

# Progress on the Gender Pay Gap: 2019

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# Contents

|    |                         |    |   |
|----|-------------------------|----|---|
| 03 | KEY FINDINGS            | 48 | GERMANY   |
| 07 | I. INTRODUCTION         | 52 | FRANCE  |
| 08 | II. OUR APPROACH        | 56 | THE NETHERLANDS                                   |
| 13 | III. THE GENDER PAY GAP | 60 | CONCLUSION: PAY GAPS<br>AROUND THE WORLD          |
| 14 | UNITED STATES           |    |   |
| 32 | UNITED KINGDOM          | 62 | IV. DO WOMEN ASK FOR EQUAL<br>PAY FOR EQUAL WORK? |
| 36 | CANADA                  | 71 | V. CONCLUSION                                     |
| 40 | AUSTRALIA               | 74 | REFERENCES  |
| 44 | SINGAPORE               | 75 | END NOTES   |

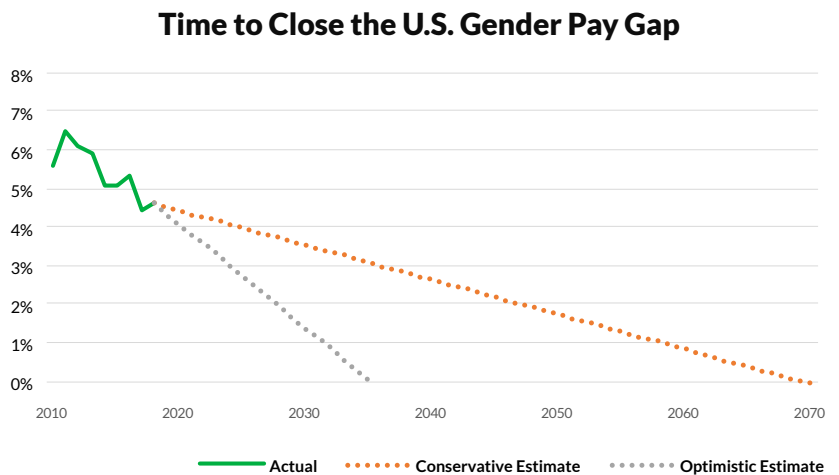
# Key Findings

This study examines how gender pay gaps around the world have changed since Glassdoor's initial [study in 2016](#). Leveraging hundreds of thousands of salary reports, including detailed worker and job information shared voluntarily and anonymously by employees on Glassdoor, we estimate the gender pay gap in eight countries: the United States, the United Kingdom, Canada, Germany, France, the Netherlands, Singapore, and Australia.

Using Glassdoor's unique data, we project, given the current rate, how long it could take to achieve gender pay equality in the U.S. Also, we consider whether a “salary confidence gap” exists between the pay men and women seek when applying to jobs, and how this may contribute to the overall pay gap.

- **Key takeaway.** The gender pay gap persists in the United States and around the world. Men earn more than women on average in all eight countries we studied, even after applying statistical controls for worker and job characteristics to ensure an apples-to-apples comparison. Even though women do not receive equal pay for equal work yet, progress is slowly being made; the pay gap has narrowed since our last study in 2016.

- **The gender pay gap is narrowing.** The U.S. adjusted pay gap has steadily dropped from 6.5 percent in 2011 to 4.6 percent in 2018. A tighter labor market, higher labor force participation by women and greater awareness of the gender pay gap all likely contribute to this progress. However, if these trends continue at the same pace, the adjusted gender pay gap still may not fully close until the year 2070. The chart below shows two possible scenarios for how long it may take to close the U.S. gender pay gap based on the downward trend between 2010 and 2018.



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research)).

- **How large is the gap right now?** Based on over 425,000 salaries shared by full-time U.S. employees on Glassdoor, men earn 21.4 percent higher base pay than women on average. However, comparing workers of similar age, education and experience shrinks that gap to 19.1 percent. Furthermore, after comparing workers with the same job title, employer and location, the gender pay gap in the U.S. falls to 4.9 percent (95.1 cents per dollar).
- **How does the pay gap compare internationally?** Across all eight countries we examined, the large unadjusted gender pay gap shrinks to a smaller adjusted pay gap once statistical controls are added. Germany has the largest unadjusted gap with women earning about 78 cents per euro men earn while France has the smallest unadjusted gap with women earning about 88 cents per euro men earn. Australia has the smallest adjusted gap with women earning 97 cents per dollar men earn, while the Netherlands has the largest adjusted gap with women earning 93 cents per euro.

### The Gender Pay Gap By Country

|                       | "UNADJUSTED" BASE GENDER PAY GAP   |                               | "ADJUSTED" BASE GENDER PAY GAP   |                               |
|-----------------------|--|-------------------------------|--|-------------------------------|
|                       | Average Cents/Pence Earned by Women Per Dollar/Pound/Euro of Male Earnings | Percentage Male Pay Advantage | Average Cents/Pence Earned by Women Per Dollar/Pound/Euro of Male Earnings | Percentage Male Pay Advantage |
| <b>Australia</b>      | 0.85   | 15.1%                         | 0.97   | 3.1%                          |
| <b>France</b>         | 0.88   | 11.6%                         | 0.96   | 3.7%                          |
| <b>Canada</b>         | 0.84   | 16.1%                         | 0.96   | 4.0%                          |
| <b>United States</b>  | 0.79   | 21.4%                         | 0.95   | 4.9%                          |
| <b>United Kingdom</b> | 0.82   | 17.9%                         | 0.95   | 5.0%                          |
| <b>Singapore</b>      | 0.87   | 12.8%                         | 0.95   | 5.2%                          |
| <b>Germany</b>        | 0.78   | 22.3%                         | 0.94   | 6.4%                          |
| <b>Netherlands</b>    | 0.81   | 18.9%                         | 0.93   | 6.6%                          |

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research)).



**What factors drive the gender pay gap?** Comparing workers with similar education, experience and job characteristics like occupation or industry helps us understand what drives the overall gender pay gap and how much remains after statistical controls.

- **Industry matters.** In the U.S., the adjusted gender pay gap is largest in media; retail; and construction, repair & maintenance industries. It is smallest in biotech & pharmaceuticals; education; and aerospace & defense industries. Since 2015, non-profit; health care; and real estate industries had the largest reductions in gender pay gaps whereas restaurants, bars & food service; travel & tourism; and oil, gas, energy & utilities industries have seen the largest increase. Although many tech jobs have large gender pay gaps, the overall information technology sector falls in the middle of the pack among industries.
- **Job titles matter.** In general, many executive, tech and blue-collar jobs top the list for largest gender pay gaps. In the U.S., the adjusted gender pay gap is largest for pilot, chef, C-suite executive, deputy manager, branch manager, retail representative, and driver occupations. The gender pay gap is smallest for merchandiser, research assistant, field services, inventory specialist, social worker, logistics manager and purchasing specialist occupations. Among jobs with the largest pay gaps, computer programmer saw the most improvement in its pay gap since our 2016 study.
- **The pay gap grows with age.** Younger workers face a smaller gender pay gap than older workers. In the U.S., workers aged 18 to 24 years face a small adjusted gender pay gap of 1.4 percent. By contrast, older workers aged 55 to 64 years face a gender pay gap of 12.3 percent, over twice the national average.
- **Differences in education and experience are shrinking.** The percentage of the pay gap explained by differences in education and experience shrank from 14 percent to 7.9 percent since our last study, as women make up an increasing share of students at universities and workers gaining experience in the labor force.
- **Occupational and industry segregation continues to be the largest driver of the gender pay gap in the U.S.** The single biggest cause of the gender pay gap is the tendency of men and women to sort into jobs and industries that pay differently. In the U.S., occupational and industry sorting explains about 56.5 percent of the overall pay gap—by far the largest factor.

### Does a “salary confidence gap” contribute to the gender pay gap?

A confidence gap—men being more self-confident in the workplace than women—could translate into a gender pay gap if women seek lower pay than men when they apply to new jobs. In this study, we examine the salary confidence gap using real-world job applications from Glassdoor, to see whether women and men seek out equal pay for equal work.

- **Overall, men do apply to higher paying jobs than women.** Men apply to jobs that pay 18.3 percent more on average than jobs women apply to on Glassdoor. However, this is largely because women are often looking for different kinds of jobs than men, with different pay scales, and have different levels of education and experience.
- **The gap disappears when we compare similar men and women looking for jobs.** When we compare job applications

from equally-qualified men and women seeking similar jobs, the “salary confidence gap” drops to less than one percent (0.7 percent). That means a gap in pay expectations between men and women doesn’t likely explain much of today’s gender pay gap.

- **Women and men seek the same percentage raises when switching jobs.** When aiming for new jobs, men and women both seek similar percentage pay raises on Glassdoor, about 33 percent. Since women start from a lower average base pay, that can propagate pay gaps from early in a woman’s career as they advance from job to job—a key reason many policymakers are considering banning employers from asking about salary history.

**How can we close the gap?** Understanding key drivers of the pay gap is critical to identifying the best ways to fix it. Research shows that salary transparency and better information sharing are powerful tools in helping to achieve equal pay in the workforce.



## I.

# Introduction

In 2016, we released the first-ever study of the gender pay gap using Glassdoor salary data. In that study, we added to the large body of research confirming the existence of a gender pay gap, but we also used Glassdoor's unique data to explore the drivers of the pay gap by controlling for factors like education, experience, job title and industry. We showed that, even after adding statistical controls for a variety of worker and job characteristics, a persistent adjusted pay gap remains.

Since our study was released, awareness of the gender pay gap and issues affecting women in the workplace have been elevated around the world from the new laws across Europe requiring companies to disclose their pay gaps to the #MeToo movement against sexual harassment and assault. To examine whether increased awareness of the gender pay gap has translated into progress, we revisit the gender pay gap using new Glassdoor salary data collected from 2016 to 2018 to answer: **what progress has been made on the gender pay gap in the last 3 years?**

Additionally, **what is the state of the gender pay gap internationally?** We expand the countries in our analysis to include Canada, Singapore

and the Netherlands on top of the five countries from our original study, the United States, the United Kingdom, Australia, Germany and France.

Lastly, we dive into a commonly discussed barrier to women's success in the workplace—the confidence gap. The conventional wisdom is that a confidence gap between men and women in the workplace exists, but it is not well understood how it may affect the gender pay gap. We explore how the confidence gap may act through a difference in the pay that men and women aim for when they apply to jobs, answering the question—**do women seek out equal pay for equal work?**

We've organized the remainder of this study as follows. Section II explains our methodology for measuring the gender pay gap and identifying factors that explain it. Section III presents our estimates of the gender pay gap in the U.S. by industry, occupation and age, and shows overall results for seven other countries: the UK, Canada, Australia, Singapore, Germany, France and the Netherlands. Section IV presents the findings of the confidence gap in salary expectations in the U.S. Finally, we conclude our findings and provide insight into: **What does this mean for job seekers, employers and policymakers?**



## II.

# Our Approach

In this study, we provide an update on the state of the gender pay gap in Glassdoor salary data using three approaches.

- **Measuring the Pay Gap:** First, we show how the pay gap has changed since 2015, both before and after accounting for differences in men and women's education, jobs and other factors.
- **Explaining the Pay Gap:** Second, we show how much of today's pay gap can be explained by our data, compared to how much can't be explained—either due to unobserved factors or gender bias in the workplace.
- **Measuring the Confidence Gap in Salary Expectations:** Finally, we examine real-world job applications on Glassdoor to test whether men and women systematically apply to jobs with higher or lower pay—a possible cause of gender pay differences that has never before been studied on Glassdoor.

We explain each of these three approaches.

## Measuring the Pay Gap

The first step in measuring the gender pay gap is to compare male and female pay, both before and after adding statistical controls for differences in education, job titles and other factors aside from gender that affect pay.

To do this, we follow the same methodology as our previous study.<sup>1</sup> We use ordinary least squares (OLS) regression to measure the impact of gender on pay after we've statistically controlled for differences in education, job title, industry and other factors. Our basic estimating equation is:

$$\underbrace{Y_i}_{\text{Salary}} = \underbrace{Male_i \beta_1}_{\text{Male Indicator}} + \underbrace{X_i \beta_2}_{\text{Worker and Job Characteristics}} + \epsilon_i \quad (1)$$

where  $Y$  is the salary reported on Glassdoor for employee  $i$ ,  $Male$  is a binary indicator equal to 1 for men and 0 for women, and  $X$  is a large collection of controls (known as “fixed effects”) for everything we observe about workers, jobs and companies including: worker age, highest level of education, years of relevant work experience, industry, occupation, company size, year, state, job title and specific employer name. The term  $\epsilon$  is the usual mean-zero error term for all other factors about workers and jobs we don't observe in our data.

The estimated coefficient on the male dummy term  $\beta_1$  tells us the salary advantage held by men over women once we've accounted for the impact of other factors.<sup>2</sup> Throughout this study, we refer to the raw difference between male and female pay as the unadjusted pay gap. By contrast, once we've accounted for all other factors, we refer to the gap as “adjusted.”





### Explaining the Pay Gap

As a second approach, we perform a simple decomposition to show how much of the gender pay gap is explained by differences in worker characteristics, and how much is unexplained by discrimination or other factors we can't observe about workers and jobs. This is known as a Oaxaca-Blinder decomposition,<sup>3</sup> and is one of the most widely used methods to detect the presence of group differences in the labor market.

Our estimating equation for the decomposition is given by the following:

$$\underbrace{\bar{Y}_M - \bar{Y}_F}_{\text{Gender Pay Gap}} = \underbrace{\hat{\beta}_M(\bar{X}_M - \bar{X}_F)}_{\text{"Explained" Portion}} + \underbrace{\bar{X}_F(\hat{\beta}_M - \hat{\beta}_F)}_{\text{"Unexplained" Portion}} \quad (2)$$

where  $\bar{Y}_M$  and  $\bar{Y}_F$  are average pay for male and female workers,  $\bar{X}_M$  and  $\bar{X}_F$  are characteristics of male and female workers, and  $\hat{\beta}_M$  and

$\hat{\beta}_F$  are regression coefficients for the impact of male and female characteristics on pay.<sup>4</sup>

On the left side of the above equation is the difference between average male and female salaries in our data—the unadjusted pay gap. On the right, the pay gap is divided into two terms. The first shows how much of the pay gap is due to differences between male and female characteristics,  $\bar{X}_M - \bar{X}_F$ . This is known as the explained portion of the gap, because it is due to gaps in experience, education or other factors we can observe in our data between men and women.

The second term shows how much of the pay gap is due to differences in how the labor market rewards men and women, even when they have the same experience, education and other factors. This is called the unexplained portion of the gap, and is due to how male versus female regression coefficients differ in terms of how the job market rewards male and female workers differently even when they have the same characteristics. This may be due to discrimination, or simply to unobserved factors about workers we're not able to see in our data.

## Measuring The Salary Confidence Gap

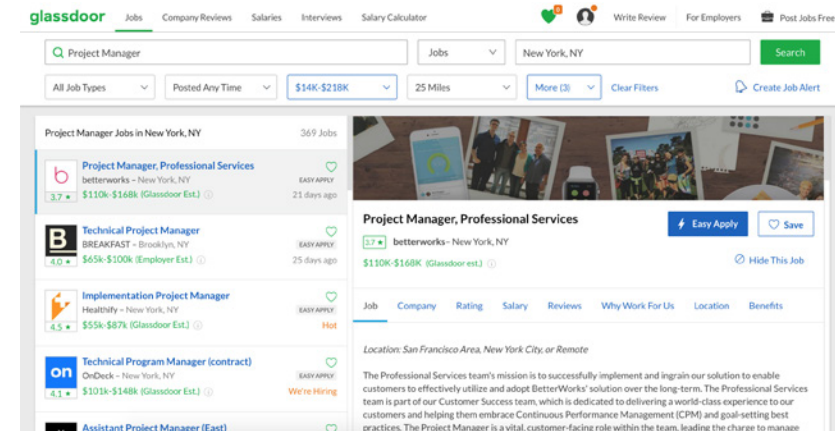
As our third approach, we analyze online job application behavior on Glassdoor to understand the “confidence gap”. Past research has suggested women may suffer from a confidence gap in the workplace, but there are many ways this could translate into a gender pay gap.<sup>5</sup>

One way a confidence gap could contribute to the overall pay gap is if women and men with similar backgrounds apply to similar jobs but with unequal pay. In that case, men and women may be inadvertently fueling the overall pay gap by having different expectations on what salary they deserve—a phenomenon we call a “salary confidence gap” in this study.

Our research leverages Glassdoor’s unique ability to answer this question. Past research on the salary confidence gap has mostly relied on surveys or self-reporting which may not accurately reflect real-world behavior.<sup>6</sup> Also, most other job search settings do not reveal salary to job seekers before they decide to apply. By contrast, when candidates search for jobs on Glassdoor, they are shown estimated base pay for job listings, allowing them to incorporate salary expectations into their decisions, and allowing us to see whether men and women actually apply to jobs with different pay.

An example of a typical job search on Glassdoor is shown in Figure 1. In this case, a search for project manager jobs in New York City returns many open jobs, with the employer, company rating, and Glassdoor salary estimate for the job. We then observe which jobs are applied to by men and women, allowing us to estimate the salary confidence gap before and after adding statistical controls to compare similarly-qualified candidates applying to similar jobs.

Figure 1: Example Screenshot of Glassdoor’s Job Search, including Salary Estimates



Source: Glassdoor Economic Research (Glassdoor.com/research).

To estimate the salary confidence gap for job applicants, we follow the same statistical approach outlined above for measuring the pay gap. We perform a linear regression of the estimated salary for jobs applied to on a binary male-female indicator, along with a set of controls for age, education, job title and other factors. Our estimating equation is given by:

$$\underbrace{Y_i}_{\substack{\text{Estimated} \\ \text{Salary of} \\ \text{Job Applied} \\ \text{To Online}}} = \underbrace{Male_i \beta_1}_{\substack{\text{Male} \\ \text{Indicator for} \\ \text{Job Applicant}}} + \underbrace{X_i \beta_2}_{\substack{\text{Worker and Job} \\ \text{Characteristics} \\ \text{for} \\ \text{Job Applicant}}} + \epsilon_i \quad (3)$$

The estimated coefficient on the male dummy term  $\beta_1$  tells us the approximate percentage difference between the salary for jobs applied to by men compared to women, after adding statistical controls for worker and job characteristics. The results show whether there is a salary confidence gap in real-world job applications on Glassdoor, once we've made an apples-to-apples comparison of men and women with similar education, experience and job titles.

### How to Interpret Our Pay Gaps

It's conventional to use the natural logarithm of salaries in regressions rather than raw dollar amounts. Why? Because it makes for easy interpretation of statistical results.

When the log of salary is regressed on worker characteristics (as in equation 1) the estimated coefficients give the approximate percentage change in salary from a one-unit change in the explanatory factor.

Thus, the coefficient on the "male" dummy variable in equation 1 gives the approximate percentage gender pay gap between male and female pay, holding all other worker characteristics constant.<sup>7</sup> For this reason, we estimate all of our regressions in the log of salary.

Rather than using the approximations given in this study, some readers may want the exact percentage difference in pay between male and female workers. That's given by  $e^{\beta} - 1$ , where  $\beta$  is the estimated coefficient on the male dummy variable reported in our tables.

For simplicity, ease of interpretation, and to make our results easily comparable to past studies, we report only approximate pay gaps in this study.





### III.

## The Gender Pay Gap

In 2016, we released a study of the gender pay gap using Glassdoor salary data for the years 2006 through 2015. This study provides an update on what has happened with the gender pay gap around the world in the years since.

Below, we present our estimates of the gender pay gap in eight countries—the United States, the United Kingdom, Canada, Australia, Singapore, Germany, France and the Netherlands—based on Glassdoor salary data. We present results for each country separately, each in their own section, ordered from largest to smallest sample size beginning with the United States.

We focus on the three years since our original study, using a large sample of salaries shared anonymously on Glassdoor by current and former employees from 2016 through 2018.<sup>8</sup> In total, our U.S. sample contains 426,512 salaries reported on Glassdoor. Details for the other seven countries we examined are given below in each country's specific section.

# United States

## About Our U.S. Data

In recent years, the gender pay gap has gotten much more attention in the U.S. With the rise of the #MeToo movement in 2017, growing public and shareholder pressure on companies to disclose gender pay gaps,<sup>9</sup> and a record number of women elected to Congress in 2018, the issue of equal pay for equal work has figured prominently in media and political discussions. Has the increased attention to gender pay issues translated into progress on America's gender pay gap?

Table 1 shows summary statistics for the data used for our U.S. analysis. It consists of 426,512 salaries for full time workers between ages 17 and 92 years old (as of 2018) working in U.S. establishments between 2016 and 2018.<sup>10</sup> The data contain information on 71,857 unique U.S. employers, and approximately 29,843 unique job titles. The overall mean base salary is \$63,289 per year, ranging from \$14,500 to \$800,000 per year. The mean total compensation is significantly higher at \$73,370 per year.<sup>11</sup> In terms of gender balance, roughly 54 percent of the U.S. salaries in our sample are male, while 45 percent are female—nearly identical

to the roughly 53 percent of males in the overall U.S. workforce as of January 2019.<sup>12</sup>

For education, 71 percent of the sample hold a bachelor's degree, 17 percent hold a master's degree, while just 10 percent hold only a high school diploma.<sup>13</sup> By comparison, in the overall U.S. population roughly 21 percent hold a bachelor's degree, 12 percent hold any type of graduate degree, and 29 percent hold only a high school diploma. This over-representation of college-educated workers likely reflects different online job searching behavior between college-educated Americans and the general workforce.

In terms of age, the average age of workers in the sample is 34 years as of 2018 (those born in 1984). Workers have, on average, 5.4 years of relevant work experience. Employers in the sample have a median size of 4,134 employees (or a mean of 51,300 employees, an average skewed upward by a handful of very large employers) ranging from small single-employee companies to the largest U.S. employer with more than 2 million employees.

Table 1. Summary Statistics for the U.S. Salaries Used in Our Analysis

| VARIABLE                   | OBSERVATIONS | MEAN                       | STANDARD DEVIATION | MIN      | MAX         |
|----------------------------|--------------|----------------------------|--------------------|----------|-------------|
| Year                       | 426,512      | n.a.                       | n.a.               | 2016     | 2018        |
| Base Salary                | 426,512      | \$63,289                   | \$38,205           | \$14,500 | \$800,000   |
| Total Compensation         | 426,512      | \$73,370                   | \$71,238           | \$14,500 | \$6,823,000 |
| Gender (Male = 1)          | 426,512      | 0.54                       | 0.50               | 0        | 1           |
| Birth Year                 | 426,512      | 1984                       | 9                  | 1926     | 2001        |
| Years of Experience        | 426,512      | 5.4                        | 6.0                | 0        | 60          |
| Associate's Degree         | 426,512      | 0.01                       | 0.11               | 0        | 1           |
| Bachelor's Degree          | 426,512      | 0.71                       | 0.45               | 0        | 1           |
| High School Diploma        | 426,512      | 0.10                       | 0.29               | 0        | 1           |
| J.D.                       | 426,512      | 0.00                       | 0.03               | 0        | 1           |
| Master's Degree            | 426,512      | 0.17                       | 0.37               | 0        | 1           |
| M.B.A.                     | 426,512      | 0.01                       | 0.09               | 0        | 1           |
| M.D.                       | 426,512      | 0.00                       | 0.02               | 0        | 1           |
| Ph.D.                      | 426,512      | 0.00                       | 0.06               | 0        | 1           |
| Firm Size<br>(# Employees) | 426,512      | 51,300<br>(Median = 4,134) | 190,900            | 1        | 2,300,000   |

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research)).

### Are Glassdoor Salaries Representative?

How accurate are Glassdoor salaries compared to federal government surveys of the U.S. labor market?

The figure to the right shows a comparison of Glassdoor salaries to official estimates from the Current Population Survey, the most widely used official source for salaries in the U.S. The top panel shows the distribution of salaries for full-time U.S. workers in calendar year 2017 from the Census Bureau. The bottom panel shows the distribution of Glassdoor full-time salaries in 2017.

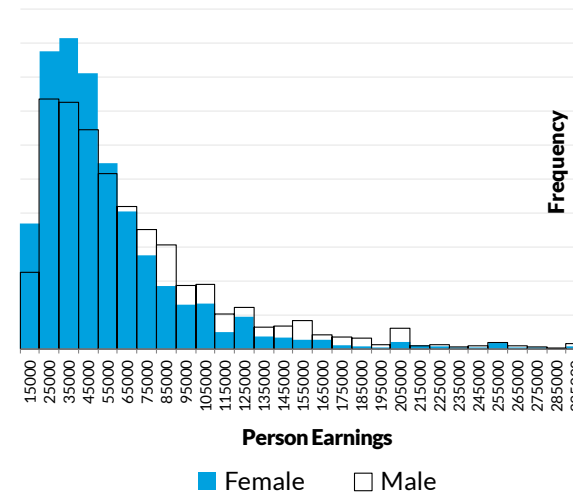
The two data sources are remarkably similar, a finding that's consistent with our previous study which compared Glassdoor and Census salary data from 2014. Both follow an approximately "lognormal" distribution, with most salaries clustered toward the low end and a few very large salaries. In both panels, there is a clear overall gap between male and female pay, with the male distribution shifted to the right.

Although Glassdoor salaries are drawn from anonymous employees online, the picture they provide of the U.S. gender pay gap is very similar to what's found in surveys from the U.S. Census Bureau.

### Comparison of U.S. Census and Glassdoor Salaries

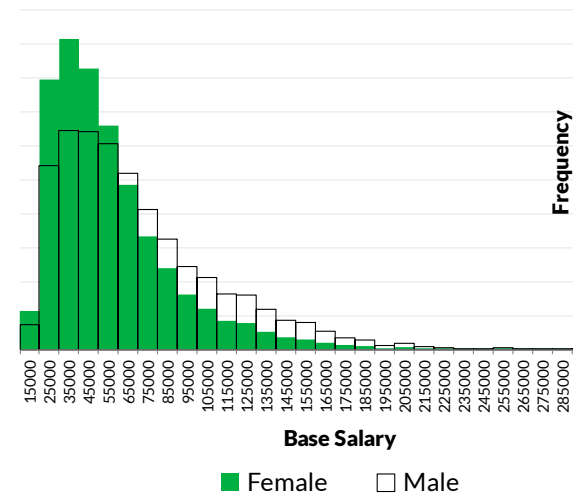
#### Distribution of Census Salaries (2017)

Full-Time Workers



#### Distribution of Glassdoor Salaries (2017)

Full-Time Workers



Source: U.S. Census 2018 March CPS (ASEC) file; Glassdoor Economic Research.  
Notes: Salaries are for full-time workers only for calendar year 2017.

## The U.S. Pay Gap Is Narrowing in Today's Strong Economy

The most striking result from our latest analysis of the U.S. gender pay gap is that we find evidence that the nation's pay gap is slowly improving over time. Figure 2 shows the adjusted gap between male and female pay each year since 2010.

After rising to a peak of 6.5 percent in 2011, the pay gap according to Glassdoor salary data has steadily improved in recent years. In 2018, it fell to just 4.6 percent, a decline of 1.9 percentage points since 2011, a significant 29 percent drop.

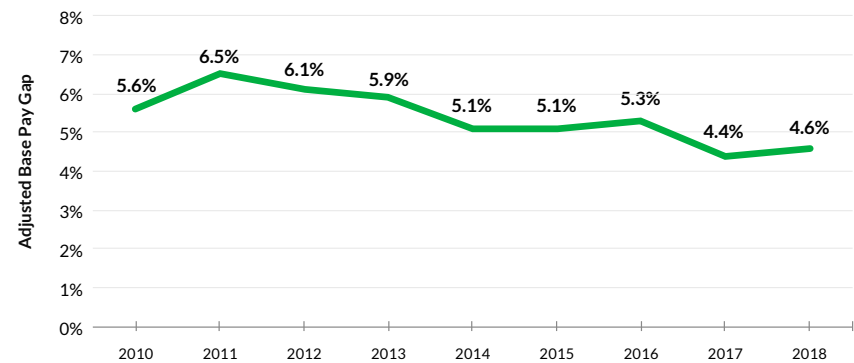
This recent improvement is likely due in part to today's robust economy. Recent data show women's labor force participation has been growing faster than men's in recent years, fueling recent labor market gains.<sup>14</sup> In addition, research shows that as the labor market has tightened in recent years, women are disproportionately taking jobs in traditionally male-dominated industries, helping break down occupational barriers for women.<sup>15</sup>

One of the main causes of the gender pay gap is "occupational segregation"—the fact that men and women tend to work in

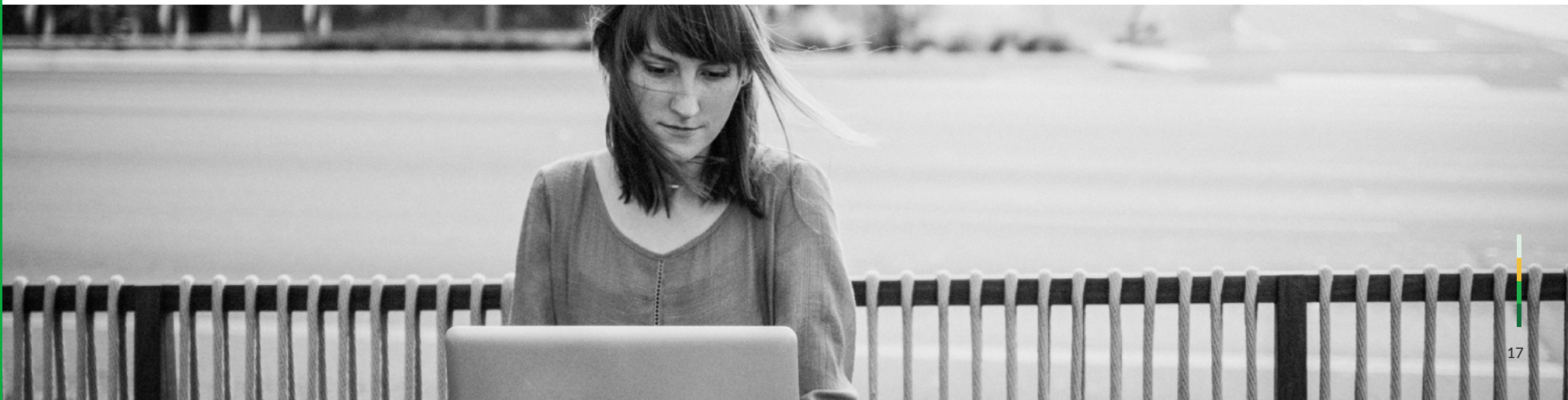
systematically different jobs in the economy. The recent strength in the U.S. labor market that is pulling more women into the workforce and into male-dominated fields may also be helping erode gender occupational segregation, and likely plays a role in the improved pay gap in recent years.

Figure 2. The U.S. Gender Pay Gap on Glassdoor is Slowly Improving

### Adjusted U.S. Gender Gap in Base Pay Is Falling Over Time



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research)).







### How Long to Close the Gap?

If today's trends in Glassdoor salary data were to continue in the future, how long would it take to close the nation's gender pay gap? In Table 2, we show two scenarios for when the adjusted U.S. pay gap would be expected to fully disappear if recent progress continues at the same pace.

In the first scenario, we show how long it may take to close the U.S. gender pay gap if the average annual pace of improvement in the adjusted gap from 2010 to 2018 were to continue each year into the future. Between 2010 and 2018, the adjusted gender pay gap in Glassdoor salary data fell by an average of -0.09 percentage points per year. If that trend continued, it would take roughly 51.8 years to fully close today's 4.6 percent adjusted gender pay gap. Under those assumptions, the nation's pay gap would not fully close until the year 2070.

Under a second scenario, we show how long it may take to close the gap if the more rapid pace of decline from the peak of 2011 to the gap in 2018 were to continue. Between 2011 and 2018, the adjusted U.S. gender pay gap shrank from 6.5 percent to 4.6 percent, a drop of -1.9 percent, or an average of -0.27 percentage points per year during the past 7 years. If that trend continued, it would take roughly 16.9 years to fully close today's 4.6 percent adjusted pay gap. Under these more optimistic assumptions, the nation's pay gap would fully close in 2035.





Table 2: When Will the U.S. Gender Pay Gap Close if Recent Trends Continue?

| 2018 Adjusted Pay Gap                      |        |
|--|--------|
| Current Level                              | 4.6%   |
| Average Annual Improvement in U.S. Pay Gap |        |
| Conservative Estimate                      | -0.09% |
| Optimistic Estimate                        | -0.27% |
| Years to Close                             |        |
| Conservative Estimate                      | 51.8   |
| Optimistic Estimate                        | 16.9   |
| Year U.S. Pay Gap Closes                   |        |
| Conservative Estimate                      | 2070   |
| Optimistic Estimate                        | 2035   |

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research)).

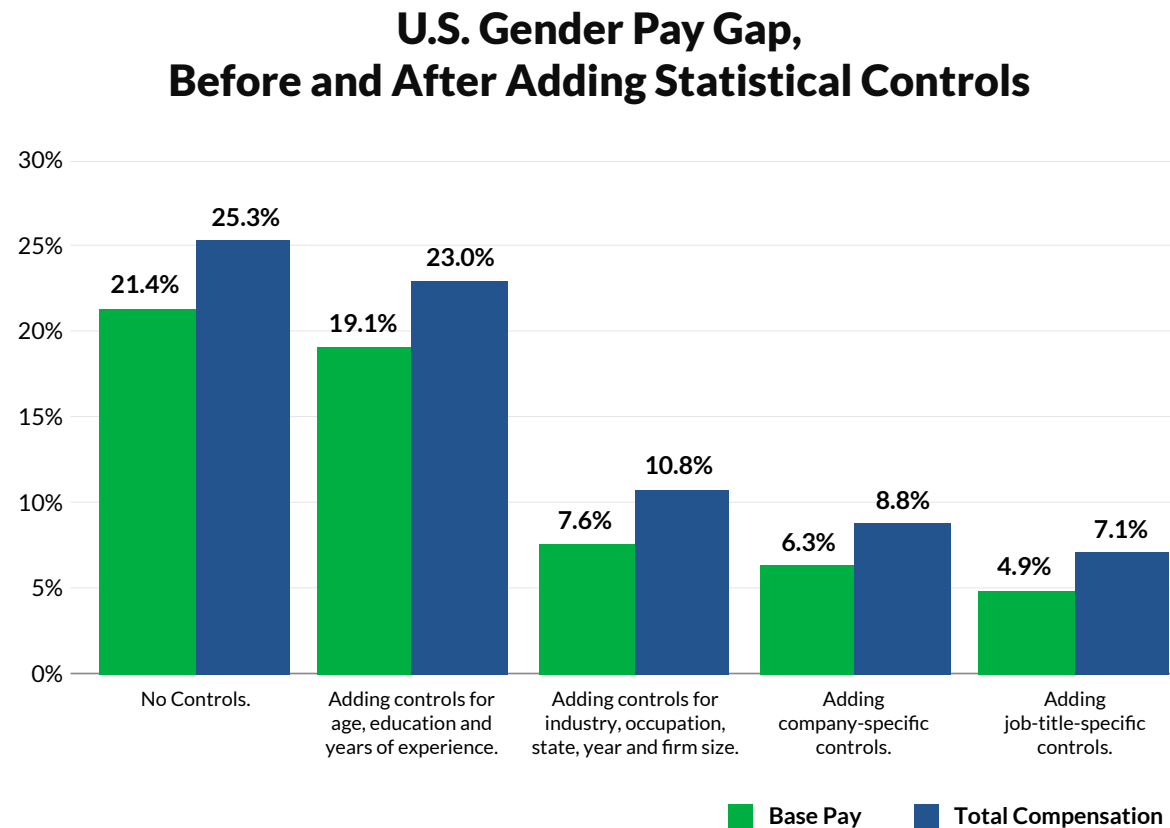
While the estimates provide some perspective on the pace of improvement in the U.S. gender pay gap, they shouldn't be considered a confident prediction about the actual future of pay equity. The above calculations are based on the unlikely assumption that recent trends in Glassdoor salary data will continue indefinitely into the future. In reality, many factors will impact the future of the U.S. pay gap, including:

- The state of the economy;
- Trends in the gender balance in college majors;
- Parental leave and other policies that impact men and women's career decisions;
- Trends in the spread of men and women across differently paying occupations, and other factors.

## Overall and Adjusted U.S. Pay Gap

Below we show our most recent estimates of the U.S. gender pay gap from Glassdoor salary data. Figure 3 shows the approximate percentage gap between male and female pay for U.S. workers on Glassdoor between 2016 and 2018, before and after statistical controls have been applied. Column 1 shows the raw or unadjusted gender pay gap with no statistical controls. Moving to the right, columns 2 through 5 show how the pay gap changes as additional statistical controls are added as we attempt to provide an apples-to-apples comparison of male and female workers.

Figure 3. New Estimates of the Unadjusted and Adjusted U.S. Gender Pay Gap from 2016 to 2018



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research)).



For base pay, the unadjusted male-female pay gap is 21.4 percent in column 1. This means that on average, men as a group on Glassdoor from 2016 to 2018 reported earning about 21.4 percent higher base pay than women as a group. For total compensation, the unadjusted pay gap was larger at 25.3 percent.

By adding controls for age, education and years of experience in column 2, the gender pay gap shrinks to 19.1 percent for base pay and 23.0 percent for total compensation. Economists refer to these types of personal worker characteristics as “human capital,” as they’re often linked to productivity differences among workers. This shows that accounting for differences in education and experience for men versus women only eliminates a small part of the U.S. pay gap—about 2 percentage points of the overall 21.4 percent gap.

In column 3, we add more controls for industry, occupation, state, year, and company size. These controls help adjust for the fact that men and women tend to sort into differently paying jobs and industries in the economy, which is a well-known cause of the pay gap. For example, human resources workers in the U.S. were 69 percent female in 2018, while computer programmers were 79 percent male.<sup>16</sup> Adding these controls sharply reduces the U.S. gender pay gap to 7.6 percent for base pay and 10.8 percent for total compensation.

Finally, in columns 4 and 5 we show the gender pay gap after we’ve made our most detailed comparison of male and female employees. Using Glassdoor salary data, we are able to add powerful statistical controls for differences in job titles and employers for men and

women. This lets us isolate the adjusted pay gap for men and women who work in similar jobs and companies.

In column 4, adding controls for different employers where men and women work lowers the pay gap to 6.3 percent for base pay and 8.8 percent for total compensation. Finally, in column 5 we show our most detailed estimates of the adjusted pay gap that account for differences in job titles between men and women. In that column, we see the fully adjusted U.S. gender pay gap is 4.9 percent for base pay, and 7.1 percent for total compensation.

### **PAY GAP IS DOWN**

Across the board, the U.S. pay gap over the past three years is smaller than what we found in our 2016 study. In that study, we examined the pay gap between 2006 and 2015, finding a gender pay gap ranging from 24.1 percent for the unadjusted pay gap down to 5.4 percent for the adjusted gap. By comparison, our latest analysis of 2016 through 2018 salary data show the pay gap is down significantly, to between 21.4 percent for the unadjusted gap to 4.9 percent for the adjusted gap.

Overall, these results show that despite recent progress, there remains a persistent U.S. gender pay gap according to Glassdoor salary data—a conclusion supported by a large number of academic studies as well.

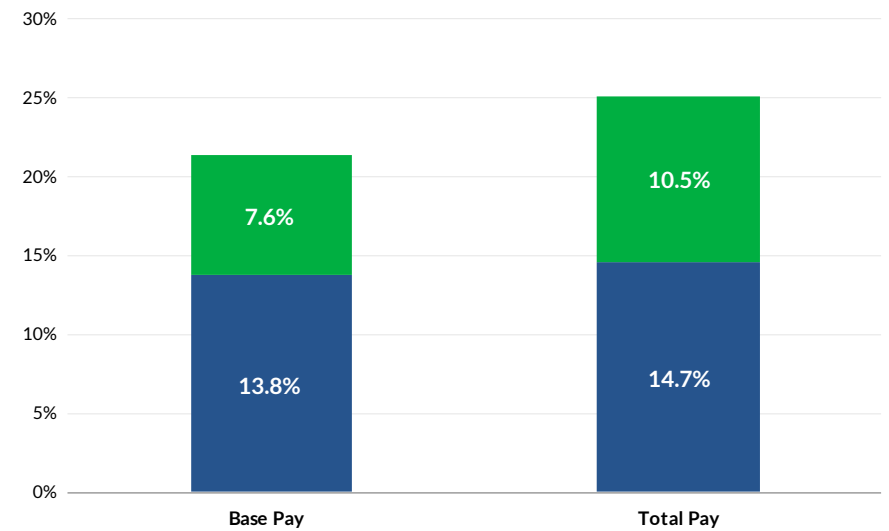


### What Explains the Gap?

Figure 4 shows which factors help best explain the overall gap between male and female pay. It shows the Oaxaca-Blinder decomposition of the unadjusted pay gap into the part that is explained by differences between male and female workers, and the part that is unexplained due to gender bias or unobserved characteristics of workers we're not able to see in our data.

Figure 4. Decomposing the 2016–2018 U.S. Gender Pay Gap into Explained and Unexplained Portions

### U.S. Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research (Glassdoor.com/research).

Unexplained Explained



Of the overall U.S. gender pay gap of 21.4 percent in base pay, we find that 13.8 percent is explained by differences between male and female workers: different ages, levels of education, experience, industries, occupations, company sizes and locations. The remaining 7.6 percent of the pay gap is “unexplained,” due either to factors we aren’t able to observe or to gender discrimination.

This finding means that about 64 percent ( $13.8/21.4 = 64$  percent) of the overall U.S. gender gap in base pay from 2016 to 2018 is explained by worker characteristics. The remaining 36 percent is unexplained, and due to differences in how the job market rewards men and women with the same characteristics, or unobserved employee characteristics. The results for total compensation are similar: 14.7 percent is explained while the remaining 10.5 percent is “unexplained.”

Overall, these results are similar to what we found in our 2016 study. Although the gender pay gap in the U.S. has narrowed considerably since 2015, the breakdown of how much is explained or unexplained has changed little.

### HOW MUCH IS EXPLAINED BY JOB SEGREGATION?

As an additional step, we looked at how much of the U.S. gender pay gap can be explained by two distinct factors: (1) differences between the education and experience of workers, or what economists call “human capital”; and (2) the sorting of men and women into different occupations and industries in the economy.

We found that only 7.9 percent of the overall gender gap in base pay can be explained by differences in education and experience between men and women in the U.S. from 2016 to 2018. That’s down sharply from roughly 14 percent in our previous study. It suggests that gaps between the education and experience of men and women are narrowing over time, and are playing a smaller role than in the past. By contrast, we found that job segregation—the sorting of men and women into different jobs and industries in the economy—explains about 56.5 percent of the gap, the largest factor by far.

This is an important finding for policy solutions to address the gender pay gap. Most of today’s pay gap in the U.S. is due to forces that push men and women onto different career tracks in the economy, not differences in experience and education, or other unexplained factors.

### Industries with the Biggest Pay Gaps

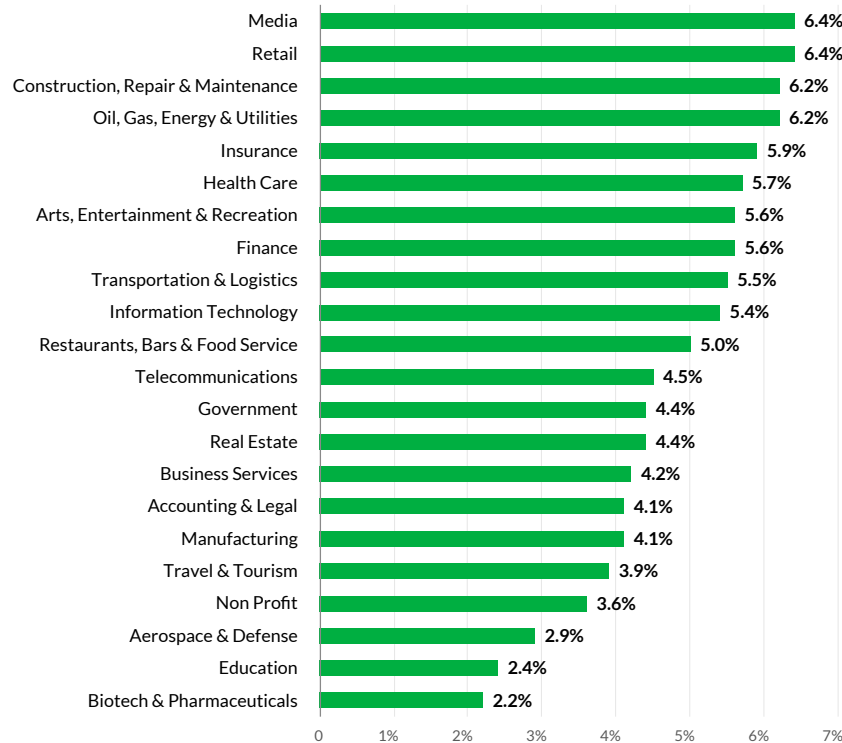
Next we show differences in the U.S. gender pay gap among industries. To do this, we re-estimate the above regression model while including interaction terms for *male x industry*. The coefficients on those interaction terms tell us whether being male and working in a particular industry results in a statistically larger or smaller pay gap.<sup>17</sup>

Figure 5 shows the adjusted gender pay gap for our 22 industries.<sup>18</sup> Two industries are tied for the largest gender pay gap in Glassdoor salary data: media—an industry that includes book publishers, television networks, video game producers, newspapers, as well as many online media providers—and retail, both at 6.4 percent. This amounts to women earning on average 93.6 cents per dollar earned by men working in the same job title, same company, and with similar background and experience. That gap is roughly 31 percent larger than the



Figure 5: Adjusted Gender Pay Gap in U.S. Varies Widely by Industry

### Adjusted Gender Gap in Base Pay by U.S. Industry (Percentage Higher Average Male Pay)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

Note: Only industries with at least 4,000 salary reports in our sample are reported. Includes controls for age, education, experience, state, year, job title and employer name.

U.S. average adjusted gender pay gap of 4.9 percent. The second largest gender pay gaps are found in construction, repair and maintenance (6.2 percent); oil, gas, energy and utilities (6.2 percent); insurance (5.9 percent); and health care (5.7 percent). Many of these same industries were also among those with the largest U.S. pay gaps in our previous study, suggesting the factors causing gender pay gaps we identified between 2006 and 2015 still persist in these industries today.

The smallest adjusted gender pay gaps among U.S. industries are found in the biotech and pharmaceuticals industry (2.2 percent). That amounts to women earning on average 97.8 cents per dollar earned by men in the same job title, same company, and with similar background and experience—less than half of the overall U.S. adjusted pay gap.

Other industries with adjusted pay gaps below the U.S. average include education (2.4 percent); aerospace and defense (2.9 percent); and the non-profit sector (3.6 percent). In all of these sectors, the U.S. gender pay gap is significantly below the national average. The much-discussed tech industry (information technology) falls in the middle of the pack among U.S. industries, with an adjusted gender pay gap of 5.4 percent, slightly above the national average of 4.9 percent.

### Industries with Growing and Shrinking Gaps

Which U.S. industries have seen the biggest changes in gender pay gaps in recent years? Table 3 shows how our latest estimates of the gender pay gap by industry compare to our previous study. It shows estimates of the pay gap by industry from 2016–2018, along with changes since our last estimate based on 2006–2015 data.

The industry with the biggest increase in gender pay gap since our last study was restaurants, bars and food service, up 1.8 percentage points in 2016–2018 compared to our last analysis from 2006–2015. Other industries with widening pay gaps in recent years include travel and tourism (up 0.9 percentage points); oil, gas, energy and utilities (up 0.6 percentage points), and retail (up 0.5 percentage points).

By contrast, the industries with the biggest improvements in the gender pay gap since our last analysis include the non-profit sector (down 2.1 percentage points); health care (down 1.5 percentage points); real estate (down 1.4 percentage points), and business services (down 1.3 percentage points).

Table 3. Changes in Adjusted Gender Pay Gap by Industry Since our Last Study

| INDUSTRY   | ADJUSTED PAY GAP<br>2016 – 2018 | ADJUSTED PAY GAP<br>2006 – 2015 | CHANGE |
|--|---------------------------------|---------------------------------|--------|
| <a href="#">Restaurant, Bars and Food Service</a>    | 5.0%                            | 3.2%                            | 1.8%   |
| <a href="#">Travel and Tourism</a>                   | 3.9%                            | 3.0%                            | 0.9%   |
| <a href="#">Oil, Gas, Energy and Utilities</a>       | 6.2%                            | 5.6%                            | 0.6%   |
| <a href="#">Retail</a>                               | 6.4%                            | 5.9%                            | 0.5%   |
| <a href="#">Aerospace and Defense</a>                | 2.9%                            | 2.5%                            | 0.4%   |
| <a href="#">Construction, Repair and Maintenance</a> | 6.2%                            | 5.9%                            | 0.3%   |
| <a href="#">Manufacturing</a>                        | 4.1%                            | 4.0%                            | 0.1%   |
| <a href="#">Telecommunications</a>                   | 4.5%                            | 4.6%                            | -0.1%  |
| <a href="#">Media</a>                                | 6.4%                            | 6.6%                            | -0.2%  |
| <a href="#">Government</a>                           | 4.4%                            | 4.7%                            | -0.3%  |
| <a href="#">Accounting and Legal</a>                 | 4.1%                            | 4.5%                            | -0.4%  |
| <a href="#">Information Technology</a>               | 5.4%                            | 5.9%                            | -0.5%  |
| <a href="#">Finance</a>                              | 5.6%                            | 6.4%                            | -0.8%  |
| <a href="#">Biotech and Pharmaceuticals</a>          | 2.2%                            | 3.0%                            | -0.8%  |
| <a href="#">Education</a>                            | 2.4%                            | 3.3%                            | -0.9%  |
| <a href="#">Arts, Entertainment and Recreation</a>   | 5.6%                            | 6.6%                            | -1.0%  |
| <a href="#">Transportation and Logistics</a>         | 5.5%                            | 6.7%                            | -1.2%  |
| <a href="#">Insurance</a>                            | 5.9%                            | 7.2%                            | -1.3%  |
| <a href="#">Business Services</a>                    | 4.2%                            | 5.5%                            | -1.3%  |
| <a href="#">Real Estate</a>                          | 4.4%                            | 5.8%                            | -1.4%  |
| <a href="#">Health Care</a>                          | 5.7%                            | 7.2%                            | -1.5%  |
| <a href="#">Non Profit</a>                           | 3.6%                            | 5.7%                            | -2.1%  |

Source: Glassdoor Economic Research (Glassdoor.com/research)



### Jobs with the Biggest Pay Gaps

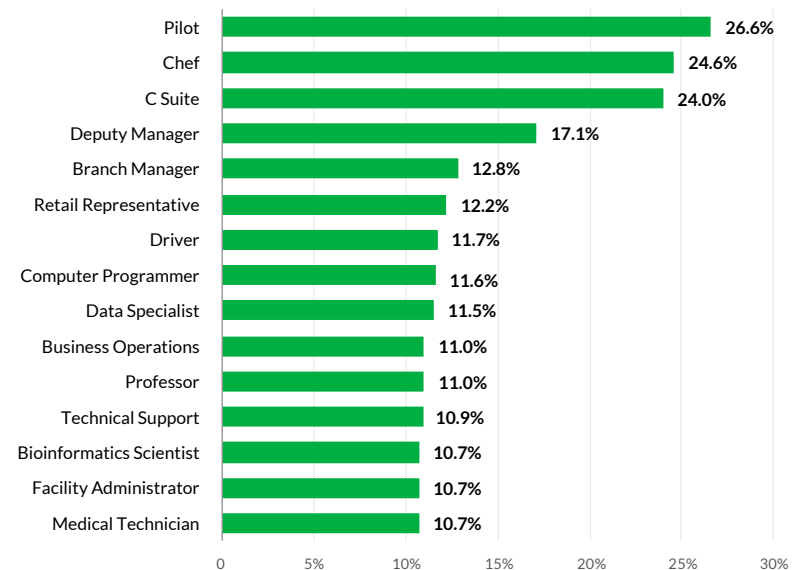
Next, we show the U.S. jobs with the largest and smallest gender pay gaps according to Glassdoor salary data. To do this, we re-estimate the above regression model while including interaction terms for *male x occupation*. The coefficients on those interaction terms tell us whether being male and working in a certain occupation results in a statistically larger or smaller pay gap.

Figure 6 shows the 15 occupations with the highest adjusted gender pay gaps, after statistically controlling for differences between jobs and workers. The occupation with the highest gender pay gap was pilot, with a gap of 26.6 percent. This amounts to women earning on average 73 cents per dollar earned by men, after controlling for all differences between job titles, companies and workers. That gap is over five times larger than the U.S. average adjusted gender pay gap of 4.9 percent.

Chef was the job with the second highest gender pay gap, with a gap of 24.6 percent. They are followed by C-suite executives (24.0 percent), a finding that is broadly consistent with academic research showing a persistent gender pay gap among executive-level positions in the U.S. Other occupations with larger-than average gender pay gaps include deputy manager (17.1 percent), branch manager (12.8 percent), retail representative (12.2 percent), driver (11.7 percent) and computer programmer (11.6 percent).

Figure 6. 15 Jobs with the Largest Adjusted Gender Pay Gaps in the U.S. Study

### Top 15 U.S. Occupations by Adjusted Gender Gap in Base Pay (Percentage Higher Average Male Pay)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

Note: Only job titles with at least 200 salary reports in our sample are reported. Includes controls for age, education, experience, state, year, job title and employer name. Ambiguous or duplicative job titles are not reported.



Table 4. Changes Among the 15 Jobs with the Largest Pay Gaps (2019 vs. 2016 Study)

| JOB TITLE                                | ADJUSTED PAY GAP<br>2016 – 2018 | ADJUSTED PAY GAP<br>2006 – 2015 | CHANGE |
|--|---------------------------------|---------------------------------|--------|
| <a href="#">Pilot</a>                    | 26.6%                           | 16.0%                           | 10.6%  |
| <a href="#">Deputy Manager</a>           | 17.1%                           | 9.9%                            | 7.2%   |
| <a href="#">Facility Administrator</a>   | 10.7%                           | 4.8%                            | 5.9%   |
| <a href="#">Bioinformatics Scientist</a> | 10.7%                           | 7.5%                            | 3.2%   |
| <a href="#">Business Operations</a>      | 11.0%                           | 7.9%                            | 3.1%   |
| <a href="#">Branch Manager</a>           | 12.8%                           | 11.8%                           | 1.0%   |
| <a href="#">Technical Support</a>        | 10.9%                           | 10.4%                           | 0.5%   |
| <a href="#">Professor</a>                | 11.0%                           | 11.2%                           | -0.2%  |
| <a href="#">Data Specialist</a>          | 11.5%                           | 13.6%                           | -2.1%  |
| <a href="#">Retail Representative</a>    | 12.2%                           | 14.6%                           | -2.4%  |
| <a href="#">Driver</a>                   | 11.7%                           | 14.9%                           | -3.2%  |
| <a href="#">Chef</a>                     | 24.6%                           | 28.1%                           | -3.5%  |
| <a href="#">Medical Technician</a>       | 10.7%                           | 14.4%                           | -3.7%  |
| <a href="#">C Suite</a>                  | 24.0%                           | 27.7%                           | -3.7%  |
| <a href="#">Computer Programmer</a>      | 11.6%                           | 28.3%                           | -16.7% |

Source: Glassdoor Economic Research (Glassdoor.com/research)

Table 4 shows how our latest estimates of the gender pay gap by occupation above compare to our previous study. It shows our latest estimate of the pay gap using data from 2016–2018, along with the change from our last estimate based on 2006–2015 data.

Among the 15 occupations with the largest pay gaps today, the one with the largest increase since our last study was pilot, up 10.6 percentage points in 2016–2018 compared to our last analysis from 2006–2015. Other occupations with widening pay gaps in recent years include deputy manager (up 7.2 percentage points), facility administrator (up 5.9 percentage points) and bioinformatics scientist (up 3.2 percentage points).

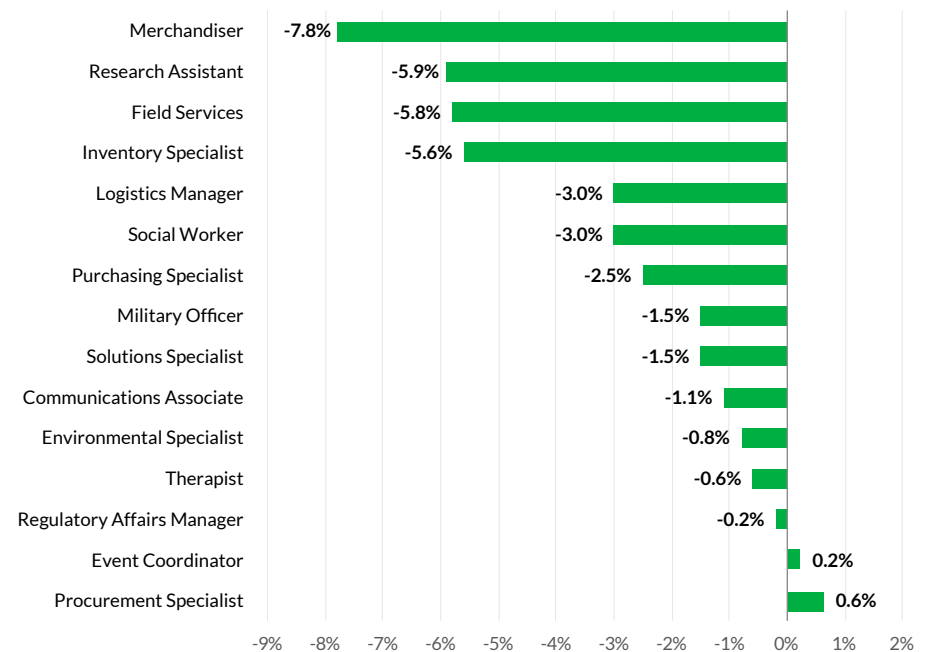
By contrast, the gender pay gap for computer programmer dropped 16.7 percentage points from our last analysis, by far the largest decrease out of these 15 occupations.



Figure 7 shows the U.S. occupations with the smallest adjusted gender pay gaps. For many of these occupations, there is a significant female pay advantage, or a “reverse” gender pay gap. The occupation with the smallest gap is merchandiser (minus 7.8 percent). This amounts to women earning on average 108 cents per dollar earned by men working the same job title, same company, and with similar background and experience. They are followed by research assistant (minus 5.9 percent)—an occupation comprised of many graduate students workers at various U.S. universities—field services (minus 5.8 percent), inventory specialist (minus 5.6 percent) and social worker (minus 3.0 percent).

Figure 7. 15 Jobs with the Smallest Adjusted Gender Pay Gaps in the U.S.

### Bottom 15 U.S. Occupations by Adjusted Gender Gap in Base Pay (Percentage Higher Average Male Pay)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

Note: Only job titles with at least 200 salary reports in our sample are reported. Includes controls for age, education, experience, state, year, job title and employer name. Ambiguous or duplicative job titles are not reported.

Table 5 shows how our latest estimates of the gender pay gap by occupation above compare to our previous study for the occupations with the smallest gender wage gaps. It shows our latest estimate of the pay gap using data from 2016–2018, along with the change from our previous estimates based on 2006–2015 data.

Among these fifteen jobs with the smallest gender pay gaps, the occupation with the biggest improvement since our previous study was logistics manager, down 14.5 percentage points in 2016–2018 compared to our last analysis from 2006–2015. Other occupations with shrinking pay gaps in recent years include regulatory affairs manager (down 10.7 percentage points), inventory specialist (down 10.4 percentage points) and solutions specialist—a common sales support role—(down 8.0 percentage points).

Table 5. Changes Among the 15 Jobs with the Smallest Pay Gaps (2019 vs. 2016 Study)

| JOB TITLE                                  | ADJUSTED PAY GAP<br>2016 – 2018 | ADJUSTED PAY GAP<br>2006 – 2015 | CHANGE |
|--|---------------------------------|---------------------------------|--------|
| <a href="#">Logistics Manager</a>          | -3.0%                           | 11.5%                           | -14.5% |
| <a href="#">Regulatory Affairs Manager</a> | -0.2%                           | 10.5%                           | -10.7% |
| <a href="#">Inventory Specialist</a>       | -5.6%                           | 4.8%                            | -10.4% |
| <a href="#">Solutions Specialist</a>       | -1.5%                           | 6.5%                            | -8.0%  |
| <a href="#">Military Officer</a>           | -1.5%                           | 6.5%                            | -8.0%  |
| <a href="#">Field Services</a>             | -5.8%                           | 1.4%                            | -7.2%  |
| <a href="#">Environmental Specialist</a>   | -0.8%                           | 4.5%                            | -5.3%  |
| <a href="#">Merchandiser</a>               | -7.8%                           | -7.6%                           | -0.2%  |
| <a href="#">Therapist</a>                  | -0.6%                           | -0.5%                           | -0.1%  |
| <a href="#">Event Coordinator</a>          | 0.2%                            | 0.2%                            | 0.0%   |
| <a href="#">Research Assistant</a>         | -5.9%                           | -6.6%                           | 0.7%   |
| <a href="#">Communications Associate</a>   | -1.1%                           | -2.2%                           | 1.1%   |
| <a href="#">Procurement Specialist</a>     | 0.6%                            | -0.8%                           | 1.4%   |
| <a href="#">Purchasing Specialist</a>      | -2.5%                           | -5.5%                           | 3.0%   |
| <a href="#">Social Worker</a>              | -3.0%                           | -7.8%                           | 4.8%   |

Source: Glassdoor Economic Research (Glassdoor.com/research)

### How the Pay Gap Changes with Age

A well-known fact is that gender pay differences tend to grow with age. Older workers typically experience significantly larger gender pay gaps than younger workers—both in the U.S. and around the world. We find a similar pattern in Glassdoor salary data from 2016–2018, consistent with the findings from our previous study.

Figure 8 shows the gender pay gap by age groups, after statistically controlling for differences between workers, jobs and employers. The gender pay gap is smallest among young and early-career workers but grows steadily with age.

Workers aged 18 to 24 years experience a relatively small 1.4 percent adjusted gender pay gap, well below the U.S. average of 4.9 percent. Similarly, workers aged 25 to 34 years exhibit a 2.8 percent pay gap. By contrast, workers aged 45 to 54 years face a 10.3 percent gender pay gap, while those aged 55 to 64 years face a 12.3 percent pay gap—more than twice the U.S. average.

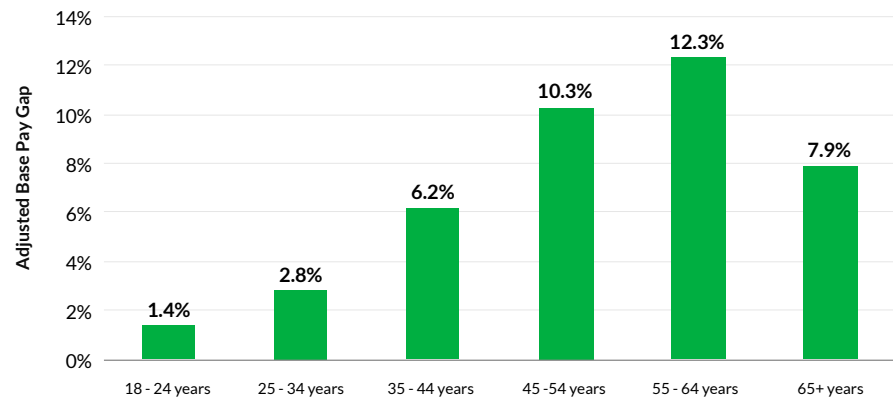
Why does the pay gap rise with age? For one, the gender pay gap is likely smaller among young workers because women beginning their careers today face fewer barriers than older workers faced in previous generations. Second, older women

may face age discrimination in the job market, amplifying the gender pay gap for older workers. At least some research points to this latter interpretation.<sup>19</sup>

Finally, our results may be due to factors we don't observe in our data, such as whether older women have spent more time out of the labor force due to childbearing responsibilities, and who may face earnings penalties not faced by men who have not left the labor force during their careers.

Figure 8. The U.S. Gender Pay Gap Grows with Age of Employee

#### Adjusted U.S. Gender Gap in Base Pay by Age Group (Percentage Higher Average Male Pay)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

Note: Includes controls for age, education, experience, state, year, job title and employer name.

# United Kingdom

The Office of National Statistics estimates that the UK gender pay gap is roughly 17.9 percent in 2018.<sup>20</sup> In our sample of Glassdoor salary data, we find a comparable gender pay gap reported online by UK employees.

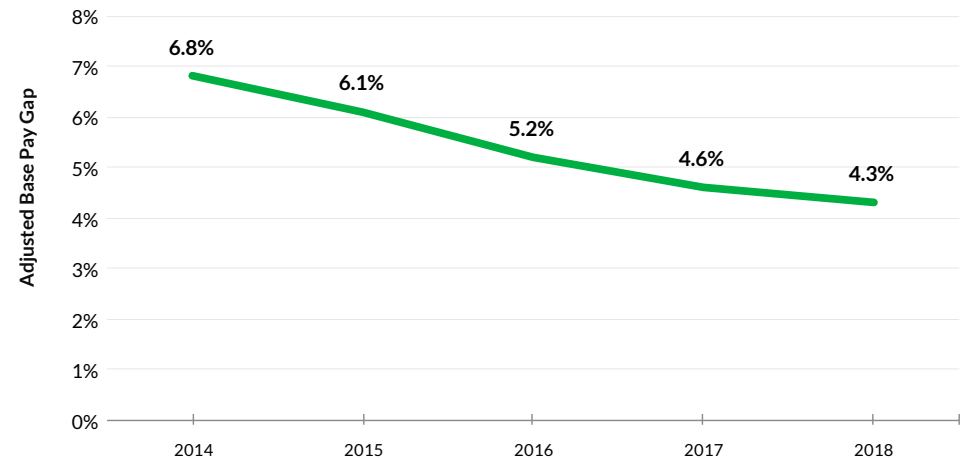
Similar to the U.S., we find that the UK's pay gap is slowly improving over time. Figure 9 shows the adjusted gap between male and female pay each year since 2014 in the UK. The adjusted pay gap has been steadily falling from 6.8 percent in 2014 to 4.3 percent in 2018.

For our analysis, we use a sample of 40,764 Glassdoor salaries reported by UK employees. As in our U.S. sample, we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor UK salary sample, the average base pay was £39,740 per year for men and £32,659 for women. That amounts to a gender pay gap of £7,081 in base pay between men and women. In terms of median pay the UK gender gap is 17.9 percent. That amounts to UK women earning roughly 82p for every pound earned by men on average. The unadjusted gender pay gap for total compensation in the UK is slightly higher compared to base pay: 20.7 percent for median total pay.<sup>21</sup>

Figure 9. The UK Gender Pay Gap on Glassdoor is Gradually Improving

## Adjusted UK Gender Gap in Base Pay is Falling Over Time



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

Table 6 provides a summary of the UK sample used in our regression analysis. The sample contains 40,764 salaries reported from calendar years 2016 through 2018.<sup>22</sup> The data contains information on approximately 8,609 unique UK employers and 7,495 job titles. The average base pay in the sample was £37,122, ranging from £7,800 to a high of £816,000.<sup>23</sup> Average total compensation was significantly higher at £43,934. The sample is 63 percent male and 37 percent female, and the average age (as of 2018) was 32 years with 4.6 years of relevant work experience. 68 percent of the sample had bachelor's degrees, 20 percent had master's degrees, and 10 percent had only a high school diploma. The average employer size was 40,900 employees, ranging from small one person firms to employers with 2,300,000 employees.

*Table 6. Summary Statistics for the United Kingdom Salary Sample*

| VARIABLE                       | OBSERVATIONS | MEAN    | STANDARD DEVIATION | MIN    | MAX        |
|--------------------------------|--------------|---------|--------------------|--------|------------|
| <b>Year</b>                    | 40,764       | n.a.    | n.a.               | 2016   | 2018       |
| <b>Base Salary</b>             | 40,764       | £37,122 | £24,939            | £7,800 | £816,000   |
| <b>Total Compensation</b>      | 40,764       | £43,934 | £58,740            | £7,800 | £5,060,000 |
| <b>Gender (Male = 1)</b>       | 40,764       | 0.63    | 0.48               | 0      | 1          |
| <b>Birth Year</b>              | 40,764       | 1986    | 8                  | 1926   | 2001       |
| <b>Years of Experience</b>     | 40,764       | 4.6     | 5.4                | 0      | 60         |
| <b>Associate's Degree</b>      | 40,764       | 0.01    | 0.12               | 0      | 1          |
| <b>Bachelor's Degree</b>       | 40,764       | 0.68    | 0.47               | 0      | 1          |
| <b>High School Diploma</b>     | 40,764       | 0.10    | 0.30               | 0      | 1          |
| <b>J.D.</b>                    | 40,764       | 0.00    | 0.02               | 0      | 1          |
| <b>Master's Degree</b>         | 40,764       | 0.20    | 0.40               | 0      | 1          |
| <b>M.B.A.</b>                  | 40,764       | 0.00    | 0.07               | 0      | 1          |
| <b>M.D.</b>                    | 40,764       | 0.00    | 0.01               | 0      | 1          |
| <b>Ph.D.</b>                   | 40,764       | 0.01    | 0.08               | 0      | 1          |
| <b>Firm Size (# Employees)</b> | 40,764       | 40,900  | 116,805            | 1      | 2,300,000  |

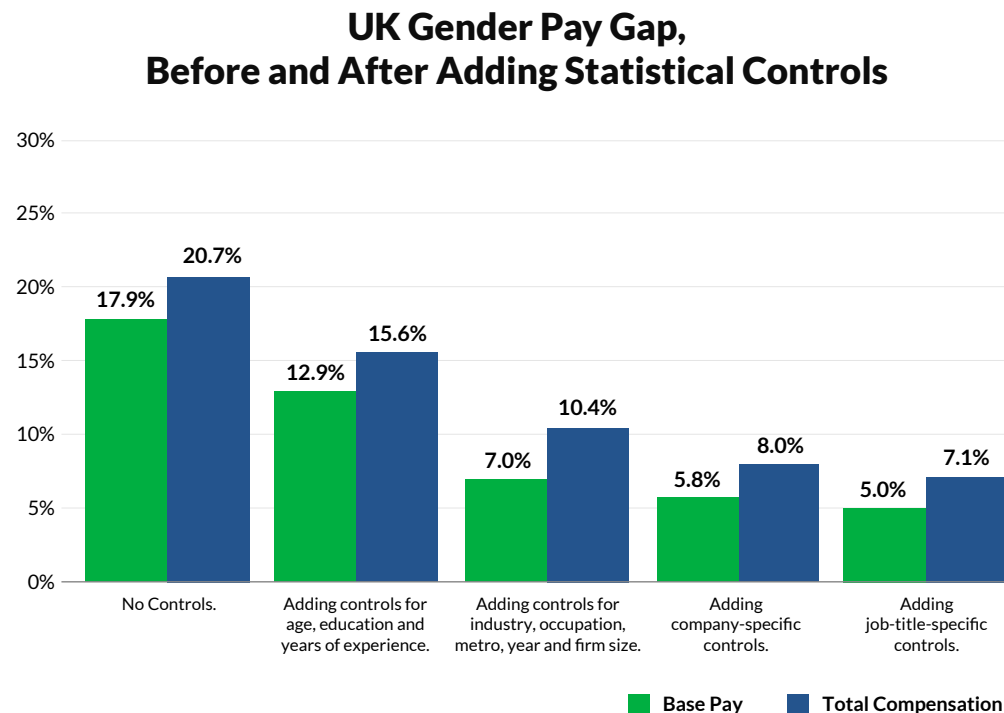
Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

## UK Gender Pay Gap

Figure 10 presents our estimates of the unadjusted and adjusted gender pay gap in UK salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 17.9 percent unadjusted gap in base pay between males and females, and a 20.7 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 12.9 percent for base pay, and 15.6 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 5.0 percent for base pay, and 7.1 percent for total compensation.

Figure 10. Overall UK Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

## What Explains the Gap?

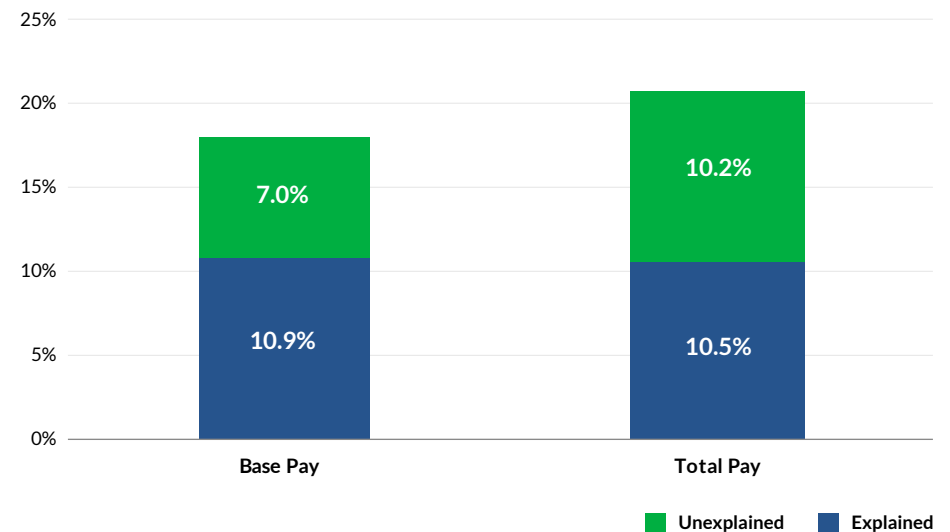
Figure 11 shows the decomposition of the UK gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace bias and discrimination.

Of the overall 17.9 percent gender gap in base pay, 10.9 percent is explained by differences in worker characteristics, while the remaining 7.0 percent is unexplained. This finding means that about 61 percent ( $10.9/17.9 = 61$  percent) of the overall UK gender pay gap in base pay is explained by worker characteristics. The remaining 39 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the 61 percent of the gender gap that is explained, 37 percent is due to sorting of men and women into different industries and occupations, while just 23 percent is due to differences in education and experience between males and females.<sup>24</sup> Put differently, individual worker characteristics explain only about one quarter of the UK gender pay gap. By contrast, the fact that men and women systematically work in different roles explains almost 40 percent.

Figure 11. Decomposing the UK Gender Pay Gap into Explained and Unexplained Portions

### UK Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

# Canada

The Office of National Statistics estimates that the Canadian gender pay gap is roughly 13 percent in 2017.<sup>25</sup> In our sample of Glassdoor salary data, we find a slightly higher gender pay gap reported online by Canadian employees.

For our analysis, we use a sample of 21,008 Glassdoor salaries reported by Canadian employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor Canada salary sample, the average base pay was \$64,966 per year for men and \$54,740 for women. That amounts to a gender pay gap of \$10,277 in base pay between men and women. In terms of median pay the Canadian gender gap is 16.1 percent. That amounts to Canadian women earning roughly 84 cents for every dollar earned by men on average. The unadjusted gender pay gap for

total compensation in Canada is slightly higher compared to base pay: 18.2 percent for median total pay.<sup>26</sup>

Table 7 provides a summary of the Canada sample used in our regression analysis. The sample contains 21,008 salaries reported from calendar years 2016 through 2018.<sup>27</sup> The data contain information on approximately 5,496 unique Canadian employers and 4,755 job titles. The average base pay in the sample was \$61,085, ranging from \$21,000 to a high of \$672,000.<sup>28</sup> Average total compensation was significantly higher at \$69,030. The sample is 62 percent male and 38 percent female, and the average age (as of 2018) was 33 years with 4.7 years of relevant work experience. 70 percent of the sample had bachelor's degrees, 19 percent had master's degrees, and 8 percent had only a high school diploma. The average employer size was 49,200 employees, ranging from small one person firms to employers with 2,300,000 employees.





Table 7. Summary Statistics for the Canada Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN     | STANDARD DEVIATION | MIN      | MAX         |
|------------------------------------|--------------|----------|--------------------|----------|-------------|
| <b>Year</b>                        | 21,008       | n.a.     | n.a.               | 2016     | 2018        |
| <b>Base Salary</b>                 | 21,008       | \$61,085 | \$31,108           | \$21,000 | \$672,000   |
| <b>Total Compensation</b>          | 21,008       | \$69,030 | \$49,717           | \$21,000 | \$1,614,000 |
| <b>Gender (Male = 1)</b>           | 21,008       | 0.62     | 0.49               | 0        | 1           |
| <b>Birth Year</b>                  | 21,008       | 1985     | 9                  | 1927     | 2001        |
| <b>Years of Experience</b>         | 21,008       | 4.7      | 5.4                | 0        | 46          |
| <b>Associate's Degree</b>          | 21,008       | 0.02     | 0.13               | 0        | 1           |
| <b>Bachelor's Degree</b>           | 21,008       | 0.70     | 0.46               | 0        | 1           |
| <b>High School Diploma</b>         | 21,008       | 0.08     | 0.27               | 0        | 1           |
| <b>J.D.</b>                        | 21,008       | 0.00     | 0.01               | 0        | 1           |
| <b>Master's Degree</b>             | 21,008       | 0.19     | 0.39               | 0        | 1           |
| <b>M.B.A.</b>                      | 21,008       | 0.01     | 0.09               | 0        | 1           |
| <b>M.D.</b>                        | 21,008       | 0.00     | 0.01               | 0        | 1           |
| <b>Ph.D.</b>                       | 21,008       | 0.00     | 0.06               | 0        | 1           |
| <b>Firm Size<br/>(# Employees)</b> | 21,008       | 49,200   | 191,400            | 1        | 2,300,000   |

Source: Glassdoor Economic Research (Glassdoor.com/research)

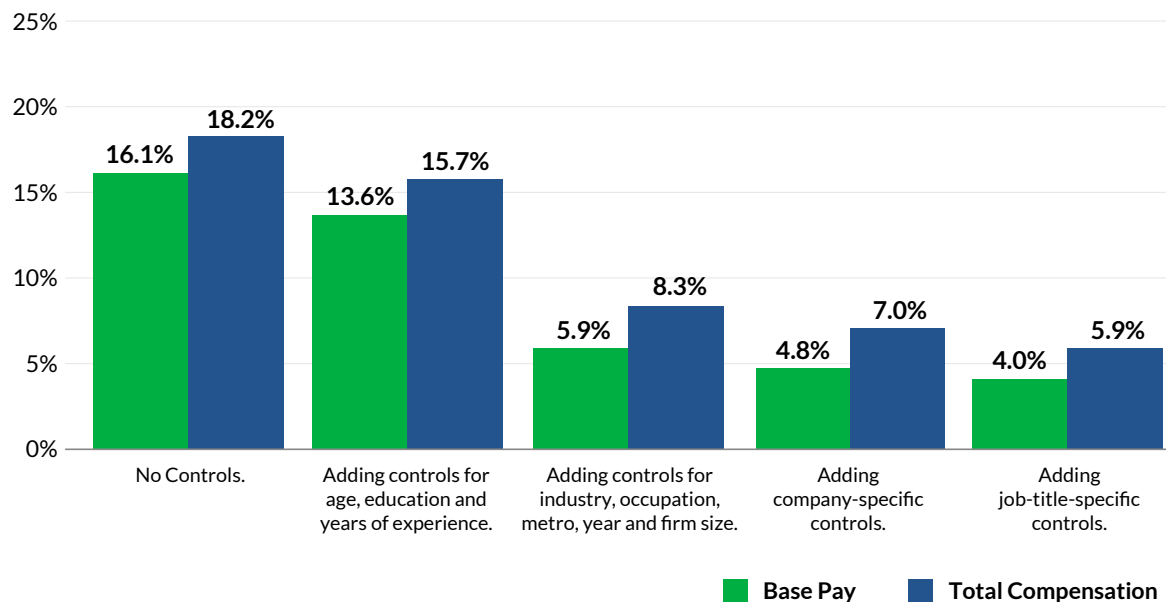
## Canada Gender Pay Gap

Figure 12 presents our estimates of the unadjusted and adjusted gender pay gap in Canada salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 16.1 percent unadjusted gap in base pay between men and women, and a 18.2 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 13.6 percent for base pay, and 15.7 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 4.0 percent for base pay, and 5.9 percent for total compensation.

Figure 12. Overall Canada Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers

### Canada Gender Pay Gap, Before and After Adding Statistical Controls



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

### What Explains the Gap?

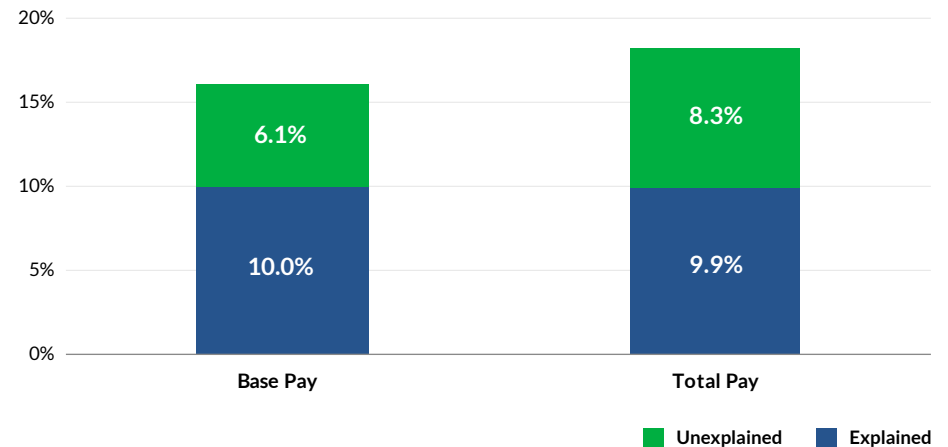
Figure 13 shows the decomposition of the Canada gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace discrimination.

Of the overall 16.1 percent gender gap in base pay, 10.0 percent (or 62 percent of the total gap) is explained by differences in worker characteristics, while the remaining 6.1 percent (or 38 percent of the total gap) is unexplained. This finding means that about 62 percent ( $10.0/16.1 = 62$  percent) of the overall Canada gender pay gap in base pay is explained by worker characteristics. The remaining 38 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 62 percent of the gender gap that is explained, 52 percent is due to sorting of men and women into different industries and occupations, while just 11 percent is due to differences in education and experience between males and females.<sup>29</sup> Put differently, individual worker characteristics explain only 11 percent of the Canada gender pay gap. By contrast, the fact that men and women systematically work in different roles explains 52 percent—by far the largest factor explaining gender pay differences in our sample.

Figure 13. Decomposing the Canada Gender Pay Gap into Explained and Unexplained Portions

### Canada Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

# Australia

The Australian Workplace Gender Equality Agency estimates that the Australian gender pay gap is roughly 16.2 percent in 2018.<sup>30</sup> In our sample of Glassdoor salary data, we find a somewhat smaller gender pay gap reported online by Australian employees.

For our analysis, we use a sample of 6,795 Glassdoor salaries reported by Australian employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor Australia salary sample, the average base pay was A\$97,719 per year for men and A\$84,005 for women. That amounts to a gender pay gap of A\$13,714 in base pay between men and women. In terms of median pay the Australian gender gap is 15.1 percent. That amounts to Australian women earning roughly 85 cents for every dollar earned by men on average. The unadjusted gender

pay gap for total compensation is slightly higher than for base pay: 17.4 percent for median total pay.<sup>31</sup>

Table 8 provides a summary of the Australia sample used in our regression analysis. It contains 6,795 salaries reported from calendar years 2016 through 2018.<sup>32</sup> The data contain information on approximately 1,982 unique Australia employers and 1,901 job titles. The average base pay in the sample was A\$93,085, ranging from A\$35,500 to a high of A\$1,428,000.<sup>33</sup> Average total compensation was somewhat higher at A\$104,559. The sample is 66 percent male and 34 percent female, and the average age (as of 2018) was 33 years with 5.5 years of relevant work experience. 68 percent of the sample had bachelor's degrees, 22 percent had master's degrees, and 8 percent had only a high school diploma. The average employer size was 43,442 employees, ranging from small two-person firms to employers with 2,300,000 employees.



Table 8. Summary Statistics for the Australia Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN      | STANDARD DEVIATION | MIN      | MAX         |
|------------------------------------|--------------|-----------|--------------------|----------|-------------|
| <b>Year</b>                        | 6,795        | n.a.      | n.a.               | 2016     | 2018        |
| <b>Base Salary</b>                 | 6,795        | \$93,085  | \$48,455           | \$35,500 | \$1,428,000 |
| <b>Total Compensation</b>          | 6,795        | \$104,559 | \$84,969           | \$36,000 | \$4,390,000 |
| <b>Gender (Male = 1)</b>           | 6,795        | 0.66      | 0.47               | 0        | 1           |
| <b>Birth Year</b>                  | 6,795        | 1985      | 8                  | 1932     | 2000        |
| <b>Years of Experience</b>         | 6,795        | 5.5       | 5.5                | 0        | 60          |
| <b>Associate's Degree</b>          | 6,795        | 0.01      | 0.09               | 0        | 1           |
| <b>Bachelor's Degree</b>           | 6,795        | 0.68      | 0.47               | 0        | 1           |
| <b>High School Diploma</b>         | 6,795        | 0.08      | 0.27               | 0        | 1           |
| <b>J.D.</b>                        | 6,795        | 0.00      | 0.02               | 0        | 1           |
| <b>Master's Degree</b>             | 6,795        | 0.22      | 0.41               | 0        | 1           |
| <b>M.B.A.</b>                      | 6,795        | 0.01      | 0.09               | 0        | 1           |
| <b>M.D.</b>                        | 6,795        | 0.00      | 0.00               | 0        | 1           |
| <b>Ph.D.</b>                       | 6,795        | 0.00      | 0.05               | 0        | 1           |
| <b>Firm Size<br/>(# Employees)</b> | 6,795        | 43,442    | 87,190             | 2        | 2,300,000   |

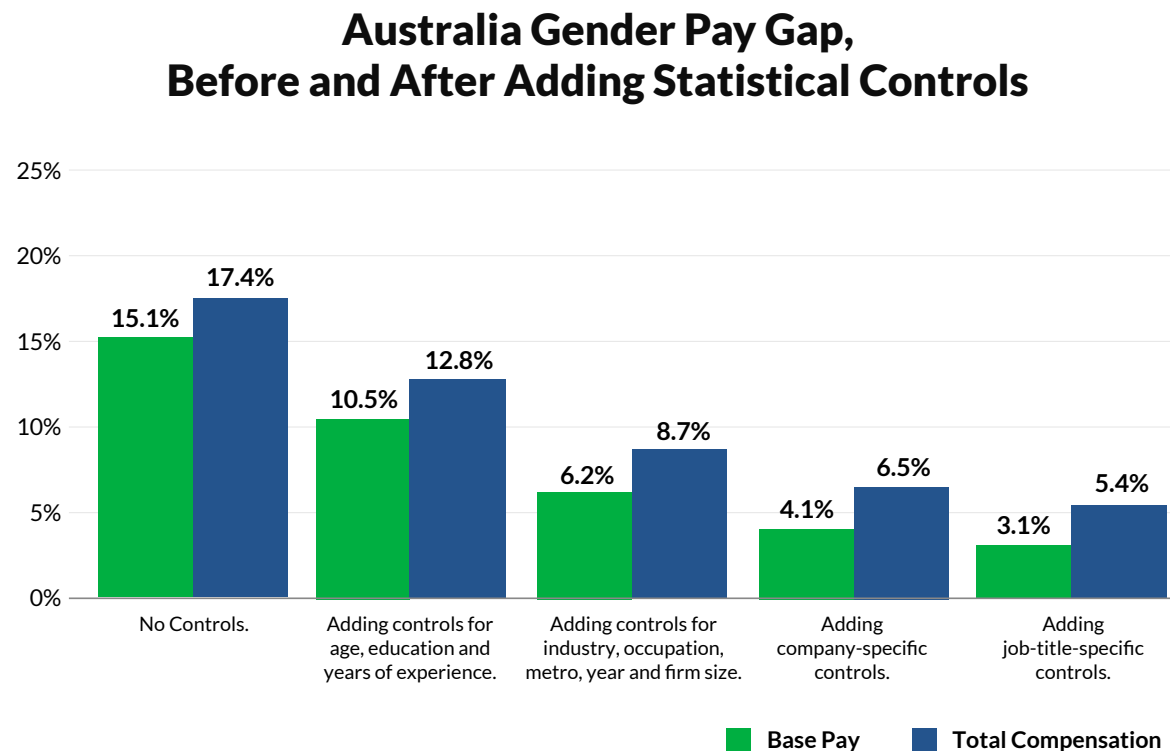
Source: Glassdoor Economic Research (Glassdoor.com/research)

## Australia Gender Pay Gap

Figure 14 presents our estimates of the unadjusted and adjusted gender pay gap in Australia salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 15.1 percent unadjusted gap in base pay between males and females, and a 17.4 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 10.5 percent for base pay, and 12.8 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 3.1 percent for base pay, and 5.4 percent for total compensation.

Figure 14. Overall Australia Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))



### What Explains the Gap?

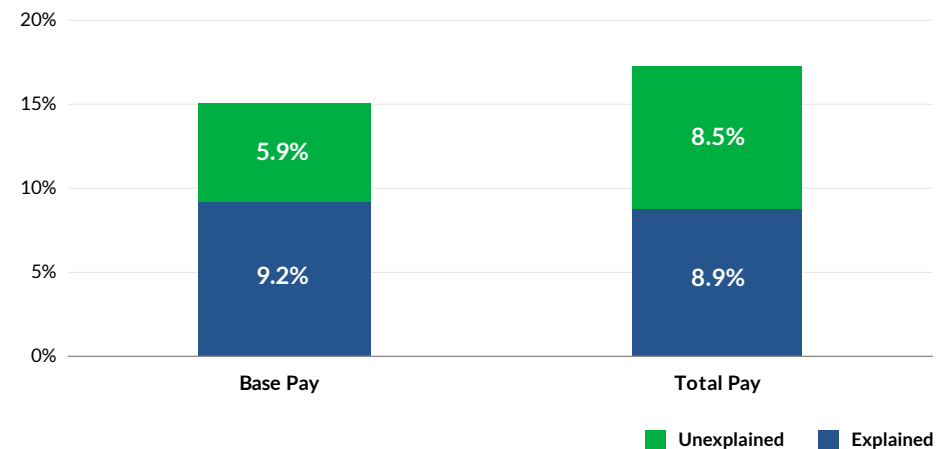
Figure 15 shows the decomposition of the Australia gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace discrimination.

Of the overall 15.1 percent gender gap in base pay, 9.2 percent (or 61 percent of the total gap) is explained by differences in worker characteristics, while the remaining 5.9 percent (or 39 percent of the total gap) is unexplained. This finding means that about 61 percent ( $9.2/15.1 = 61$  percent) of the overall Australia gender pay gap in base pay is explained by worker characteristics. The remaining 39 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 61 percent of the gender gap that is explained, 37 percent is due to sorting of men and women into different industries and occupations, while just 24 percent is due to differences in education and experience between men and women. Put differently, individual worker characteristics explain only about one-fourth of the Australia gender pay gap. By contrast, the fact that men and women systematically work in different roles explains 37 percent—by far the largest factor explaining gender pay differences in our sample.

Figure 15. Decomposing the Australia Gender Pay Gap into Explained and Unexplained Portions

### Australia Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

# Singapore

The Ministry of Manpower estimates that the Singaporean gender pay gap is 11.8 percent in 2018.<sup>34</sup> In our sample of Glassdoor salary data, we find a larger gender pay gap reported online by Singaporean employees.

For our analysis, we use a sample of 5,096 Glassdoor salaries reported by Singaporean employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor Singapore salary sample, the average base pay was \$71,631 per year for men and \$61,653 for women. That amounts to a gender pay gap of \$9,978 in base pay between men and women. In terms of median pay the Singapore gender gap is 12.8 percent. That amounts to Singaporean women earning roughly 87 cents for every

dollar earned by men on average. The unadjusted gender pay gap for total compensation in Singapore is slightly higher than for base pay: 13.3 percent for median total pay.<sup>35</sup>

Table 9 provides a summary of the Singapore sample used in our regression analysis. The sample contains 5,096 salaries reported from calendar years 2016 through 2018.<sup>36</sup> The data contain information on approximately 1,477 unique Singaporean employers and 1,656 job titles. The average base pay in the sample was \$68,391, ranging from \$2,000 to a high of \$864,000.<sup>37</sup> Average total compensation was higher at \$82,925. The sample is 68 percent male and 32 percent female, and the average age (as of 2018) was 32 years with 4.8 years of relevant work experience. 67 percent of the sample had bachelor's degrees, 27 percent had master's degrees, and 4 percent had only a high school diploma. The average employer size was 51,127 employees, ranging from small two-person firms to employers with 2,300,000 employees.



Table 9. Summary Statistics for the Singapore Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN     | STANDARD DEVIATION | MIN     | MAX         |
|------------------------------------|--------------|----------|--------------------|---------|-------------|
| <b>Year</b>                        | 5,096        | n.a.     | n.a.               | 2016    | 2018        |
| <b>Base Salary</b>                 | 5,096        | \$68,391 | \$49,189           | \$2,000 | \$864,000   |
| <b>Total Compensation</b>          | 5,096        | \$82,925 | \$114,826          | \$2,000 | \$5,840,000 |
| <b>Gender (Male = 1)</b>           | 5,096        | 0.68     | 0.47               | 0       | 1           |
| <b>Birth Year</b>                  | 5,096        | 1986     | 6                  | 1928    | 1999        |
| <b>Years of Experience</b>         | 5,096        | 4.8      | 4.9                | 0       | 60          |
| <b>Associate's Degree</b>          | 5,096        | 0.00     | 0.06               | 0       | 1           |
| <b>Bachelor's Degree</b>           | 5,096        | 0.67     | 0.47               | 0       | 1           |
| <b>High School Diploma</b>         | 5,096        | 0.04     | 0.20               | 0       | 1           |
| <b>J.D.</b>                        | 5,096        | 0.00     | 0.00               | 0       | 1           |
| <b>Master's Degree</b>             | 5,096        | 0.27     | 0.44               | 0       | 1           |
| <b>M.B.A.</b>                      | 5,096        | 0.01     | 0.09               | 0       | 1           |
| <b>M.D.</b>                        | 5,096        | 0.00     | 0.02               | 0       | 1           |
| <b>Ph.D.</b>                       | 5,096        | 0.00     | 0.07               | 0       | 1           |
| <b>Firm Size<br/>(# Employees)</b> | 5,096        | 51,127   | 91,470             | 2       | 2,300,000   |

Source: Glassdoor Economic Research (Glassdoor.com/research)

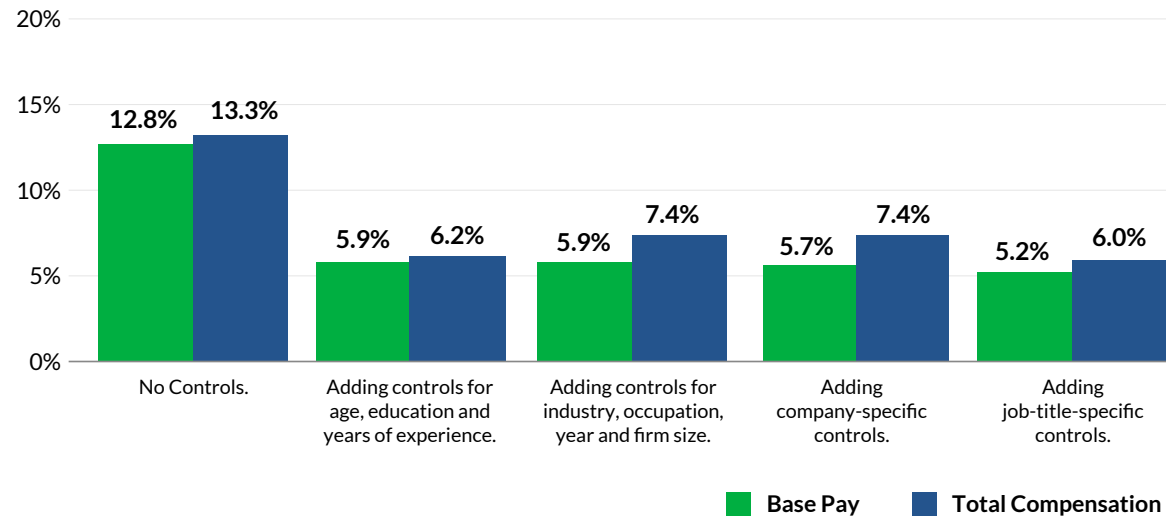
## Singapore Gender Pay Gap

Figure 16 presents our estimates of the unadjusted and adjusted gender pay gap in Singapore salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 12.8 percent unadjusted gap in base pay between males and females, and a 13.3 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 5.9 percent for base pay, and 6.2 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 5.2 percent for base pay, and 6.0 percent for total compensation.

Figure 16. Overall Singapore Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers

### Singapore Gender Pay Gap, Before and After Adding Statistical Controls



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

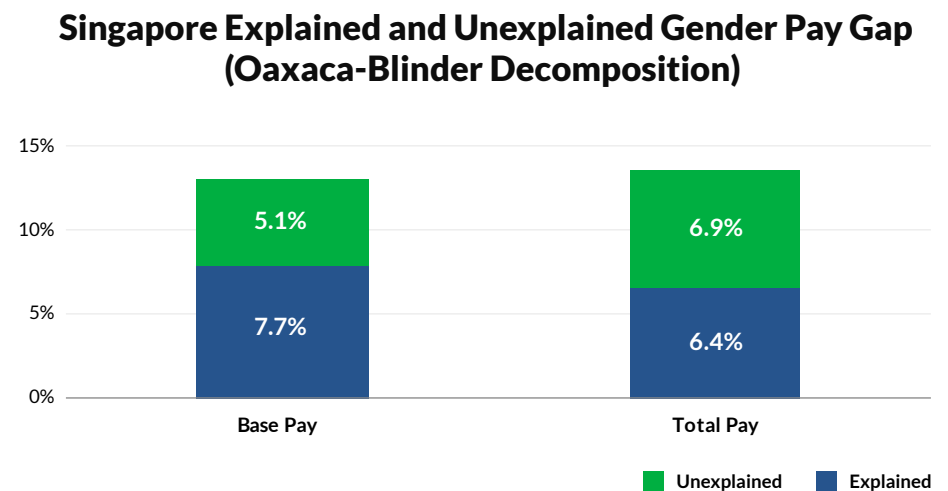
### What Explains the Gap?

Figure 17 shows the decomposition of the Singapore gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace discrimination.

Of the overall 12.8 percent gender gap in base pay, 7.7 percent (or 60 percent of the total gap) is explained by differences in worker characteristics, while the remaining 5.1 percent (or 40 percent of the total gap) is unexplained. This finding means that about 60 percent ( $7.7/12.8 = 60$  percent) of the overall Singapore gender pay gap in base pay is explained by worker characteristics. The remaining 40 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 60 percent of the gender gap that is explained, 16 percent is due to sorting of men and women into different industries and occupations, while 45 percent is due to differences in education and experience between males and females. Put differently, individual worker characteristics explain 45 percent of the Singapore gender pay gap. By contrast, the fact that men and women systematically work in different roles explains only 16 percent.

Figure 17. Decomposing the Singapore Gender Pay Gap into Explained and Unexplained Portions



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

# Germany

Germany's Federal Statistical Office (Destatis) estimates that the German gender pay gap is roughly 21.0 percent in 2017.<sup>38</sup> In our sample of Glassdoor salary data, we find a slightly higher gender pay gap reported online by German employees.

For our analysis, we use a sample of 4,794 Glassdoor salaries reported by German employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor Germany salary sample, the average base pay was €60,303 per year for men and €48,072 for women. That amounts to a gender pay gap of €12,231 in base pay between men and women. In terms of median pay the German gender gap is 22.3 percent. That amounts to German women earning roughly 78 cents for every euro

earned by men on average. The unadjusted gender pay gap for total compensation in Germany is slightly higher than for base pay: 25.1 percent for median total pay.<sup>39</sup>

Table 10 provides a summary of the Germany sample used in our regression analysis. The sample contains 4,794 salaries reported from calendar years 2016 through 2018.<sup>40</sup> The data contains information on approximately 1,680 unique German employers and 1,420 job titles. The average base pay in the sample was €57,157, ranging from €17,040 to a high of €534,000.<sup>41</sup> Average total compensation was higher at €63,351. The sample is 74 percent male and 26 percent female, and the average age (as of 2018) was 33 years with 5.3 years of relevant work experience. 61 percent of the sample had bachelor's degrees, 28 percent had master's degrees, and 6 percent had only a high school diploma. The average employer size was 50,600 employees, ranging from small one-person firms to employers with 1,300,000 employees.





Table 10. Summary Statistics for the Germany Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN    | STANDARD DEVIATION | MIN     | MAX       |
|------------------------------------|--------------|---------|--------------------|---------|-----------|
| <b>Year</b>                        | 4,794        | n.a.    | n.a.               | 2016    | 2018      |
| <b>Base Salary</b>                 | 4,794        | €57,157 | €26,149            | €17,040 | €534,000  |
| <b>Total Compensation</b>          | 4,794        | €63,351 | €36,937            | €17,400 | €534,000  |
| <b>Gender (Male = 1)</b>           | 4,794        | 0.74    | 0.44               | 0       | 1         |
| <b>Birth Year</b>                  | 4,794        | 1985    | 7                  | 1926    | 2001      |
| <b>Years of Experience</b>         | 4,794        | 5.3     | 5.3                | 0       | 38        |
| <b>Associate's Degree</b>          | 4,794        | 0.01    | 0.10               | 0       | 1         |
| <b>Bachelor's Degree</b>           | 4,794        | 0.61    | 0.49               | 0       | 1         |
| <b>High School Diploma</b>         | 4,794        | 0.06    | 0.23               | 0       | 1         |
| <b>J.D.</b>                        | 4,794        | 0.00    | 0.05               | 0       | 1         |
| <b>Master's Degree</b>             | 4,794        | 0.28    | 0.45               | 0       | 1         |
| <b>M.B.A.</b>                      | 4,794        | 0.03    | 0.17               | 0       | 1         |
| <b>M.D.</b>                        | 4,794        | 0.00    | 0.03               | 0       | 1         |
| <b>Ph.D.</b>                       | 4,794        | 0.01    | 0.12               | 0       | 1         |
| <b>Firm Size<br/>(# Employees)</b> | 4,794        | 50,600  | 102,604            | 1       | 1,300,000 |

Source: Glassdoor Economic Research (Glassdoor.com/research)

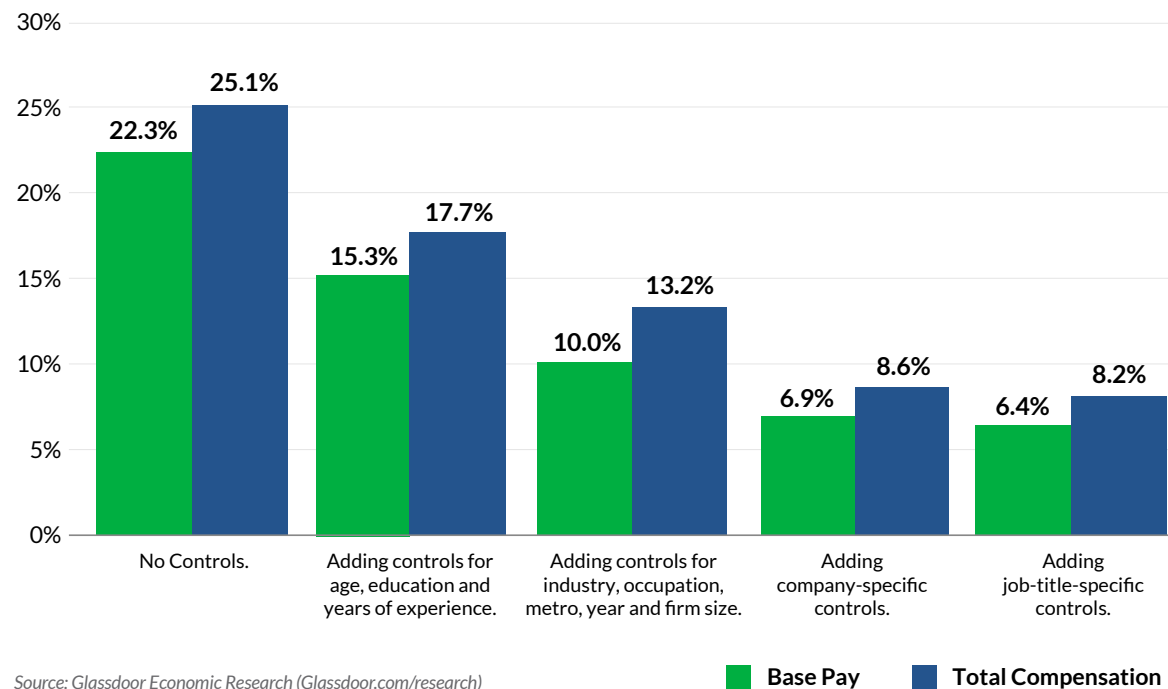
## Germany Gender Pay Gap

Figure 18 presents our estimates of the unadjusted and adjusted gender pay gap in German salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 22.3 percent unadjusted gap in base pay between men and women, and a 25.1 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 15.3 percent for base pay, and 17.7 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 6.4 percent for base pay, and 8.2 percent for total compensation.

Figure 18. Overall Germany Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers

### Germany Gender Pay Gap, Before and After Adding Statistical Controls



### What Explains the Gap?

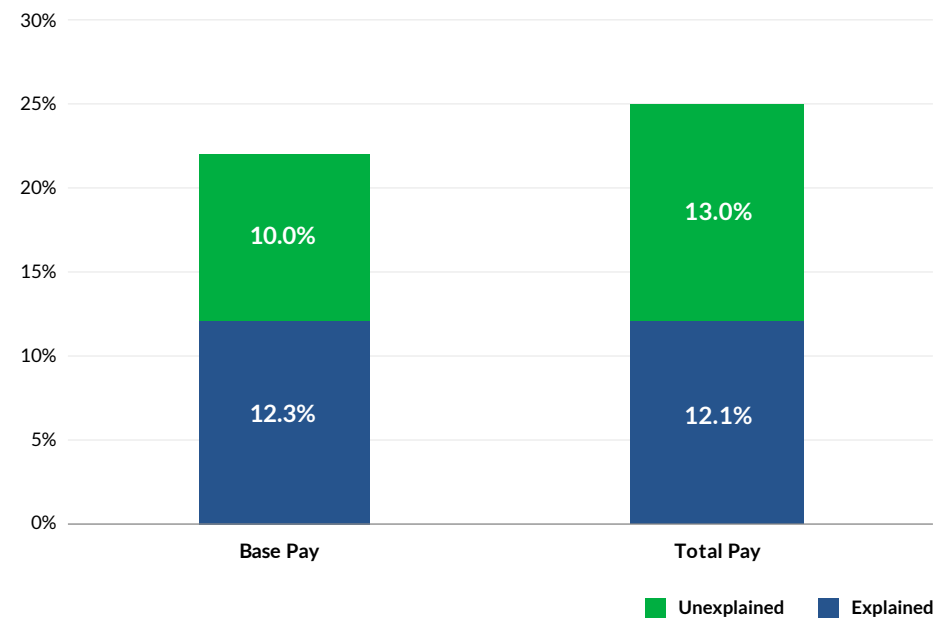
Figure 19 shows the decomposition of the German gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace bias and discrimination.

Of the overall 22.3 percent gender gap in base pay, 12.3 percent (or 55 percent of the total gap) is explained by differences in worker characteristics, while the remaining 10.0 percent (or 45 percent of the total gap) is unexplained. This finding means that about 55 percent ( $12.3/22.3 = 55$  percent) of the overall Germany gender pay gap in base pay is explained by worker characteristics. The remaining 45 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 55 percent of the gender gap that is explained, 29 percent is due to sorting of men and women into different industries and occupations, while 26 percent is due to differences in education and experience between males and females. Put differently, individual worker characteristics explain only about 26 percent of the Germany gender pay gap, comparable to our findings in the UK and Australia. By contrast, the fact that men and women systematically work in different roles explains 29 percent—the single largest factor explaining gender pay differences in our sample.

Figure 19. Decomposing the Germany Gender Pay Gap into Explained and Unexplained Portions

### Germany Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))

# France

The European Commission's statistical office (Eurostat) estimates that the French gender pay gap was roughly 15.4 percent in 2017.<sup>42</sup> In our sample of Glassdoor salary data, we find a lower gender pay gap reported online by French employees.

For our analysis, we use a sample of 3,471 Glassdoor salaries reported by French employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor France salary sample, the average base pay was €51,254 per year for men and €45,279 for women. That amounts to a gender pay gap of €5,974 in base pay between men and women. In terms of median base pay the French gender gap is 11.6 percent. That amounts to French women earning roughly 88 cents for every euro

earned by men on average. The unadjusted gender pay gap for median total compensation in France is 12.3 percent.<sup>43</sup>

Table 11 provides a summary of the France sample used in our regression analysis. The sample contains 3,471 salaries reported from calendar years 2016 through 2018.<sup>44</sup> The data contain information on approximately 1,323 unique France employers and 1,012 job titles. The average base pay in the sample was €49,515, ranging from €19,340 to a high of €790,000.<sup>45</sup> Average total compensation was slightly higher at €55,272. The sample is 71 percent male and 29 percent female, and the average age (as of 2018) was 32 years with 4.9 years of relevant work experience. 51 percent of the sample had Bachelor's degrees, 42 percent had Master's degrees, and 4 percent had only a high school diploma. The average employer size was 49,500 employees, ranging from small one-person firms to employers with 627,000 employees.



Table 11. Summary Statistics for the France Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN    | STANDARD DEVIATION | MIN     | MAX      |
|------------------------------------|--------------|---------|--------------------|---------|----------|
| <b>Year</b>                        | 3,471        | n.a.    | n.a.               | 2016    | 2018     |
| <b>Base Salary</b>                 | 3,471        | €49,515 | €36,568            | €19,340 | €790,000 |
| <b>Total Compensation</b>          | 3,471        | €55,272 | €46,941            | €19,340 | €950,018 |
| <b>Gender (Male = 1)</b>           | 3,471        | 0.71    | 0.45               | 0       | 1        |
| <b>Birth Year</b>                  | 3,471        | 1986    | 7                  | 1933    | 2000     |
| <b>Years of Experience</b>         | 3,471        | 4.9     | 5.1                | 0       | 40       |
| <b>Associate's Degree</b>          | 3,471        | 0.01    | 0.08               | 0       | 1        |
| <b>Bachelor's Degree</b>           | 3,471        | 0.51    | 0.50               | 0       | 1        |
| <b>High School Diploma</b>         | 3,471        | 0.04    | 0.20               | 0       | 1        |
| <b>J.D.</b>                        | 3,471        | 0.00    | 0.02               | 0       | 1        |
| <b>Master's Degree</b>             | 3,471        | 0.42    | 0.49               | 0       | 1        |
| <b>M.B.A.</b>                      | 3,471        | 0.01    | 0.12               | 0       | 1        |
| <b>M.D.</b>                        | 3,471        | 0.01    | 0.08               | 0       | 1        |
| <b>Ph.D.</b>                       | 3,471        | 0.00    | 0.05               | 0       | 1        |
| <b>Firm Size<br/>(# Employees)</b> | 3,471        | 49,500  | 91,800             | 1       | 627,000  |

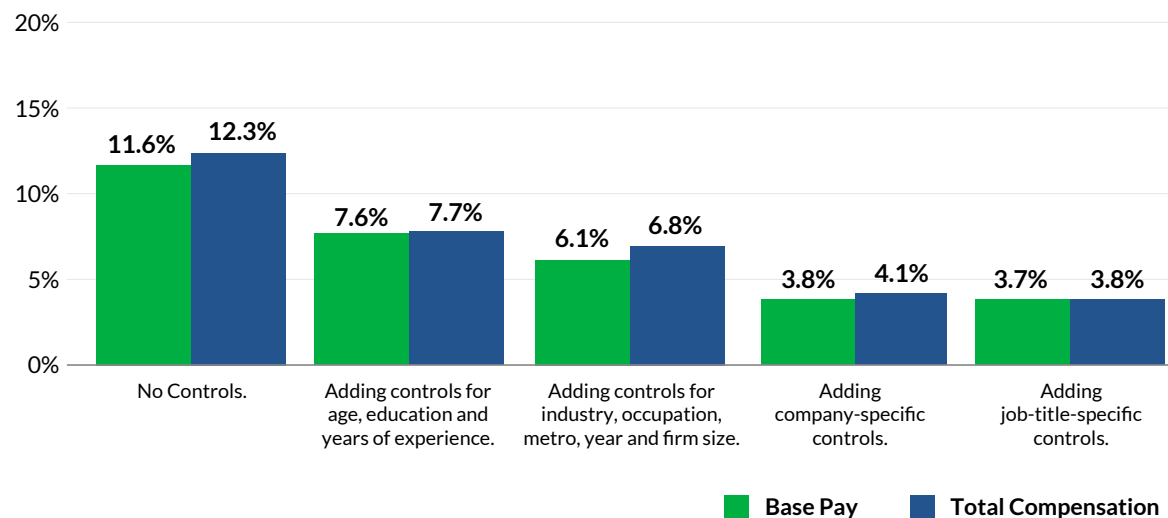
Source: Glassdoor Economic Research (Glassdoor.com/research)

## France Gender Pay Gap

Figure 20 presents our estimates of the unadjusted and adjusted gender pay gap in France salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 11.6 percent unadjusted gap in base pay between men and women, and a 12.3 percent gender pay gap in total compensation. Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 7.6 percent for base pay, and 7.7 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 3.7 percent for base pay, and 3.8 percent for total compensation.

Figure 20. Overall France Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers

### France Gender Pay Gap, Before and After Adding Statistical Controls



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))



### What Explains the Gap?

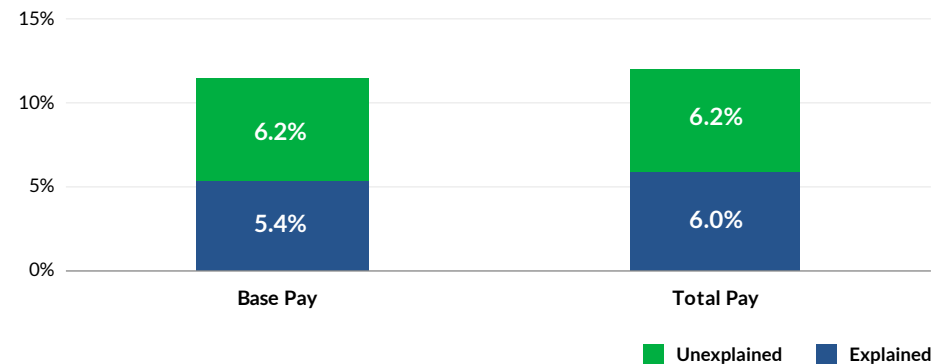
Figure 21 shows the decomposition of the France gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace bias and discrimination.

Of the overall 11.6 percent gender gap in base pay, 5.4 percent (or 46 percent of the total gap) is explained by differences in worker characteristics, while the remaining 6.2 percent (or 54 percent of the total gap) is unexplained. This finding means that about 46 percent ( $5.4/11.6 = 46$  percent) of the overall France gender pay gap in base pay is explained by worker characteristics. The remaining 53 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 46 percent of the gender gap that is explained, 16 percent is due to sorting of men and women into different industries and occupations, while 30 percent is due to differences in education and experience between men and women. Put differently, individual worker characteristics explain about 30 percent of the France gender pay gap, which is significantly larger compared to our findings in the UK and Germany. By contrast, the fact that men and women systematically work in different roles explains only 16 percent.

Figure 21. Decomposing the France Gender Pay Gap into Explained and Unexplained Portions

### France Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

# The Netherlands

The European Commission's statistical office (Eurostat) estimates that the gender pay gap in the Netherlands was roughly 15.2 percent in 2017.<sup>46</sup> In our sample of Glassdoor salary data, we find a higher gender pay gap reported online by Dutch employees.

For our analysis, we use a sample of 2,514 Glassdoor salaries reported by Dutch employees. As in our U.S. sample we restrict our analysis to workers over age 16 working full time for whom we have basic demographic information such as age, education and years of experience.

In our Glassdoor Netherlands salary sample, the average base pay was €53,644 per year for men and €44,483 for women. That amounts to a gender pay gap of €9,161 in base pay between men and women. In terms of median base pay the Dutch gender pay gap is 18.9 percent. That amounts to Dutch women earning roughly 81 cents for every

euro earned by men on average. The unadjusted gender pay gap for median total compensation in the Netherlands is somewhat larger, at 22.9 percent.<sup>47</sup>

Table 12 provides a summary of the Netherlands sample used in our regression analysis. The sample contains 2,514 salaries reported from calendar years 2016 through 2018.<sup>48</sup> The data contains information on approximately 955 unique Dutch employers and 957 job titles. The average base pay in the sample was €51,315, ranging from €18,444 to a high of €372,000.<sup>49</sup> Average total compensation was slightly higher at €58,025. The sample is 75 percent male and 25 percent female, and the average age (as of 2018) was 34 years with 5.7 years of relevant work experience. 59 percent of the sample had Bachelor's degrees, 34 percent had Master's degrees, and 5 percent had only a high school diploma. The average employer size was 76,671 employees, ranging from small two-person firms to employers with 623,000 employees.

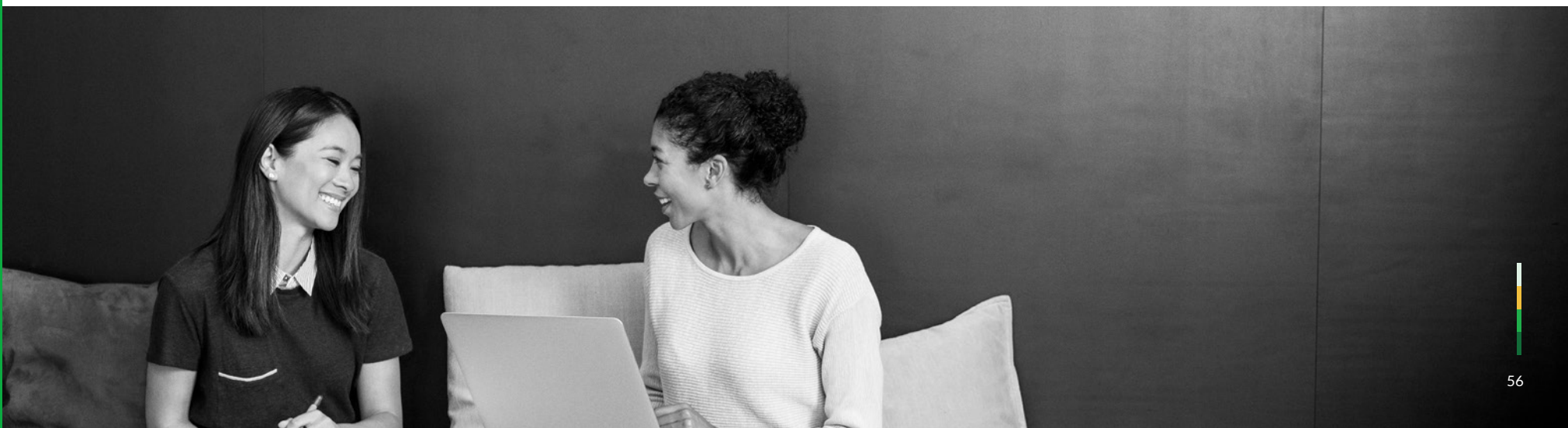


Table 12. Summary Statistics for the Netherlands Salary Sample

| VARIABLE                           | OBSERVATIONS | MEAN    | STANDARD DEVIATION | MIN     | MAX      |
|------------------------------------|--------------|---------|--------------------|---------|----------|
| <b>Year</b>                        | 2,514        | n.a.    | n.a.               | 2016    | 2018     |
| <b>Base Salary</b>                 | 2,514        | €51,315 | €26,545            | €18,444 | €372,000 |
| <b>Total Compensation</b>          | 2,514        | €58,025 | €37,994            | €18,444 | €565,200 |
| <b>Gender (Male = 1)</b>           | 2,514        | 0.75    | 0.44               | 0       | 1        |
| <b>Birth Year</b>                  | 2,514        | 1984    | 8                  | 1930    | 1999     |
| <b>Years of Experience</b>         | 2,514        | 5.7     | 5.9                | 0       | 40       |
| <b>Associate's Degree</b>          | 2,514        | 0.01    | 0.08               | 0       | 1        |
| <b>Bachelor's Degree</b>           | 2,514        | 0.59    | 0.49               | 0       | 1        |
| <b>High School Diploma</b>         | 2,514        | 0.05    | 0.21               | 0       | 1        |
| <b>J.D.</b>                        | 2,514        | 0.00    | 0.00               | 0       | 1        |
| <b>Master's Degree</b>             | 2,514        | 0.34    | 0.47               | 0       | 1        |
| <b>M.B.A.</b>                      | 2,514        | 0.01    | 0.02               | 0       | 1        |
| <b>M.D.</b>                        | 2,514        | 0.01    | 0.10               | 0       | 1        |
| <b>Ph.D.</b>                       | 2,514        | 0.01    | 0.10               | 0       | 1        |
| <b>Firm Size<br/>(# Employees)</b> | 2,514        | 38,015  | 76,671             | 2       | 623,000  |

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

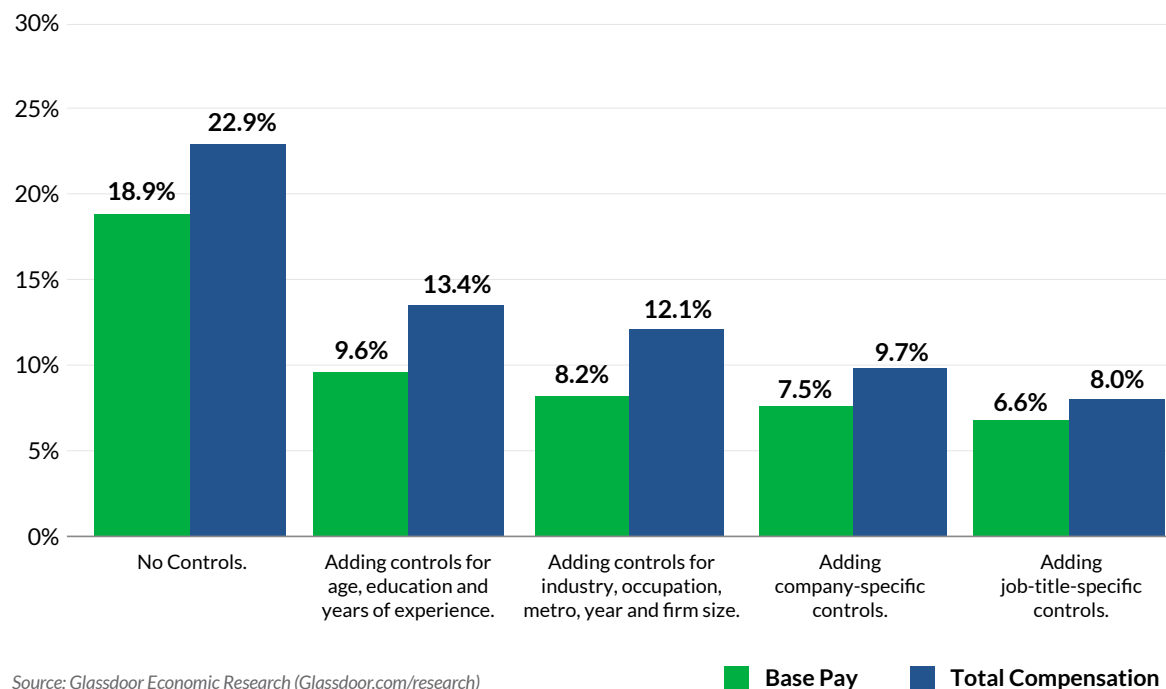
## Netherlands Gender Pay Gap

Figure 22 presents our estimates of the unadjusted and adjusted gender pay gap in Dutch salaries from Glassdoor. Column 1 shows the unadjusted pay gap with no statistical controls for differences between workers or jobs. Overall, there is a 18.9 percent unadjusted gap in base pay between men and women, and a 22.9 percent gender pay gap in total compensation.

Applying controls for age, education and years of experience, the gender pay gap in column 2 shrinks to 9.6 percent for base pay, and 13.4 percent for total compensation. Finally adding in a rich set of controls for company and job title, in column 5 we find an adjusted gender pay gap of 6.6 percent for base pay, and 8.0 percent for total compensation.

Figure 22. Overall Netherlands Results: Estimates of the Unadjusted and Adjusted Gender Pay Gap for Comparable Workers

### Netherlands Gender Pay Gap, Before and After Adding Statistical Controls



### What Explains the Gap?

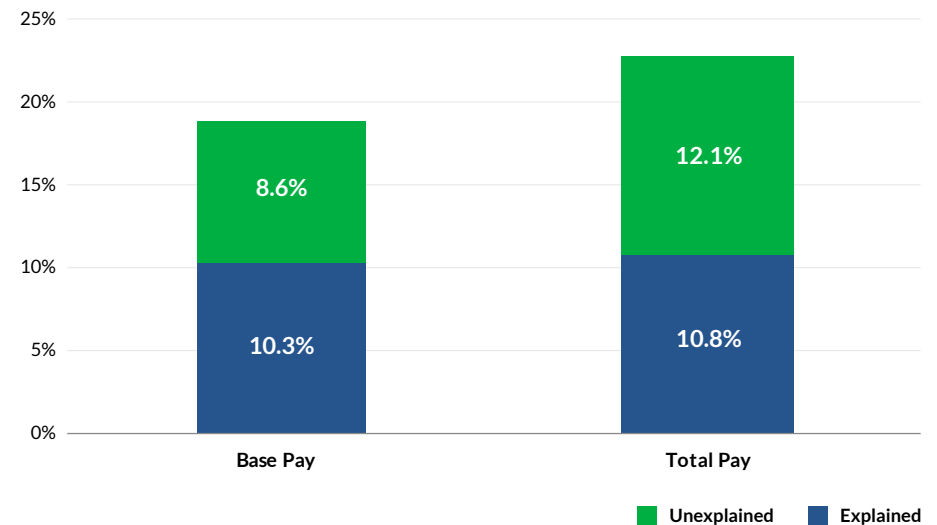
Figure 23 shows the decomposition of the Netherlands gender pay gap in Glassdoor salary data into the portion that is explained by differences in worker characteristics, and the portion that remains unexplained due either to unobserved factors or subtle forms of workplace bias and discrimination.

Of the overall 18.9 percent gender gap in base pay, 10.3 percent (or 54 percent of the total gap) is explained by differences in worker characteristics, while the remaining 8.6 percent (or 46 percent of the total gap) is unexplained. This finding means that about 54 percent ( $10.3/18.9 = 54$  percent) of the overall Netherlands gender pay gap in base pay is explained by worker characteristics. The remaining 46 percent is unexplained, and due to differences in the way the labor market rewards men and women with the same characteristics.

Of the roughly 54 percent of the gender gap that is explained, 12 percent is due to sorting of men and women into different industries and occupations, while 43 percent is due to differences in education and experience between men and women. Put differently, individual worker characteristics explain about 43 percent of the gender pay gap in the Netherlands, which is significantly larger compared to our findings in the UK and Germany. By contrast, the fact that men and women systematically work in different roles explains only 12 percent differences in our sample.

Figure 23. Decomposing the Netherlands Gender Pay Gap into Explained and Unexplained Portions

### Netherlands Explained and Unexplained Gender Pay Gap (Oaxaca-Blinder Decomposition)



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))



# Conclusion: Pay Gaps Around the World

Our latest analysis shows the gender pay gap remains real, both in the U.S. and around the world. Even after statistically comparing workers with similar job titles and employers, with comparable education, experience and locations, we still find a large and statistically significant difference between male and female pay in all eight countries we examined.

Before any statistical controls, men earn on average between 11.6 percent and 22.3 percent more than women across the eight countries we examined, ranging from the smallest unadjusted gender pay gap in France (11.6 percent) to the largest in Germany (22.3 percent).

Once we've statistically controlled for every difference we're able to observe between men and women, we still find an adjusted gender pay gap, ranging from 3.1 percent in Australia to 6.6 percent in the Netherlands. That amounts to women earning on average between 93 cents and 97 cents per dollar earned by men.

Although those gaps are smaller than appears from a simple comparison of average male and female pay, they represent a large and statistically significant gap between male and female earnings all over the world.





### How do these findings compare to 2016?

The adjusted gender pay gap has narrowed in four of the five countries we analyzed in our 2016 study. In the United States, the United Kingdom, France and Australia, the gender pay gap has improved since 2016. The one exception is Germany, whose adjusted gender pay gap increased slightly from 5.5 percent to 6.4 percent.

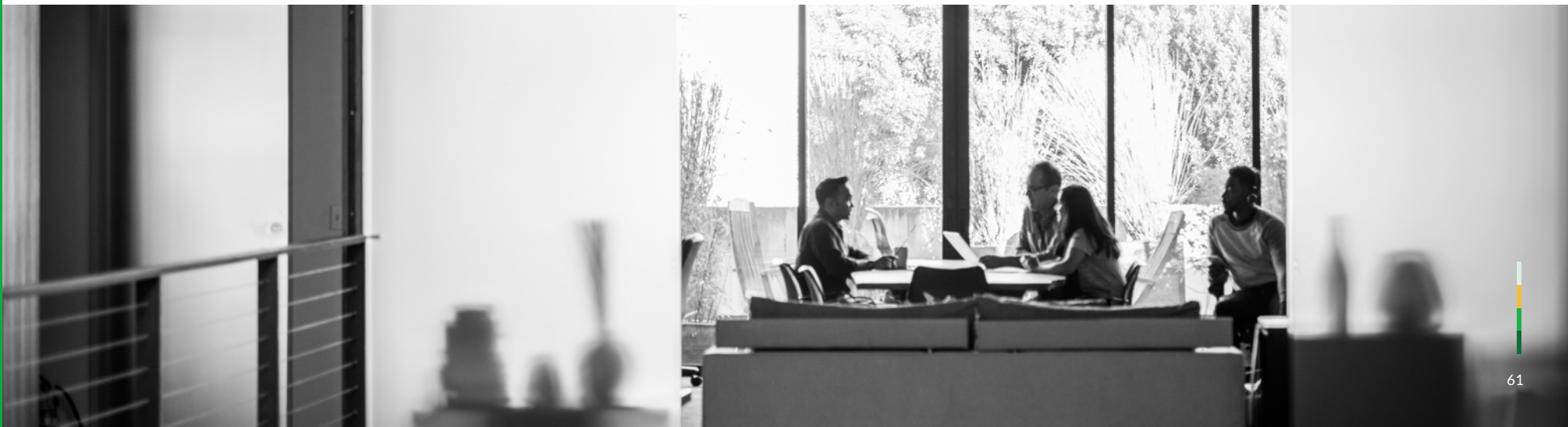
In the U.S., the industries with the largest gender pay gap have shifted somewhat since 2016. In our last study, the health care and insurance industries were tied for largest adjusted pay gap, both at 7.2 percent. Today, we find the media and retail sectors have the largest pay gap in Glassdoor data, both at 6.4 percent. Among industries with the smallest pay gaps, aerospace & defense—which had the smallest gap in our 2016 study—saw a slight increase in pay gap from 2.5 percent to 2.9 percent. Today, the biotech & pharmaceutical industry has the smallest gap (2.2 percent) in our sample.

The biggest factor contributing to the gender pay gap in most countries continues to be occupational and industry sorting. In our 2016 study, women and men working in differently paying jobs in

the economy explained 54 percent of the overall U.S. pay gap. Our updated analysis shows that percentage has increased to 56.5 percent. The percentage of the gap due to differences in education and experience has actually fallen, 14 percent to 8 percent. Societal pressures diverting women and men into different career paths remains the most important driver of the pay gap in most countries.

Despite evidence that occupational and industry sorting is a key driver of the pay gap, much popular discussion of pay equity focuses on choices individual women make in their own careers. The idea of a “confidence gap”—the notion that women could achieve more if they were more self-confident at work—is a commonly discussed barrier to pay equity today. Is there really a confidence gap? And does it show up in the salaries men and women aim for during the job search?

In the following section, we use unique data from Glassdoor to explore that issue, providing the first-ever analysis of gender pay gaps among real-world job applications on Glassdoor, and show whether that can explain much of today’s gender pay gap.



#### IV.

## Do Women Ask for Equal Pay for Equal Work?



## Introduction

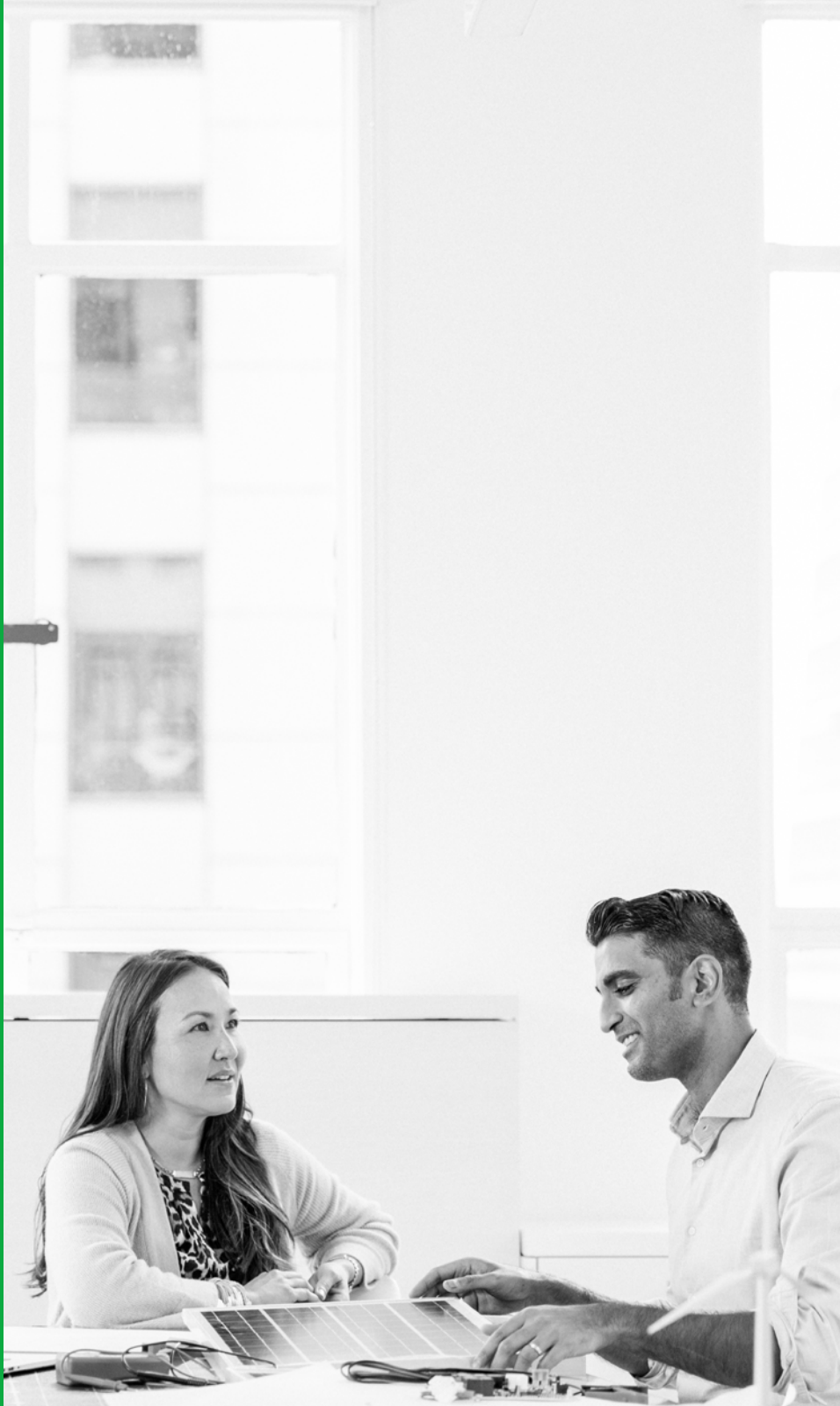
In recent years, there has been much discussion of the “confidence gap” between men and women at work. But it is not well understood whether that gap—if real—may contribute to the gender pay gap. In this section, we analyze a unique data set of real-world job applications from Glassdoor to examine whether a salary confidence gap exists. Do women apply to jobs with lower salaries than men, or not?

If a salary confidence gap were real, it would be a potentially powerful mechanism by which differences in confidence between women and men could translate into a pay gap. If women are less confident about themselves as job applicants, they may avoid applying to higher-paying jobs, even if they are equally qualified. That fact alone could lead to a large pay gap over time.

Glassdoor data offer a unique ability to answer this question. Glassdoor’s job search product exposes salary estimates to candidates before they decide to apply, allowing them to incorporate salary expectations into their job search decisions in a way that’s not possible in other job search settings. Additionally, because of the high volume of data Glassdoor collects, we are able to control for detailed user and job characteristics to estimate an adjusted salary confidence gap and answer the question: are women today seeking out equal pay for equal work?







## Data

As one of the world's largest jobs and recruiting sites, Glassdoor is the starting place for millions of job applications every month. For this analysis, we focus on job applications started on Glassdoor in the United States in 2018. We restrict our sample to records for which we have complete demographic information on applicants, including age, gender and education as well as information on the job listing, including job title and salary estimate. We also use user-submitted salary information to understand users' current base pay. All pay data in this analysis are for base pay only, and do not include other types of compensation.

Table 13 shows summary statistics for the data used in our analysis. It consists of 300,256 job applications started on Glassdoor. It is largely similar to the dataset of salaries used in the previous section to analyze the gender pay gap. This sample is made up of slightly more men compared to that dataset (56 percent compared to 54 percent) and has higher levels of educational attainment (23 percent hold graduate degrees compared to 18 percent). This over-representation may reflect more willingness among college-educated workers to apply to jobs online, compared to their willingness to share salary information.

In Table 13, "applied salary" refers to the salary estimate for the job that the user applied to. By contrast, "current salary" refers to the user's own self-reported salary.

Table 13: Summary Statistics for the Job Applications Used in Our Analysis

| VARIABLE                       | OBSERVATIONS | MEAN     | STANDARD DEVIATION | MIN      | MAX       |
|--------------------------------|--------------|----------|--------------------|----------|-----------|
| <b>Applied Salary</b>          | 300,256      | \$83,287 | \$37,904           | \$15,000 | \$445,000 |
| <b>Current Salary</b>          | 300,256      | \$62,763 | \$33,898           | \$10,300 | \$570,671 |
| <b>Gender (Male = 1)</b>       | 300,256      | 0.56     | 0.50               | 0        | 1         |
| <b>Age (2018)</b>              | 300,256      | 35.2     | 9.8                | 19       | 79        |
| <b>Years of Experience</b>     | 300,256      | 5.4      | 6.0                | 0        | 40        |
| <b>Associate's Degree</b>      | 300,256      | 0.03     | 0.16               | 0        | 1         |
| <b>Bachelor's Degree</b>       | 300,256      | 0.67     | 0.47               | 0        | 1         |
| <b>High School Diploma</b>     | 300,256      | 0.08     | 0.26               | 0        | 1         |
| <b>J.D.</b>                    | 300,256      | 0.00     | 0.04               | 0        | 1         |
| <b>Master's Degree</b>         | 300,256      | 0.20     | 0.40               | 0        | 1         |
| <b>M.B.A.</b>                  | 300,256      | 0.02     | 0.14               | 0        | 1         |
| <b>M.D.</b>                    | 300,256      | 0.00     | 0.02               | 0        | 1         |
| <b>Ph.D.</b>                   | 300,256      | 0.01     | 0.08               | 0        | 1         |
| <b>Firm Size (# Employees)</b> | 300,256      | 31,400   | 95,600             | 1        | 2,300,000 |

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

## Findings

In the previous section, we showed the overall U.S. pay gap is 21.4 percent, or that women earn roughly 79 cents for every dollar men earn. We find a similar gap in the salaries men and women apply to on Glassdoor. Men apply to jobs with salaries that are \$13,635 higher on average, a gap of 18.3 percent. At first glance, this seems to suggest that a “confidence gap” may be a key driver of the gender pay gap, in which men seek out higher pay in new jobs. However, self-confidence is not the only driver of salary expectations: Men and women also may have different levels of education and experience, or work in different jobs and industries with different pay scales. To conclude there really is a pay gap in job applications, it’s important to compare only similar men and women.

For example, the salary confidence gap between men and women varies widely based on the industry of the jobs men and women apply to. In Table 14, we show that, even though men overall apply to higher-paying jobs than women, the size of the gap varies from industry to industry. Men applying to jobs in the accounting & legal industry aim for jobs that pay \$15,221 (18.6 percent) more than women, whereas men apply to jobs in the restaurant, bars & food service industry that pay only \$3,565 (7.0 percent) more.



Table 14: Average Salaries Men and Women Apply to by Industry

| INDUSTRY   | MEN      | WOMEN    | UNADJUSTED GAP (\$) | UNADJUSTED GAP (% OF MALE PAY) |
|--|----------|----------|---------------------|--------------------------------|
| <a href="#">Accounting and Legal</a>                 | \$81,812 | \$66,592 | \$15,221            | 18.6%                          |
| <a href="#">Finance</a>                              | \$86,803 | \$70,767 | \$16,036            | 18.5%                          |
| <a href="#">Health Care</a>                          | \$71,802 | \$58,741 | \$13,061            | 18.2%                          |
| <a href="#">Travel and Tourism</a>                   | \$66,594 | \$55,724 | \$10,870            | 16.3%                          |
| <a href="#">Non Profit</a>                           | \$67,006 | \$56,216 | \$10,790            | 16.1%                          |
| <a href="#">Retail</a>                               | \$64,670 | \$54,284 | \$10,387            | 16.1%                          |
| <a href="#">Media</a>                                | \$82,676 | \$69,882 | \$12,793            | 15.5%                          |
| <a href="#">Real Estate</a>                          | \$70,133 | \$59,468 | \$10,665            | 15.2%                          |
| <a href="#">Business Services</a>                    | \$75,850 | \$64,589 | \$11,260            | 14.8%                          |
| <a href="#">Oil, Gas, Energy and Utilities</a>       | \$81,669 | \$69,977 | \$11,691            | 14.3%                          |
| <a href="#">Insurance</a>                            | \$76,015 | \$65,281 | \$10,735            | 14.1%                          |
| <a href="#">Education</a>                            | \$66,915 | \$57,865 | \$9,050             | 13.5%                          |
| <a href="#">Construction, Repair and Maintenance</a> | \$69,930 | \$60,619 | \$9,311             | 13.3%                          |
| <a href="#">Government</a>                           | \$69,277 | \$60,298 | \$8,980             | 13.0%                          |
| <a href="#">Telecommunications</a>                   | \$78,736 | \$68,972 | \$9,764             | 12.4%                          |
| <a href="#">Transportation and Logistics</a>         | \$65,474 | \$57,425 | \$8,049             | 12.3%                          |
| <a href="#">Information Technology</a>               | \$97,819 | \$86,248 | \$11,571            | 11.8%                          |
| <a href="#">Manufacturing</a>                        | \$77,579 | \$68,784 | \$8,795             | 11.3%                          |
| <a href="#">Biotech and Pharmaceuticals</a>          | \$91,650 | \$81,287 | \$10,362            | 11.3%                          |
| <a href="#">Aerospace and Defense</a>                | \$81,608 | \$72,956 | \$8,653             | 10.6%                          |
| <a href="#">Arts, Entertainment and Recreation</a>   | \$63,836 | \$57,772 | \$6,064             | 9.5%                           |
| <a href="#">Restaurants, Bars and Food Service</a>   | \$50,913 | \$47,348 | \$3,565             | 7.0%                           |

Source: Glassdoor Economic Research (Glassdoor.com/research)



Overall, men make up a disproportionate share of applications to higher-paying jobs and industries, which inflates the size of the unadjusted salary confidence gap. In order to truly understand the salary confidence gap, we need to compare women and men with similar backgrounds applying to similar kinds of jobs.

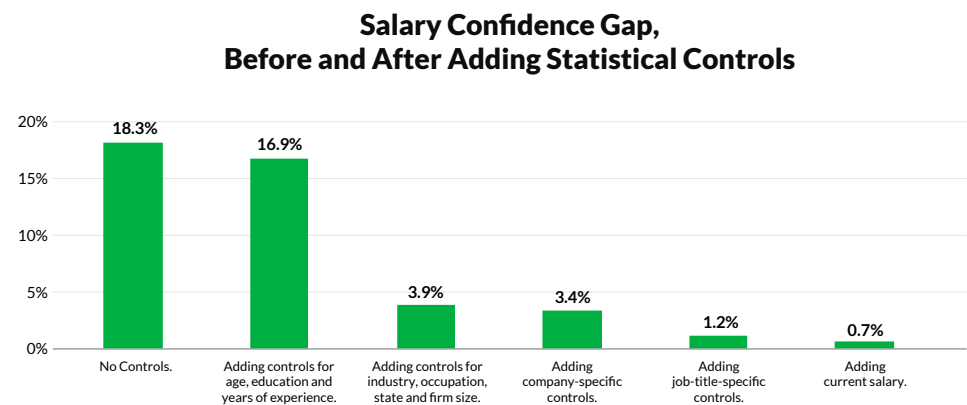
In Figure 24, we show estimates for the salary confidence gap before and after statistical controls have been applied. Column 1 is the unadjusted gap, indicating that men apply to jobs with 18.3 percent higher salaries on average than women. Each subsequent column adds additional controls in order to show the size of the gap when comparing similar workers applying to similar jobs.

Overall, the apparent salary confidence gap in job applicants shrinks as we get closer to making an apples-to-apples comparison between men and women. As shown in Column 3 of Figure 24, after adding controls for “human capital” characteristics of workers like experience and education, as well as job characteristics like occupation and industry, the salary confidence gap shrinks to 3.9 percent.

Most previous research on the salary confidence gap has only had access to the types of controls in Column 3 of Figure 24, not the more detailed controls available in Glassdoor data, which may overestimate the true salary confidence gap. In Columns 4 and 5, we apply our most granular statistical controls for individual companies and job titles, which further reduces the salary confidence gap to 1.2 percent.

In Column 6, we add one final control: users’ self-reported current salary on Glassdoor. There are many unobservable characteristics of workers that may affect pay, such as work effort and ability, and these characteristics are partly incorporated into workers’ current salaries. After adding current salary as a control, the salary confidence gap narrows further to 0.7 percent. This can be interpreted as an upper bound on the effect of the salary confidence gap on the gender pay gap. This implies that a confidence gap in salary expectations is, at most, a small contributor to the total U.S. unadjusted gender pay gap of 4.9 percent.

Figure 24: Little Evidence of a Salary Confidence Gap after Controls



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://glassdoor.com/research))

### Do Women Ask for Smaller Raises?

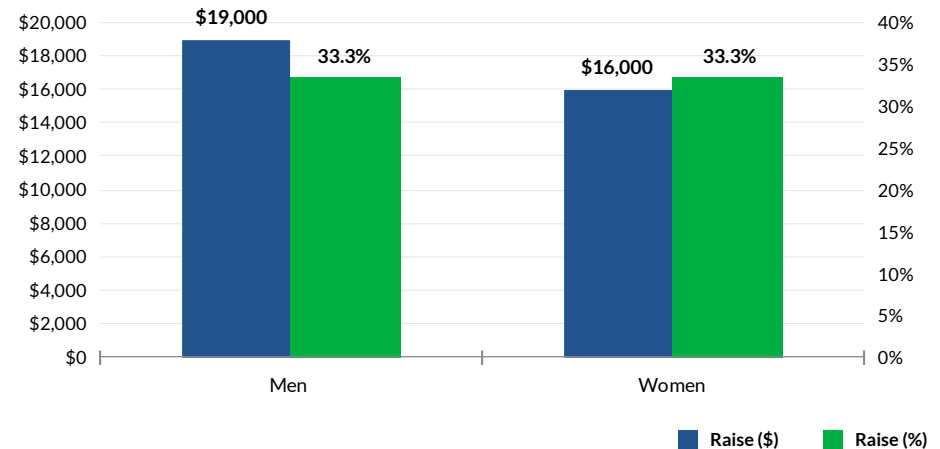
Comparing the salary workers aim for against their current salary helps us understand how women and men think about looking for pay raises. Much academic research has asked whether men are more likely to ask for raises than women,<sup>50</sup> but little evidence exists on whether women and men seek similarly sized raises when applying for new jobs.

Data from real-world job applications on Glassdoor show that women and men largely seek the same size percentage raises when they apply to new jobs. In Figure 25, we show that the median percentage raise men and women seek is equal—both at 33.3 percent.

Why is this important? Because similar percentage raises may imply that workers fixate on percentage raises instead of using their actual market value as their salary goal. This could propagate a gender pay gap from job to job as men and women move through their careers, turning a small pay gap early in careers into one that could last a lifetime—one reason policymakers are increasingly considering banning recruiters from asking applicants about their salary history.

Figure 25: Women and Men Seek Similar Percentage Raises for New Jobs on Glassdoor

### Women and Men Seek Similar Percentage Raises for New Jobs



Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))



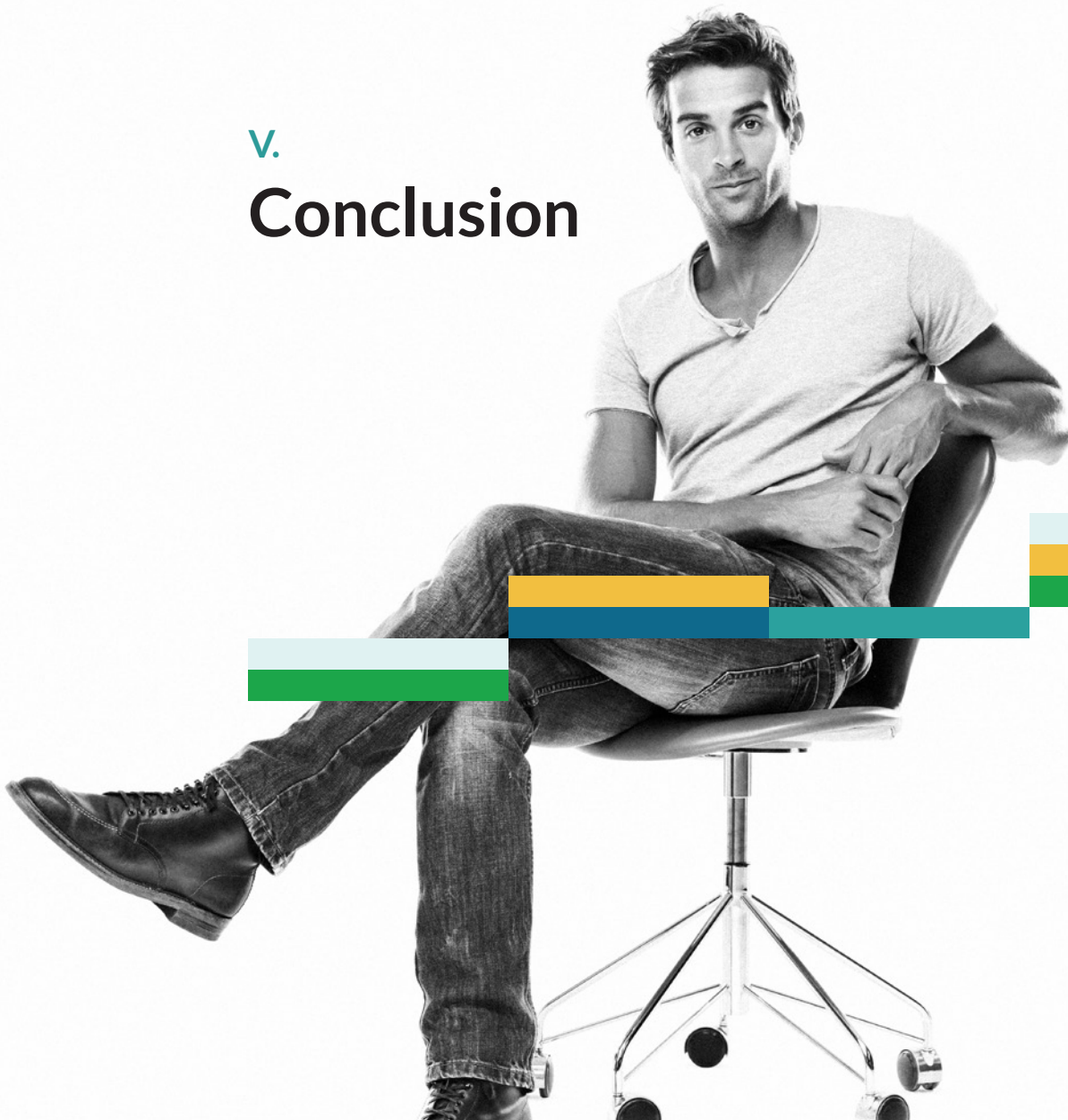
## Conclusion

Our analysis finds that there is a statistically significant but small 0.7 percent salary confidence gap. That is, once we compare similar men and women applying to jobs on Glassdoor, there is a less than one percent gap in pay for jobs that men versus women apply to. This effect is small, and is not likely a primary driver of the overall gender pay gap. Taken together, data from Glassdoor show that women do ask for equal pay for equal work when applying to new jobs online.

One limitation of our research is that the job search on Glassdoor may differ from the overall labor market in one important way: Glassdoor exposes salary information to job candidates before they apply to jobs. As a result, candidates in our sample may have different pay information than workers in the economy as a whole. In other words, other job search methods where pay is less transparent may suffer from a larger salary confidence gap than what we see on Glassdoor.<sup>51</sup> However, our findings based on data from Glassdoor suggest that whatever salary confidence gap exists between men and women isn't likely a main driver of today's gender pay gap.

v.

## Conclusion







Three years have passed since our original study of the gender pay gap in Glassdoor salaries. What has changed?

We find the gender pay gap in the United States has narrowed in recent years but is still significant. In 2018, men as a group earned 21.4 percent more than women in the U.S., down from 26.6 percent in 2011. When comparing women and men with similar experience and jobs, the adjusted pay gap in America has shrunk from 6.5 percent in 2011 to 4.6 percent in 2018. Similarly, in the United Kingdom we find the adjusted pay gap has fallen to 6.3 percent in 2018, down from 9.1 percent in 2014.

While these adjusted gaps may seem small, the accumulated impact on women's lifetime earnings is very significant. Additionally, the presence of a gender pay gap is universal among all eight countries we analyzed. The unadjusted pay gap ranges from a high of 22.3 percent in Germany to a low of 11.6 percent in France, while the adjusted pay gap ranges from a high of 6.6 percent in the Netherlands to 3.1 percent in Australia.

Using unique data from job applications on Glassdoor, we also examined the salary confidence gap between men and women. We found that, after applying statistical controls, women largely ask for equal pay for equal work when applying to jobs online. Men do seek out jobs that pay a statistically significant 0.7 percent higher than those for women. However, the effect is too small to be an important driver of the adjusted U.S. pay gap of 4.6 percent.



## How Can We Do Better?

The progress on the gender pay gap in the last 3 years is encouraging. But sustained action from business, government and individuals will be required to meet our most optimistic projections of closing the gap within the next twenty years.

**For job seekers**, the most important tool for achieving pay equity is knowledge. Understanding one's own market value helps workers seek out and negotiate higher salaries. Research shows, however, that many candidates look for salary information from people like them, or simply by using mental rules of thumb. Incomplete information or subconscious biases can result in workers inadvertently propagating the pay gap themselves. Our analysis of job applicants on Glassdoor shows there isn't a large gap in salary expectations between men and women, suggesting that pay transparency can help close the pay gap if workers take advantage of online pay information.<sup>52</sup> Seeking out and sharing information more widely can be a valuable way for individual workers to contribute to closing the pay gap.

**For employers**, a key finding of our study is that sharing salary information directly with candidates can be a powerful cultural differentiator in a tight labor market, and can also help close the pay gap. Second, although education and experience are becoming less of a factor behind the gender pay gap, occupational and industry sorting remain significant causes. That suggests that

employers should be consistently re-evaluating hiring pipelines to ensure that they are attracting, hiring and retaining diverse talent pools. Finally, because occupational sorting is such an important driver of the pay gap, it's important for employers to promote workplace policies that allow flexibility in work hours and paid family leave, ensuring both men and women can balance work and family responsibilities.

**For policymakers**, our results offer guidance on what policies are likely to have the biggest impact on the gender pay gap. Policies that promote paid family leave and invest in educational programs to encourage women and minorities to enter STEM fields can help reduce occupational segregation of men and women into differently paying jobs. Additionally, our findings suggest that because men and women target identical percentage raises when looking for new jobs, prohibitions on asking applicants for salary history may help reduce the pay gap over time.

Ultimately, progress on the gender pay gap will require time and sustained effort. Whether through improved salary transparency, more flexible workplace policies, more comprehensive paid family leave, or company pay disclosure requirements, closing the pay gap will require action from policymakers, employers, and job seekers alike. Our hope is that this study helps draw attention to factors behind gender pay gaps around the world, and encourages a smarter dialogue on how to close those gaps for good.

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# End Notes

1. Andrew Chamberlain, “Demystifying the Gender Pay Gap,” Glassdoor Economic Research, March 2016.

2. We estimate equation (1) using the natural log of salaries, so  $\beta_1$  has the interpretation of being the approximate percentage male-female pay gap conditional on other statistical controls contained in X. See Footnote 7 for details on how this differs from an exact calculation of percentage pay gaps.

3. See Oaxaca (1973) and Blinder (1973). For a practical overview of how the Oaxaca-Blinder decomposition is implemented by researchers at the World Bank, see O’Donnell, Owen et al. (2008).

4. We implement the Oaxaca-Blinder decomposition in Stata using the “oaxaca” command using a two-fold decomposition with 50-50 weights on male and female coefficient vectors.

5. Past research has clearly documented a gender confidence gap in education settings where Else-Quest, Hyde and Lynn (2010) found male students have higher reported self-confidence in math despite similar performance. And there is some evidence of a confidence gap in the workplace, but many different mechanisms have been proposed: Bosquet, Combes and García-Peñalosa (2018) found that female economists in France were less likely to apply for promotion, while Leibbrandt and List (2012) found female applicants to an administrative assistant job were less likely to negotiate pay than men.

6. Surveys of college students like Martin (1989), Schweitzer, Ng, Lyons and Kuron (2011) and Schweitzer, Lyons, Kuron and Ng (2014) or of job seekers like Zhang and Zheng (2019) indicate that women have lower salary expectations than men but are limited by the fact that surveys are necessarily self-reported and have little visibility into the specific occupations women and men ultimately enter.

7. Note that the regression coefficients we present here give approximate percentage male pay advantages only. The exact percentage male pay advantage—that is, the percentage pay advantage from the male dummy changing from 0 to 1 in our estimating equation—is given by  $e^{\beta} - 1$ . For additional technical detail, see <https://goo.gl/t31YCJ>.

8. Glassdoor salary reports are based on surveys administered to site visitors. The survey can be viewed online at <http://gldr.co/1TzalcS>. It collects detailed information on job title, employer name, location, years of experience, full-time vs. part-time employment status, and base pay as well as all other forms of compensation including bonuses, tips, commissions, stock options and profit sharing. All submissions of this type of “user-generated content” are subjected to a rigorous approval process, including a combination of machine-learning and human-touch review.

9. See, for example, “Six Major U.S. Banks Take Steps on Gender Pay Gap,” (February 26, 2018) CPA Practice Advisor, available at <https://www.cpapracticeadvisor.com/payroll/news/12399824/six-major-us-banks-take-steps-on-gender-pay-gap>.

10. Our sample is based on 426,512 salary reports shared on Glassdoor by U.S.-based, full-time workers as of February 2019. Users can report salaries from up to three calendar years in the past. For our regression estimates, we remove from the sample 2,695 individuals (0.6 percent of the sample) who misreported earnings as less than the 2016 federal minimum wage of \$7.25 per hour worked full time for 2,000 hours, or \$14,500 per year. We also restrict our sample to salaries with reported base salary of less than \$5,000,000 per year and total compensation of less than \$10,000,000 per year, which removes 13 observations from our sample. Including these individuals does not materially affect any estimates in the study. All amounts reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year. Amounts reported as monthly salaries are expressed as an annual figure assuming a 12-month work year.

11. Glassdoor's online salary survey collects information on base salary as well as total compensation. Base salary is a required field, but users may optionally report income from tips, bonuses, commissions and other forms of pay. Because these fields are optional, they are subject to underreporting by users. For this reason, our primary focus is on base pay, and we provide figures for total compensation as an illustration only. In general, we suggest caution in interpreting any of the figures reported in this study for total compensation, and all of our main conclusions throughout are based only on our base pay results.

12. See U.S. Bureau of Labor Statistics, "Employment Status of the Civilian Population by Sex and Age," at <http://goo.gl/YjJJB>.

13. See U.S. Census Bureau, "Educational Attainment in the United States: 2018," at <https://goo.gl/bb4z4w>.

14. See Vanessa Fuhrmans (March 1, 2019), "Female Factor: Women Drive the Labor-Force Comeback," Wall Street Journal. Available at <https://www.wsj.com/articles/female-factor-women-drive-the-labor-force-comeback-11551436214?mod=e2twe>

15. Jed Kolko and Claire Cain Miller (December 14, 2018), "As Labor Market Tightens, Women Are Moving Into Male-Dominated Jobs," New York Times. Available at <https://www.nytimes.com/2018/12/14/upshot/as-labor-market-tightens-women-are-moving-into-male-dominated-jobs.html>

16. See U.S. Bureau of Labor Statistics, "Median Weekly Earnings of Full-Time Wage and Salary Workers by Detailed Occupation and Sex, 2018" at <http://gldr.co/21r9Jy7>.

17. To calculate each industry's gender pay gap, we sum together the coefficient on male in the model and the coefficient on each industry's male x industry interaction term. Mathematically, the industry gender pay gaps represent  $\beta_{\text{industry}} = \beta_{\text{male}} + \beta_{\text{male} \times \text{industry}}$ . The statistical model for industry and occupation estimates corresponds to our full model with all controls, including age, education, experience, state, year, job title and company name.

18. We only report pay gaps for industries with at least 4,000 salary reports in our sample. Agriculture and Forestry, Consumer Services, and Mining and Mining & Metals were omitted due to insufficient data.

19. See, for example Farber, Silverman and von Wachter (2015), whose findings are summarized at <http://gldr.co/1QEwVao>.

20. Source: UK Office of National Statistics, at <https://bit.ly/2BhYfrF>.

21. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

22. The sample was pulled from Glassdoor's salary database on March 1, 2019. Only full-time workers are included in the sample.

23. For our regression estimates, we remove from the sample 107 individuals (0.26 percent of the sample) who misreported earnings as less than the 2016 UK minimum wage of £3.87 per hour worked full time for 2,000 hours, or £7,740 per year (Source <http://gldr.co/1TG55eh>) or reported earnings totaling over £5,000,000 base pay per year or £10,000,000 total pay per year. Including these individuals does not materially affect any estimates in the study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

24. Percentages do not add to the total due to rounding of individual figures.

25. Source: Statistics Canada, at <https://bit.ly/2TtWxO6>.

26. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

27. The sample was pulled from Glassdoor's salary database on March 1, 2019. Only full-time workers are included in the sample.

28. For our regression estimates, we remove from the sample 368 individuals (1.8 percent of the sample) who misreported earnings as less than the lowest Canadian jurisdiction minimum wage of \$10.5 per hour worked full time for 2,000 hours, or \$21,000 per year (Source <https://bit.ly/2U7LdHL>) or reported earnings totaling over \$5,000,000 base pay per year or \$10,000,000 total pay per year. Including these individuals does not materially affect any estimates in the study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

29. Percentages do not add to the total due to rounding of individual figures.

30. Source: Australia Workplace Gender Equality Agency, at <https://bit.ly/2Tu5NgV>.

31. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

32. The sample was pulled from Glassdoor's salary database on March 1, 2019. Full-time workers only are included in the sample.

33. For our regression estimates, we remove from the sample 172 individuals (2.5 percent of the sample) misreporting earnings as less than the 2016 Australia minimum wage for full time workers, or A\$35,400 per year (Source: <https://ab.co/2FA0kl2>) or reported earnings totaling over A\$5,000,000 base pay per year or A\$10,000,000 total pay per year. Including these individuals does not materially affect any estimates in this study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

34. Source: Singapore Ministry of Manpower, at <https://bit.ly/2xoy7cA>.

35. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

36. The sample was pulled from Glassdoor's salary database on March 1, 2019. Full-time workers only are included in the sample.

37. For our regression estimates, we remove from the sample 2 individuals (.04 percent of the sample) who reported earnings totaling under \$2,000 base pay per year or totaling over \$5,000,000 base pay per year or \$10,000,000 total pay per year. Including these individuals does not materially affect any estimates in this study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

38. Source: German Federal Statistical Office (Destatis), at <https://bit.ly/2HF19eI>.

39. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

40. The sample was pulled from Glassdoor's salary database on March 1, 2019. Full-time workers only are included in the sample.

41. For our regression estimates, we remove from the sample 84 individuals (1.8 percent of the sample) misreporting earnings as less than the 2016 Germany minimum wage for full time workers, or €17,000 per year (Source: <https://bit.ly/2HUXB7I>) or reported earnings totaling over €5,000,000 base pay per year or €10,000,000 total pay per year. Including these individuals does not materially affect any estimates in this study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

42. Source: European Union's Eurostat, at <https://bit.ly/2UbpX3M>.

43. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

44. The sample was pulled from Glassdoor's salary database on March 1, 2019. Full-time workers only are included in the sample.

45. For our regression estimates, we remove from the sample 134 individuals (3.9 percent of the sample) misreporting earnings as less than the 2016 France minimum wage of €9.67 per hour worked at 2,000 hours per year, or €19,340 per year (Source: France National Institute of Statistics and Economic Studies, at <https://bit.ly/2BSiWYI>). Including these individuals does not materially affect any estimates in this study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

46. Source: European Union's Eurostat, at <https://bit.ly/2UbpX3M>.

47. As with U.S. salary data, we focus on base pay in our analysis, and provide figures for total compensation as an illustration only. We suggest caution in interpreting total compensation figures due to potentially large underreporting bias.

48. The sample was pulled from Glassdoor's salary database on March 1, 2019. Full-time workers only are included in the sample.

49. For our regression estimates, we remove from the sample 48 individuals (1.9 percent of the sample) misreporting earnings as less than the 2016 Netherlands minimum wage of €18,444 per year (Source: International Labour Organization, at <https://bit.ly/2Yo9NmY>). Including these individuals does not materially affect any estimates in this study. All salaries reported as hourly wages are expressed in annual terms assuming a 2,000-hour full-time work year.

50. Babcock and Laschever (2003) and Bowles et al. (2007) find that women are less likely to ask for raises. In contrast, Gerhart and Rynes (1989), Belliveau (2012) and Artz, Goodall and Oswald (2018) find that men and women are equally likely to ask for raises.

51. Past research has suggested salary transparency alone may not be sufficient to close the salary confidence gap. Martin (1989) found that providing an industry-level salary estimate did not close the gap, but we argue that an industry-level estimate is too vague to be useful. In contrast, Schweitzer, Lyons, Kuron and Ng (2014) found that women rely on information from same-sex role models or comparators more than men which may propagate pay gaps and, thus, suggest that more accurate salary information may, in fact, help equalize salary expectations.

52. For an overview of research on how salary transparency affects gender pay differences, see Chamberlain (2015)

## About Glassdoor

Glassdoor combines all the latest jobs with millions of reviews and insights to make it easy for people to find a job that is uniquely right for them. The company is on a mission to help people everywhere find a job and company they love. In pursuit of this mission, Glassdoor helps employers hire truly informed candidates at scale through effective recruiting solutions like job advertising and employer branding products. Launched in 2008, Glassdoor now has reviews and insights for more than 900,000 companies located in more than 190 countries. For more information, visit [glassdoor.com](http://glassdoor.com).

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