



# Equal Pay Day

## Examining the Evidence for the Gender Wage Gap

by Barbara Wagner,  
Chief Economist

This past month on April 12th, the country celebrated (or perhaps mourned) Equal Pay Day – the symbolic day where women’s earnings catch up to men’s earnings from the previous year. The day was met with many articles about the size, impact, and causes of the gender pay gap, and also other articles about how the pay gap is a myth.

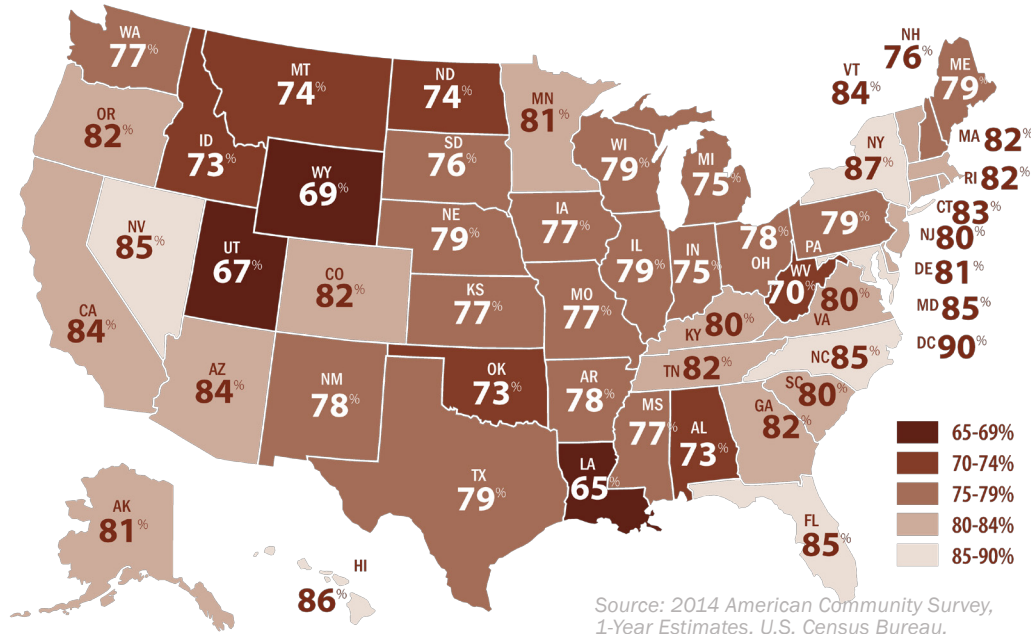
However, looking more closely at the articles, both sides argue the same facts, and often use the same research studies. The only difference in the articles is their perspective and tone. Both sides agree that there are differences between the average woman worker and the average male worker – occupations and industries worked, experience, hours worked, and differences in education – that can help explain the gender wage gap. Yet there still remains a portion that can’t be explained by differences in work effort and human capital factors, and this portion is generally considered to be due to subtle discrimination related to the cultural stereotypes we use to interpret our world. In fact, male and female managers are equally likely to show discrimination against women, indicating that the pay gap is not a women’s issue or men’s issue, but a societal issue.

### THE BIG PICTURE

In the U.S., women’s median earnings are 71.1% of men’s median earnings, as measured by the U.S. Census Bureau.<sup>1</sup> This ratio is often referred to as

the raw wage gap, or the gap in wages by gender before accounting for differences in human capital factors. Median wages are used because wages at the very high range of the wage distribution can distort the mean away from what is experienced by the typical worker. Because the highest wage earners are predominantly men, the raw wage gap would be larger if averages were used.

Another commonly-used number to describe the gender wage gap is the figure that only includes full-time, year-round workers. Women work fewer hours than men, on average, with men working 40.9 hours per week, and women working 35.7 hours per week. The median work hours for both men and women are the same – 40 hours. Given the differences in hours worked, the pay gap is often given as 79%, which is the ratio of women’s to men’s median wages including only full-time, year-round workers. Since both full-time men and full-time women typically work 40 hours per week, this figure more appropriately provides an apples-to-apples comparison.

**FIGURE 1: Median Full-time, Year-round Female Earnings as a Percent of Male Earnings**

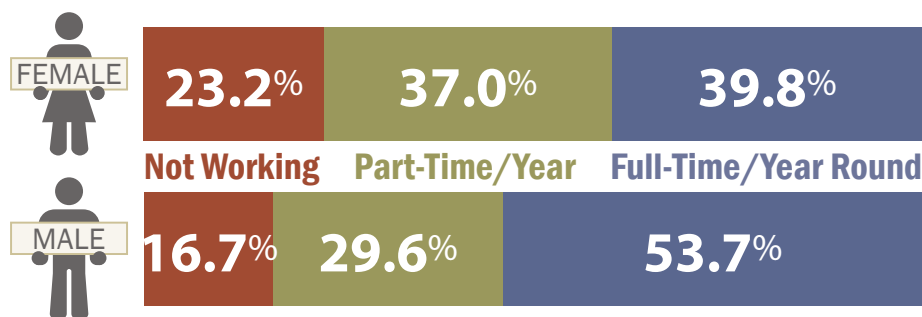
The wage gap exists in every state, with Montana and other states in the center of the country generally having larger pay gaps, and coastal states having smaller ones. The pay gap also exists across other developed countries. According to the Organization for Economic Cooperation and Development, the U.S. is fourth to last in equal pay\*, with Canada following closely behind.<sup>2</sup> Montana's pay gap is larger than the country's as a whole, with a raw gap of 68% and a 74% gap for full-time, year-round workers.

The pay gap extends beyond pay. Benefits, such as health insurance and paid time off, are often found in higher-paying jobs. Women are less likely to have health insurance, retirement benefits, and paid time off than men, although this disparity is primarily among individuals in lower-wage jobs. Women with higher wage jobs receive benefits comparable to men, but slightly lower retirement benefits due to lower salaries.

The economic costs of the gender pay gap are large, estimated at over \$3 trillion of lower labor hours, lost wages, and the missed opportunity of those wages circulating in our economy. Some estimates indicate the U.S. economy would be 3% to 4% larger if the pay gap was addressed.<sup>3</sup> To women, the cost is more personal. Over her lifetime, a woman who enters the workforce in 2014 is expected to make \$1.2 million less than a man with the same degree from the same college, with equal experience. Women are more likely to be in poverty, have lower retirement savings (despite being more likely to save), and lower social security income than men.

The difference in pay for women also impacts men and children through lower family income levels. Among married couples in Montana, 62% have a woman in the workforce who may be earning less than what she would if bias was absent. Among Montana families with a child under 18 living at home, 68% have a working mother, and 20% rely on a female as the sole breadwinner for the family.

\*Among Organisation for Economic Co-operation and Development (OECD) nations.

**FIGURE 2: Work Status by Gender - Montana**

Source: 2014 American Community Survey, 5-Year Estimates, U.S. Census Bureau

### CAUSES OF THE PAY GAP

As previously mentioned, women work fewer hours than men, on average. Women are also more likely to not work than men, with many women choosing to remain out of the workforce in order to care for their families. Figure 2 illustrates the differences in the work status for men and women of working age in Montana. Roughly 23% of Montana women choose not to work, compared to 17% of Montana men. More women than men fall within the part-year or part-time work category, while more men than women are in the full-time, year-round category.

Part of the reason why women work fewer hours is because they are rewarded less for working long hours. Economic theory suggests that if women are paid at lower hourly rates, they are willing to commit less of their time to work instead of other pursuits. Some also argue that women are more likely to work in part-time jobs not due to choice, but because the best jobs were already given to men. In other words, adjusting the pay gap for hours worked makes the large assumption that the differences in hours worked cause the difference in gender pay, even though we also know the opposite is true – that differences in pay lower the incentives for women to work longer hours.

The 79% ratio of female to male median earnings among full-time, year-round workers accounts for differences in hours worked, but does not adjust for differences in experience that result from the lower work hours. Differences in experience help to partially explain the gender pay gap, but the impact is fairly small – a few cents. Most women take a week to a few months off work for family care, returning to work relatively quickly. Over half of women with an infant are in the labor force, making differences in experience levels less of an issue than it was in the past.<sup>4</sup>

Education is a large factor in determining worker pay, but not a large factor in the gender pay gap because women are slightly more educated than men, both in terms of higher degree achievement and higher GPAs while in school. However, men and women tend to study different fields, with men being more likely to graduate in a field with higher potential earnings. That being said, research that follows men and women graduating from the same school, the same major, with the same GPA, and comparable experience consistently finds that women are given starting salaries roughly 9% lower than men, and that the salary gap widens as the male graduates are promoted at faster rates.<sup>5</sup>

When using education to adjust for differences in pay across the full economy, education widens the adjusted gender pay gap due to higher degree attainment among females.<sup>6</sup>

The largest factor in the pay gap is women's tendency to work in lower-paying occupations and industries. The most common occupational group for women is Office and administrative support, which employs nearly 14 million women. It is also one of the lowest-paying occupational groups. In contrast, few women work in high-paying Legal, Management, and Computer and math occupations. This pattern is also evident across industries.

In Montana, the occupational employment differences between genders is very similar to those of the nation, with nearly a quarter of all Montana women working in Office and administrative support occupations. Only 15% of women work in the five highest-earning occupational groups (Engineering, Life and Social Science, Legal, Healthcare practitioner, and Computer and math occupations). Differences in the occupations and industries worked explain nearly half of the gender wage gap (or about 10 cents of the 20 cent gap among full-time, year-round workers).

However, the question remains whether occupation and industry differences *should* be used to explain the wage gap. Research has consistently found that women work in the lower-paying occupations and industries not just by choice, but also because of pre-market discrimination. Pre-market discrimination refers to any bias that occurs prior to workers being in a job. For example, many researchers have evaluated the likelihood of being hired for both men and women by sending resumes out to multiple employers, half receiving a resume with a male name, and the

other half receiving the same resume with a female name. These studies consistently find that the male resume receives more job offers and higher salary offers than the female resume from both male and female managers.<sup>7</sup>

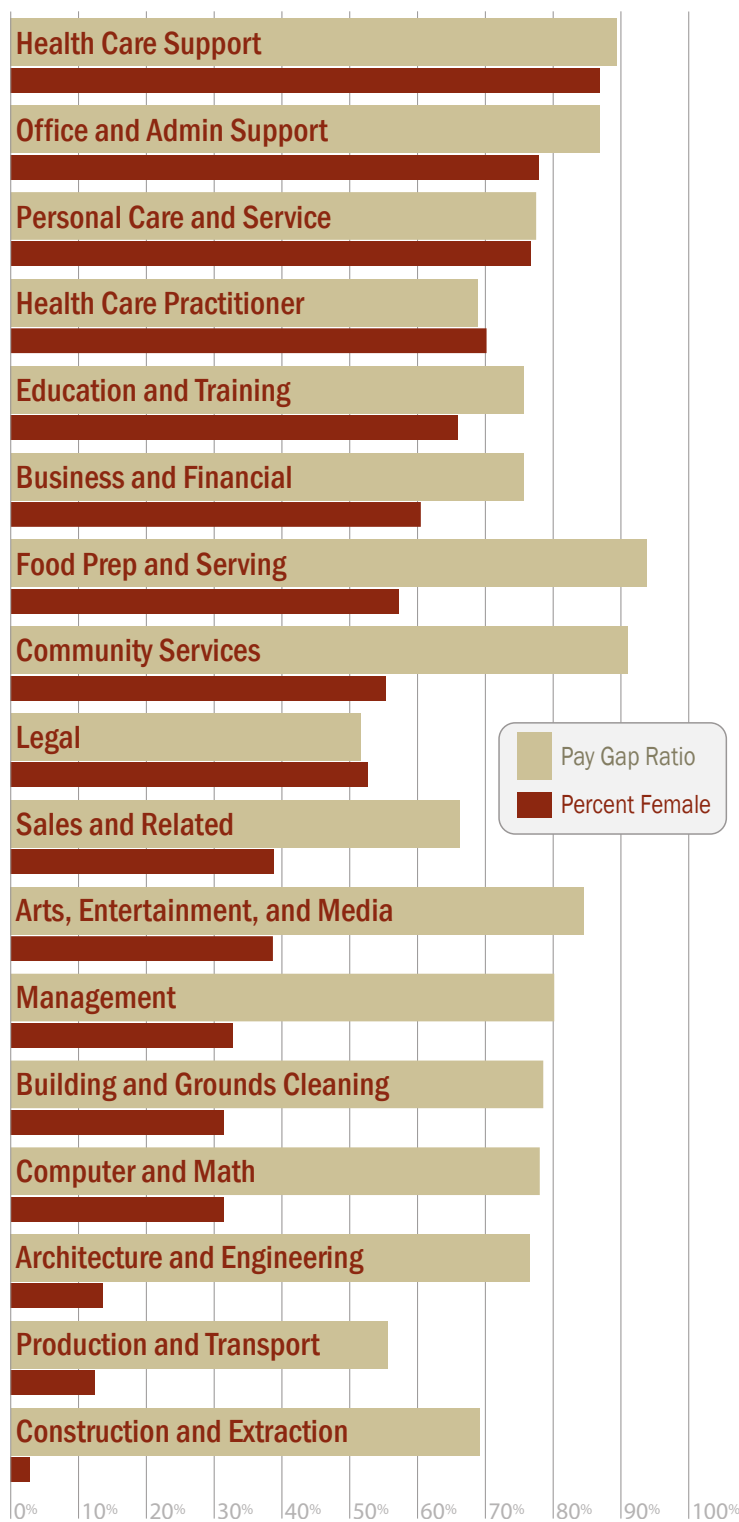
One recent study sorted workers into groups of similarly qualified candidates, then had them apply for the same jobs. The researchers found that women were 9% less likely to be offered jobs at the low end of the wage spectrum, and were 50% less likely to be offered a job at the high end (even with similar qualifications).<sup>8</sup> These studies raise serious questions about whether occupational differences should be used to explain the pay gap, or are themselves evidence of gender bias in the workplace.

Further, there are no occupations where women earn more than men, including those traditionally considered female occupations like nursing and teaching. [Figure 3](#) illustrates the percentage of women in each occupation, along with the pay gap (median earnings for full-time, year-round workers). Even in female-dominated occupational groups like Healthcare support and Office and administrative support, women's pay is less than the median earned by men.

Regardless of whether occupations and industries are included in the analysis, a portion of the gender pay gap remains unexplained by education, experience, hours worked, and other factors. This unexplained portion usually ranges from 8 cents to 15 cents to every male dollar earned, and is typically the portion of the gender pay gap attributed to discrimination. This remaining portion demonstrates that the gender pay gap is not a myth. The size of the gap attributed to discrimination may depend on whether one believes that pre-market discrimination impacts



**FIGURE 3:  
PAY GAP RATIO FOR SELECT OCCUPATIONS**



Source: ACS, 2015 5-Year Estimates. Some small industries removed for simplicity.

women's work hours and job choices, but even when these adjustments are included, a sizeable gap remains.

### OTHER FACTORS

Much of the current research focuses on the 8 to 15% difference between male and female pay that is unexplained by human capital factors. The explanations generally involve cultural biases and stereotypes held by both men and women in society, thus explaining why male and female managers are equally likely to discriminate against women workers. For example, research has found that men tend to respond more positively to competition than women, and may perform better when competing for the top jobs. However, research has also found that women tend to have longer-range planning priorities which ultimately lead to higher long-term profitability for businesses.

Research has also found that women tend to negotiate less than men for salaries, although other research has found that women face repercussions when they do negotiate. Experts suggest being more open about wages during the hiring process could help mitigate gender bias. One suggested solution is to post a position's salary range instead of requiring applicants to declare their own expectations. Some companies have eliminated salary negotiations completely, finding they rewarded negotiation skills more than the skills needed in the job.<sup>9</sup>

Other research has investigated hiring and retention practices to determine what causes pre-market discrimination. One study found that hiring managers decide who to hire within 15 seconds of the interview, basing

their decisions on the status quo, or the stereotype of the position, and which candidate seems most like them.<sup>10</sup> Evaluating candidates using skills testing is recommended to reduce individual bias in hiring.

Other research has evaluated why women leave their jobs, and found that women in their 20s and 30s rarely leave their jobs for family reasons, even though businesses commonly think that is the reason for the departure. Women in these age groups are more likely to leave their jobs due to pay and lack of advancement opportunities.

## CONCLUSION

Equal Pay Day in 2017 will likely be greeted by the same headlines – both sides sharing the same data but coming to different conclusions. The causes of the gender pay gap are complex, and difficult to address because they are rooted in our cultural understandings of gender roles in society and the subconscious bias each of us share. Even after making adjustments for differences in the work experiences of men and women, there remains a gap that can't be explained by factors other than discrimination.

Because the causes of the gender pay gap are subtle, yet pervasive among both men and women, improvements in wage equality have been slow.

## SOURCES

<sup>1</sup> Unless otherwise specified, all statistics are from the 2014 American Community Survey 5-year estimates, U.S. Census Bureau.

<sup>2</sup> Organization for Economic Cooperation and Development Employment Database, 2012.

<sup>3</sup> National Women's Business Council, 2009.

<sup>4</sup> Bureau of Labor Statistics, Employment status of mothers with own children under 3 years old by single year of age of youngest child, 2014, 2015.

<sup>5</sup> American Association of University Women, "The Simple Truth about the Gender Pay Gap." 2009.

Many experts believe that men and women in the U.S. won't achieve pay equality until after 2050. However, efforts are underway to reach this goal a little faster in Montana with the Governor's Equal Pay for Equal Work Taskforce. This taskforce works to raise awareness to the issue of gender pay equality in Montana. The Taskforce has undertaken efforts to provide negotiation training for women (and men) in order to achieve higher starting salaries. There are also efforts by the Taskforce and many other organizations to increase women's participation in science, engineering, and technology jobs, which are generally high-paying, high-growth fields where women are under-represented in the labor force. Finally, the task force is also working with local governments and businesses to provide technical assistance in how to guarantee equal treatment among employees in their own organizations.

Montanans believe in fairly rewarding workers for hard work, regardless of whether a woman or a man gets the job done. With these efforts, and collaboration among workers and employers across the state, Montana could become a leader in pay fairness.

<sup>6</sup> Blau and Kahn, 2007. "The Gender Pay Gap: Have Women Gone as Far as They Can?" in Academy of Management Perspectives.

<sup>7</sup> ibid

<sup>8</sup> Gobillon, Meurs, Roux, 2015. Journal of Labor Economics, v33, n2.

<sup>9</sup> American Association of University Women, 2009. And Yahoo "reddit CEO Ellen Pao's bold move to end gender discrimination – banning salary negotiations" April 6, 2015.

<sup>10</sup> Bohnet, 2016. Harvard Business Review. And Gladwell, 2016, at Gladwell.com.