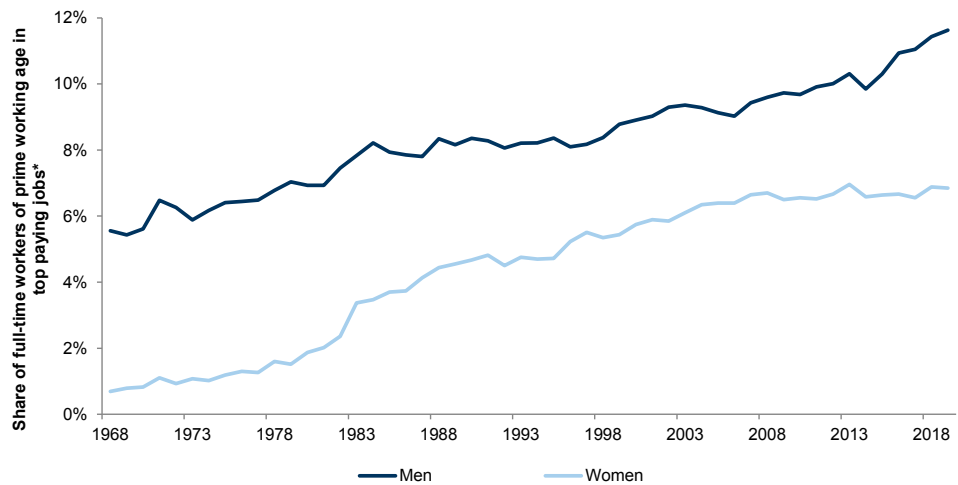
Source: IPUMS-CPS, Goldman Sachs Global Investment Research

Educational choices and occupational sorting likely matter

The reasons why the wage gap has persisted are complicated, but one likely contributor is the different kinds of jobs that men and women select. The idea that women are over-represented in some fields while men are over-represented in others is often known as occupational sorting. This in part reflects educational choices, which we discussed earlier.

The data show that women are considerably more likely to work in government jobs than are men but are far less likely to work in jobs in the computer field. And while the share of women in high-paying fields such as financial services, legal, architecture, engineering, computing and mathematics has increased since the late 1960s, women remain under-represented in these occupations relative to men, as Exhibit 10 shows. The Council of Economic Advisers finds that in the US, on average, women make up 56% of workers in the 20 lowest-paid occupations, but only 29% of workers in the 20 highest-paid occupations.

Exhibit 10: Women remain under-represented relative to men in top-paying occupations
 Share of full-time working women and men of prime working age in top-paying occupations



*Legal, Architecture and Engineering, Computer and Mathematical, Financial Specialists.

Source: IPUMS-CPS, Goldman Sachs Global Investment Research

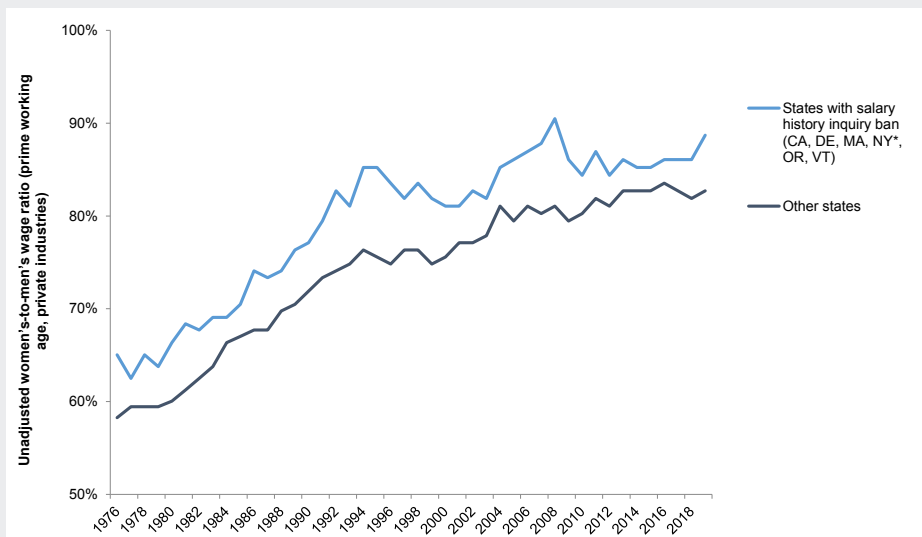
A preliminary analysis of the gender pay gap in states with salary history inquiry bans

Some state and local governments, including California and New York City, have barred employers from asking job applicants about their salary history. Some have also banned state and local government agencies from requesting this information. These laws generally make it easier for applicants to benchmark themselves against current market rates, rather than against a salary history that may have been negatively affected by prior bias or by extended time out of the labor force. Put another way, it gives women in particular the chance to de-anchor from previous pay and to mark themselves to market.

It is worth noting that, for these laws to have an effect on the gender wage gap, women need to change firms. This has several implications. First, firms that currently pay women less than men for like-for-like roles may become more likely to lose female talent. Second, searching to replace that talent will take time and may involve opportunity costs, such as foregone revenue. Third, any replacement hire, regardless of gender, will likely advocate to be paid the market clearing wage for the seat. Taken together, these factors suggest that, from a financial standpoint, companies would do better paying their employees comparable wages today, without waiting for any turnover.

While the data are limited (given these laws' recent vintage), an examination of the gender pay gap among private prime-age workers in states with salary history inquiry bans in effect in at least 2018 – either at the state or local level – suggests these rules may be helping to narrow the gap. See Exhibit 11 below. However, it is still early days, and more data will be needed over a longer time period to draw firm conclusions.

Exhibit 11: Early data suggest salary history inquiry bans may be helping to narrow the gender pay gap



Sample includes non-farm full-time private wage and salary workers age 25-54. (*) Although New York's state-wide ban does not take effect until 2020, due to local implementations - in New York City (2017), Albany (2017) and Westchester (2018) - more than half of private non-farm jobs have already been subjected to these rules.

Source: IPUMS-CPS, Goldman Sachs Global Investment Research

Key findings from our granular analysis of the gender pay gap

In this paper we updated the model we created for our prior paper. It is a wage model similar to that of Francine Blau and Lawrence Kahn⁵ of Cornell University, which measures women's and men's pay on a more "like-for-like" basis relative to the 20% economy-wide figure.

We used average real hourly wages from the March Current Population Survey but restricted our sample to prime working age full-time non-farm wage and salary workers from 2015 to 2019.⁶ Before comparing women's and men's earnings, we controlled for age, education, marital status, number of children, family size, race and ethnicity, metropolitan statistical area (MSA) status, Census divisions, and industry and occupation interactions (for example, management jobs in professional services industries). We estimated the model for men and women separately; our sample includes roughly 100,000 men and roughly 100,000 women.⁷

It is worth noting that, due to data limitations, we cannot control for factors like work experience, position, role or title, which are often indicative of seniority and which previous research shows are important considerations in explaining the gender wage gap.⁸ We also cannot control for bias in the workplace, whether conscious or unconscious.

We highlight two key findings:

First, to reiterate, if we look at the wage data for women and men of prime working age on an aggregate unadjusted basis – meaning before we control for measurable worker or job characteristics contained in the US Current Population Survey data – the pay gap is 20%. However, once we control for the factors that are contained in the dataset, the adjusted wage gap is 18.1 percentage points.

Second, we find that most of the gender wage gap cannot be explained by worker and job characteristics that are captured in the data. This is in line with our prior findings. As Exhibit 12 demonstrates, differences in industry and occupation account for roughly four percentage points of the aggregate 20% wage gap. Some of this is offset by differences in education, since women are better educated than men. Other characteristics we controlled for have varying effects but collectively explain very little of the wage gap.

⁵ Blau F. and Kahn L. (2016), "The gender wage gap: extent, trends, and explanations," NBER Working Paper 21913. Blau and Kahn examined the gender wage gap among full-time non-farm wage and salary workers between the ages of 25 and 64 years old. These researchers found that the portion of the wage gap that could not be attributed to measurable worker or job characteristics – and therefore was considered "unexplained" – fell from 21%-29% to 8%-18% over the course of the 1980s, but then remained in this range over the subsequent 20 years.

⁶ Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 6.0 ASEC. Minneapolis, MN: IPUMS, 2018. <https://doi.org/10.18128/D030.V6.0>

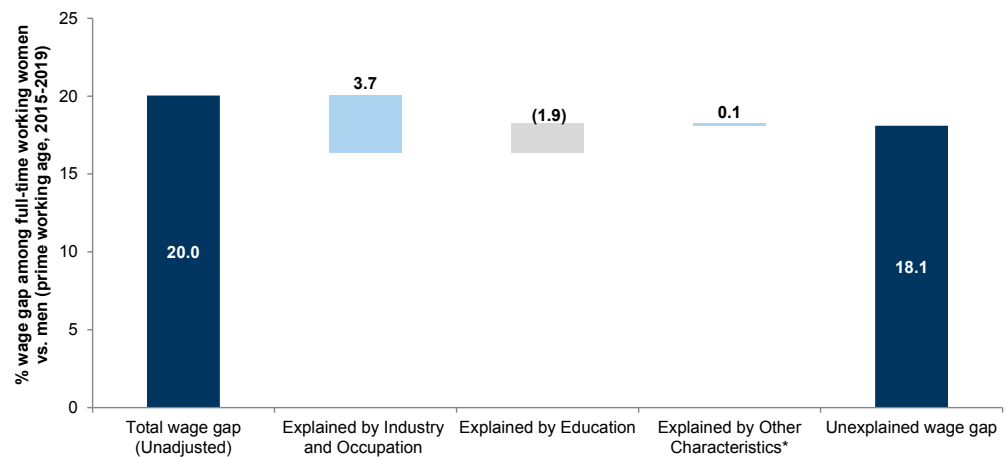
⁷ The R² is 0.42 for the men's regression and 0.41 for the women's regression.

⁸ To assess whether this distorted our findings, we modeled 25-29 year-old workers, a group where the gender difference in work experience should be less important. Consistent with our broader analysis, we found a significant share of the wage gap is unexplained among these individuals as well.

Overall, we find that the worker and job characteristics that we can control for explain just 1.9 percentage points of the total unadjusted aggregate wage gap, leaving 18.1 percentage points unexplained. Our prior paper showed the unexplained gap at 17.5 percentage points, meaning that an incremental 60 basis points cannot be explained by factors in the data. That said, small changes in the data may not indicate a broader shift in the trend, given both the limited passage of time since our previous paper and the methodology the government uses to compile these datasets. Please see our [prior work](#) for our original analysis as well as an analysis of the negative economic impact this differential can have on a woman over the course of her lifetime.

Exhibit 12: Most of the well-known 20% wage gap between women and men cannot be explained by the characteristics of the job or the individual

Explaining the prime working age wage gap using job and individual characteristics



*Other characteristics include age, marital status, number of children, family size, race and ethnicity, and geography.

Source: IPUMS-CPS, Goldman Sachs Global Investment Research

Concluding thoughts

We continue to see many ways in which companies can improve gender diversity at all levels and strengthen their pipelines of female leaders. The framework we previously provided to assist companies as they seek to close these gaps over the lifecycle of an employee – a framework that looks at hiring, “downshifting” or “upshifting” and attrition – remains relevant:

- Gender imbalances in hiring play an important role in many industries. But the persistent gap between the share of women employees and the share of women leaders in so many sectors suggests that while hiring is important, it isn’t the only issue.
- “Downshifting,” which can be voluntary or involuntary, describes scaling back work – for example, taking jobs that are more flexible in terms of hours or travel. In some cases it’s a personal choice, but in others, women may find themselves “steered” into positions with lower profiles, pay and promotion prospects. “Upshifting,” which companies can do proactively, describes either 1) enabling women employees to take on more senior and high-profile roles or 2) helping women who have exited the workforce to re-enter it.
- Attrition data continue to show that women leave the workforce early in their careers at higher rates than men do. But the uptick in women’s attrition in their late 20s and 30s is much less pronounced today than in the past, and some women do return to the workforce later.

Measures that companies can take to address gender imbalances include:

- Reviewing current policies and practices around hiring, promotion and compensation, in order to understand and address potential gender biases, including the notion that women tend to be evaluated on performance (after the fact) while men may more often be measured on potential (beforehand);
- Ensuring that women are given leadership-development opportunities that can lead to future promotions;
- Evaluating existing organizational structure and practices, to determine whether work can be made more flexible for women and men alike – without a negative impact on their wages or career prospects;
- Normalizing for cultural expectations about appropriate leadership characteristics typically attributed to men and women (this topic is covered extensively in behavioral science literature);
- Developing programs that enable women to “upshift” into higher-potential seats or to re-enter the workforce after having left for a period;
- Adding more women to corporate boards;
- Improving data availability around gender differences in pay and seniority, even if on an industry aggregated level; and
- Having a voice on relevant public-policy issues.

Because men continue to be over-represented in corporate leadership positions and on corporate boards, as the data show, they hold the bulk of the decision-making authority today. This means that the gender gaps are unlikely to close without broad commitment and active participation by men and women alike. To be effective, the “tone from the top” needs to be accompanied by both action and accountability.

Disclosure Appendix

Disclosures

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