



PHOTO BY GORNJAK/SHUTTERSTOCK

# Gender wage inequality

What we know and how we can fix it

April 2018 Sarah Jane Glynn





# Gender wage inequality

What we know and how we can fix it

April 2018 Sarah Jane Glynn





# Contents

**6** Fast facts

**8** Overview

**13** What is gender pay inequality?

**17** Causes of gender pay inequality

**22** Individual factors driving gender pay inequality, policy recommendations, and obstacles to reform

**22** Work experience

**28** Industry and occupation

**34** Unionization

**37** Education

**41** Race

**44** Regions

**46** What's left? Unexplained gender pay inequality

**52** Conclusion

**54** About the author and acknowledgments

**55** Endnotes



# Fast facts

Over the past 40 years, women in the United States increased their work hours, and their rising incomes became a significant part of overall household financial stability. More working women also contributed mightily to stronger economic growth. These additional earnings have made the financial difference for families across races and up and down the income spectrum while also boosting economic growth. Yet despite all of these gains, women are still severely limited by gender pay inequality, which for a number of reasons keeps women's average earnings at nearly 20 percent less than men's average earnings:

- Women make up half of the U.S. population (50.8 percent) and are close to half of all currently employed workers (46.7 percent), yet the average earnings of all women who work full time, year round is 80.5 percent of men who work full time, year round. This adds up to total wage differences of more than \$799 billion annually.
- Women's earnings are critical to families' financial well-being. Women are more likely than men to be single heads of households raising children. And as wages have stagnated, the families that have experienced real, inflation-adjusted income growth since the 1970s are likely to be married couples where the wife works.
- Women's earnings also support economic growth. Research finds that if women had not increased their work hours since 1979, U.S. GDP in 2012 would have been 11 percent lower than it would have been otherwise, resulting in \$1.7 trillion less in output.

---

What are the causes of gender pay inequality, and what can we do about them?

## Work experience

Women have less work experience than men, which explains 14 percent of gender wage inequality—resulting in \$112.7 billion in lost wages annually. Gender differences in work experience are largely because women are more likely than men to cut back their work hours or drop out of the labor force altogether due to family

and other outside obligations. Women are also more likely than men to be part-time workers, who receive lower hourly wages and fewer benefits compared to those doing the same job full-time regardless of gender.

### Industry and occupation

Just more than half of gender pay inequality—50.5 percent—can be explained due to gender differences in the industries (17.6 percent) and occupations (32.9 percent) where men and women work, amounting to a combined estimate of about \$404 billion dollars in wage differences. Wages tend to be lower in occupations that are women-dominated compared to men-dominated occupations of similar skill and education level. In fact, evidence suggests that an influx of women into a given occupation lowers overall wages.

### Race

Racial wage inequality compounds the effects of gender wage inequality for women of color and, according to models employed in the new Equitable Growth report, explains 4.3 percent of gender wage inequality. The effect of race persists even when controlling for other workers' characteristics such as education, work experience, and occupation.

### Region

Regional differences in pay are to be expected, given that the cost of living varies across states. In the absence of inequality, those effects should be evenly spread across men and women. But research finds that regional differences affect women's wages relative to men's wages by 0.3 percent, amounting to an estimated \$2.4 billion dollars in wage differences.

### Discrimination and gender stereotyping

A portion of gender pay inequality—38 percent—is unexplained by observable data, and results in an estimated \$304 billion in lost wages annually. Most researchers attribute this portion to factors such as discrimination and socially constructed gender norms such as women are often encouraged to pursue or are seen as more “suitable” for different kinds of jobs than men. Evidence also strongly suggests that the other explanatory factors mentioned in the paper are directly or indirectly influenced by discrimination and gender stereotyping, which affects the choices men and women make about their careers or the (often incorrect) factors that employers use to evaluate productivity.

# Overview

The U.S. economy is harmed directly and indirectly by the persistence of inequality between the wages of men and women. The data, research, and analysis assembled in this report break down the causes in differences between men and women's pay, and the policies that could help reduce them. Pay inequality between men and women weakens family earnings and spending power, particularly among struggling low- and middle-income single-parent households and many families of color. The retirement security of nearly all families is threatened, too, due to wages lost to continuing inequality. And the future economic competitiveness of the nation is under threat due to the lack of policies that would boost the labor force attachment, productivity, and wages of workers now and their children tomorrow.

This report knits together the evidence to show how women's economic contributions to the health of the U.S. economy, to sustained economic growth, and to their individual families' economic security is of vital importance. Consider first the statistics. Women make up slightly more than half of the population of the United States (50.8 percent), just more than half of all adults in their prime working ages of 25 to 54 (50.3 percent),<sup>1</sup> and are close to half of all currently employed workers (46.7 percent).<sup>2</sup> While women have lower labor force participation rates than men—58.3 percent for women ages 20 and older, compared to 72 percent for men—women's participation has increased dramatically over the past several decades.<sup>3</sup> In 1950, only about a third of women were in the U.S. labor force (34 percent), and while rates have declined slightly since a peak at 60.1 percent in 1999, the overall trend has been one of increasing rates of women's formal employment.<sup>4</sup>

Yet the consequences of women's key role in the workplace, combined with women on average earning less than men due to structural and policy choices, means that economic growth is unnecessarily hampered. The reasons are myriad. Women's wages are central to economic growth and security—boosting both spending and investment in our economy—yet are depressed relative to men's wages. These lower wages are often acutely felt at the individual level, too, because women not only earn less money than men but are also more likely than men to



be single heads of household raising children and, perhaps unsurprisingly, are thus more likely than men to be living in poverty when doing so.<sup>5</sup>

But families headed by unmarried mothers are not the only ones who lose out due to unequal pay. The majority of married mothers are either breadwinners (24.1 percent) or co-breadwinners (28.8 percent), bringing home at least a quarter of their families' incomes.<sup>6</sup> And although less than a third of married mothers (29.7 percent) do not have any earnings, at least some full-time stay-at-home caregivers are out of the labor market due to lower opportunity costs when there is a need to provide family care. At the same time, as wages have stagnated overall across most of the U.S. economy over the past several decades, one of the only ways working families have been able to get ahead is by increasing their labor force participation and working more and longer hours. It is no surprise, then, that the families that have seen real, inflation-adjusted income growth since the 1970s are married couples where the wife also works.<sup>7</sup>

Substantial evidence suggests that increasing women's participation in the formal labor sector would result in significant economic growth. A 2012 study conducted by Booz & Company (now Strategy&, a unit of the global consulting firm PWC) found that if women's labor force participation in the United States matched men's, then annual Gross Domestic Product would increase by 5 percent.<sup>8</sup> The U.S. Department of Labor also estimates that if women in the United States participated in the labor force at the same rate as women in Germany or Canada, the result would be 5.5 million more women ages 25 to 54 in the U.S. labor force and more than \$500 billion of new economic activity annually.<sup>9</sup>

Evidence from previous increases in women's paid work supports these projections. A team of economists from the University of Chicago and Stanford University estimate that 17 percent to 20 percent of aggregate wage growth in the United States from 1960 to 2008 was due to black people and white women experiencing less occupational segregation in the wake of the civil rights movement.<sup>10</sup> Similarly, if women had not increased their work hours since 1979, GDP in 2012 would have been 11 percent lower, amounting to \$1.7 trillion less output.<sup>11</sup>

In addition, unpaid labor by U.S. women within the home accounts for significantly more of their time than that of U.S. men, and women's housework and unpaid family care work provides the support for much of men's labor force participation.<sup>12</sup> In the United States, full-time working women put in slightly fewer on-the-job hours than men, but when care for household members and other household activities are

considered in the total hours “worked” per day, women’s hours are roughly equal—10.22 hours for women, compared to 10.29 hours for men.<sup>13</sup>

The cross-national comparisons are telling. Across countries, women’s labor force participation rates and per capita income have a U-shaped relationship.<sup>14</sup> In countries with lower levels of per capita income, women’s labor force participation is high, which is largely the result of families needing all available workers in the labor force to help bring home income. As incomes and social protections increase, women are able to exit the labor market in order to provide unpaid household and care work. But when incomes and worker protections increase further, so does women’s labor force participation.

Women’s greater labor force participation, and the ensuing jump in U.S. economic growth, remains hampered by a variety of factors. One of the top reasons is a lack of nationwide family friendly work-life policies. When comparing labor force participation among women ages 25 to 54 in 2016, the United States ranks 20th out of 22 among the advanced-economy member nations of the Organisation for Economic Co-operation and Development, from 6th in 1990.<sup>15</sup> More than a quarter (28 percent to 29 percent) of the decline from 1990 to 2010—when the United States fell to 17th—was caused by the expansion of family friendly work-life policies in other countries but not the United States.<sup>16</sup>

Yet even when U.S. women do participate in the labor market, on average they receive wages that are lower than those of men. Gender wage inequality in the United States—expressed as a ratio of the average earnings of all full-time, year-round working women compared to the average earnings of all full-time, year-round working men—currently stands at 80.5 percent, using 2016 data.<sup>17</sup> This is both a partial cause and a partial effect of women’s lower labor force participation rates, since women’s lower levels of work experience depress wages at the same time that their lower opportunity costs help make them the most likely family members to stay home and provide unpaid care to children or ill or aging relatives.

The average woman, over the course of a 40-year career, loses an estimated \$418,800 relative to the average man due to gender wage inequality.<sup>18</sup> The results are even starker for many women of color. Black women are estimated to lose \$840,040, Native American women \$934,240, and Latinas \$1,043,800 relative to white, non-Hispanic men.<sup>19</sup> And regardless of which form of retirement savings is considered—401(k) plans, IRAs, or emergency savings—women have less savings on average when compared to men.<sup>20</sup> Because women have fewer savings and

less access to retirement benefits, they are more likely than men to find themselves spending their elder years living in poverty.<sup>21</sup> Motherhood, in particular, is shown to harm women's wages, since women do the majority of unpaid childcare work, even when they are partnered and employed outside the home.<sup>22</sup>

Differences in labor force participation, work experience, and work hours are only a few of the many ways that women and men differ as workers. As a result, some critics argue that gender wage inequality is a myth, while others claim that only a small portion of the difference in women's and men's wages is due to discrimination. To be sure, topline statistics such as the oft-touted assertion that women earn 81 cents to the man's dollar do not take into account many of the differences between women's and men's educational paths, work histories, career choices, and family responsibilities. But these differences are themselves worthy of further interrogation rather than simply controlling for them and explaining them away in calculations of "true" wage inequality. And it is important to note that the "choices" men and women make about their education and employment are not made in a vacuum based solely on personal preferences, but are influenced by the complex intersection of social norms, public policy decisions, and discrimination.

The reason: Gender pay inequality in the United States is not just a "women's issue." The consequences go far beyond individual women. Women's earnings are an important component of families' economic security. Constrained opportunities and wages for women harm overall U.S. economic growth, family economic well-being, and women's retirement security.

Fortunately, a number of public policy options exist to help mitigate gender wage inequality and to unleash potential growth. Among them:

- Stronger enforcement of anti-discrimination laws
- Policies to raise wages in low-paying occupations that tend to be dominated by women
- Reducing educational and occupational segregation
- Protecting workers who discuss their pay at work
- Curtailing the use of previous earnings in salary offers

- Better data collection around gender and wages
- Better access to work-family policies that help women maintain employment and advance in their jobs
- Protecting the rights of workers to form unions and collectively bargain

In the pages that follow, this report presents in detail the reasons why gender pay inequality persists today and possible policy solutions at the federal level, as well as in select state and local policy settings. The report also examines the many obstacles that prevent these common-sense reforms from proceeding, especially at the federal level. Building a strong economy that works for everyone is not possible unless gender pay inequality is fully addressed. Sustained and broad-based U.S. growth and prosperity now and in the future hangs in the balance.

# What is gender pay inequality?

Differences in women’s and men’s wages are often referred to as the “gender wage gap” and are colloquially reported in terms of “cents on the dollar.” These are familiar terms that can help people understand the issue but may inadvertently imply that wage differences are naturally occurring and that the impact can be counted in pennies. This report, while addressing the same phenomenon, is framed slightly differently, with a focus on pay inequality. As discussed in detail below, some of the differences in pay are based on measurable distinctions between men and women that can account for women’s lower wages—such as being more likely to be employed in certain low-wage sectors. But these distinctions should not be understood as immutable and inevitable outcomes. Rather, they are the result of structures, norms, and a public policy landscape that create, perpetuate, and reinforce inequality.

But before disaggregating the reasons why gender pay inequality persists, it is first important to understand the two broad ways that economists try to calculate it. Empirical methods for understanding differences between men’s and women’s wages focus on measurable human capital differences in explaining the gender differences in wages, which are factors that measure how characteristics of the supply of labor affects how that labor is monetarily valued. Statistical modeling shows that factors such as work experience, industry, and occupation all contribute significantly to gender pay inequality. But no model of human capital is able to completely account for the entirety of aggregate wage differences. That’s why it’s important also to consider the role of gender norms, stereotyping, and discrimination to more fully explain why women and men experience unequal rates of pay. These factors affect both the supply of labor (such as how gender norms and stereotypes influence the majors that women and men commonly choose in college), as well as what can’t be measured in statistical models. The unexplained portion of pay inequality regressions, for example, is commonly understood as simple discriminatory pay—when two workers with the same characteristics are paid different amounts for no other reason than their gender or race and ethnicity because of the bias, unconscious or otherwise, of the employer. All of these factors must be addressed in order to address gender wage inequality.

While many aspects of gender wage differences remain contested, its existence is not up for debate. Wage data consistently show that on average women and men have different earnings. Pay differences between women and men shrank considerably through the 1980s and 1990s, but progress has stalled in the following years. At the current rate of change, this inequality would not be eliminated entirely until 2059.<sup>23</sup>

Generally speaking, to calculate wage inequality, researchers take the average earnings of women and compare those to the average earnings of men. Researchers typically use three different statistics to illustrate differences in pay. The first set of data is derived from comparing the average annual earnings of all women who work full time year-round to the average earnings of all men who work full time year-round. Using data from 2016, the annual data result in wage differences of 80.5 percent (routinely rounded up and reported at 81 percent), meaning that the average full-time year-round working woman earns 81 percent of what a full-time, year-round working man earns.<sup>24</sup>

The second set of statistics frequently used does a very similar comparison but uses weekly wages rather than annual earnings. In this case, using data from 2016, the result is a slightly smaller wage difference of 81.9 percent.<sup>25</sup> Finally, hourly earnings data produce wage differences of 81 percent for full-time workers, and if all men and women are compared using hourly wage data, regardless of whether they work full or part time, wage differences clock in at 84 percent.<sup>26</sup> (See Table 1.)

**TABLE 1**

<b>Three ways to calculate U.S. gender wage inequality</b>			
U.S. gender wage inequality calculations using annual, weekly, and hourly wage data, 2016			
	Annual wages, 2016	Weekly wages, 2016	Hourly wages, 2016
Full-time working women's earnings as a percentage of full-time working men's	80.5%	81.9%	81.0%

Sources: Ariane Hegewisch and Emma Williams-Baron, "The Gender Wage Gap by Occupation 2016 and by Race and Ethnicity" (Washington: Institute for Women's Policy Research, 2017), available at <https://iwpr.org/wp-content/uploads/2017/04/C456.pdf>; Rakesh Kochhar, "How Pew Research measured the gender pay gap" (Washington: Pew Research Group, 2013), available at <http://www.pewresearch.org/fact-tank/2013/12/11/how-pew-research-measured-the-gender-pay-gap/>; Bernadette D. Proctor, Jessica L. Semega, and Melissa A. Kollar, "Income and Poverty in the United States: 2016" (Washington: U.S. Census Bureau, 2016), available at <https://www.census.gov/content/dam/Census/library/publications/2017/demo/P60-259.pdf>.



Decisions on which earnings data to compare and whether to only analyze full-time workers are rooted in the acknowledgement that, on average, women tend to work fewer hours than men. Excluding part-time workers, 64.1 percent of whom are women,<sup>27</sup> results in a less-biased result because it at least partially adjusts for the differences in hours worked between men and women.<sup>28</sup> The decision to analyze hourly wages versus weekly versus annual earnings is based on similar logic.

On its face, focusing on hourly wages appears to be the most logical, since that would seemingly erase the impact of differences in total hours worked. But not all workers are paid hourly, and working backward from an annual salary to estimated hourly earnings is complicated, as full-time salaried positions can vary greatly in the total hours worked.<sup>29</sup> This method also ignores that many workers pay a wage penalty for working fewer hours, and that this penalty is neither linear nor consistent across occupations.<sup>30</sup> Finally, focusing on hourly earnings erases the impact of overtime wages, since workers who are covered by the *Fair Labor Standards Act* are eligible for 150 percent of their normal hourly wages if they work more than 40 hours per week.<sup>31</sup>

Similar arguments can be made about why weekly earnings are both a better and worse measure than annual earnings. There is no “best” dataset to use, but being clear about the limitations of each can help to highlight some of the causes behind the differences in women’s and men’s pay. For instance, men’s greater likelihood of working very long hours is estimated to have caused roughly 10 percent of the gender wage differences between 1979 to 2007.<sup>32</sup> If this effect is controlled for by only analyzing hourly wages or the impact of overtime wages is reduced by focusing on average weekly earnings, then a key explanatory variable is lost.

In addition to the different wage statistics that result from working with different earnings data and classifications of workers, there are also disagreements among researchers regarding which other variables need to be controlled for when comparing wages. In other words, is it appropriate to compare all women and men to each other without taking into account differences in race and ethnicity, let alone other factors such as education, industry and occupation, years of work experience, and so on? Some critics go so far as to argue that gender wage inequality is a myth,<sup>33</sup> since once these additional factors are taken into account the differences in women’s and men’s average earnings shrinks—although, notably, they do not disappear entirely.

While gender wage differences are a demonstrably real phenomenon that never is completely erased regardless of which data are being used or what variables are controlled for, valid questions persist about whether topline statistics—such as the 81 percent annual figure cited above—erase nuances by making apples-to-oranges comparisons. It is true that when claiming full-time, year-round working women earn only 81 percent compared to full-time, year-round working men annually, the statistic does not take into account significant gendered differences and patterns in education, occupation, work hours, job tenure, and so on, in addition to failing to account for racial and ethnic differences.

Instead of obscuring those differences and encouraging economists and policymakers to ignore them, however, the use of these topline statistics can be a useful tool to explore all of the multifaceted causes of differences in women and men's pay. Rather than striving to control for these factors in their models in search of "true" gender wage inequality, researchers must acknowledge that each of these dynamics are relevant drivers of wage differences and thus are worthy of further interrogation.

Furthermore, it is problematic to assume that only factors that cannot be controlled for within statistical models result in discrimination. A wealth of research, for example, indicates that race and gender stereotyping and discrimination influence educational attainment and choice of major if attending college, all of which is lost when education is controlled for within a model as if it were a rational and objective outcome existing outside of culture. A deeper understanding of gender wage inequality must involve further investigation into these factors, rather than simply attempting to control for them in statistical models. These distinctions are not quite as neat as some statistical modeling would imply, and all drivers of the differences in pay between women and men are worthy of interrogation in the pursuit of gender equity.



# Causes of gender wage inequality

Two dominant approaches are used to explain the causes behind gender wage inequality: supply-side (also known as human capital theory) and demand-side explanations. The supply-side explanation focuses on factors related to the supply of labor—the workers—namely differences in human capital investments such as education and job experience, as well as choices such as occupation.<sup>34</sup> These factors can be empirically measured and tested in large-scale datasets such as the U.S. Census Bureau surveys. Relying on these methods, inequalities such as gender wage differences can be best explained by differences in education and type of work. The limitations of these methods, however, can lead to the conclusion that gender wage inequality is determined only by “voluntary” choices that women and men make to invest in their human capital and decisions in the labor market. The “supply,” in short, is what individuals choose to contribute to the workforce.

The demand-side approach, while not discrediting supply-side methodology, posits that inequalities are more complex than this. The behaviors of those on the demand side of the equation need to also be taken into account—from employers to structural forces beyond the individual worker that shape where that worker is ultimately matched to a job and at what pay level. This includes an emphasis on discrimination and gender stereotyping, which cannot be accounted for using purely supply-side empirical methods. This report utilizes a holistic framework involving both supply- and demand-side drivers of gender wage inequality.

Because the 81 percent figure for wage inequality is calculated by comparing the average annual earnings of all full-time, year-round working women to the average annual earnings of all full-time, year-round working men, it does not account for the many differences that exist between these two groups. As a whole, women and men tend to:

- Work in different types of jobs within different industries
- Clock in different hours even when working full time

- Boast different levels of educational attainment and different majors when attending college
- Have different levels of job tenure and experience

These factors are just a few among a host of other differences that all impact pay. All of these factors should be taken into account when discussing wage inequality, not because they are less important than discrimination but because they are relevant issues that must be addressed to help boost women's pay, especially the pay of black women and Latinas.

Some of the best known and most respected research on gender wage inequality has been conducted by Cornell University economists Francine Blau and Lawrence Kahn.<sup>35</sup> Their latest research disaggregates the causes of gender wage differences from 1980 through 2010, allowing them to look across decades at the changing composition of factors influencing gender pay inequality. Their economic model remains the gold standard for assessing gender wage inequality, which is why this paper takes as its starting point the disaggregated causes the two scholars identified as the starting point for further analysis.

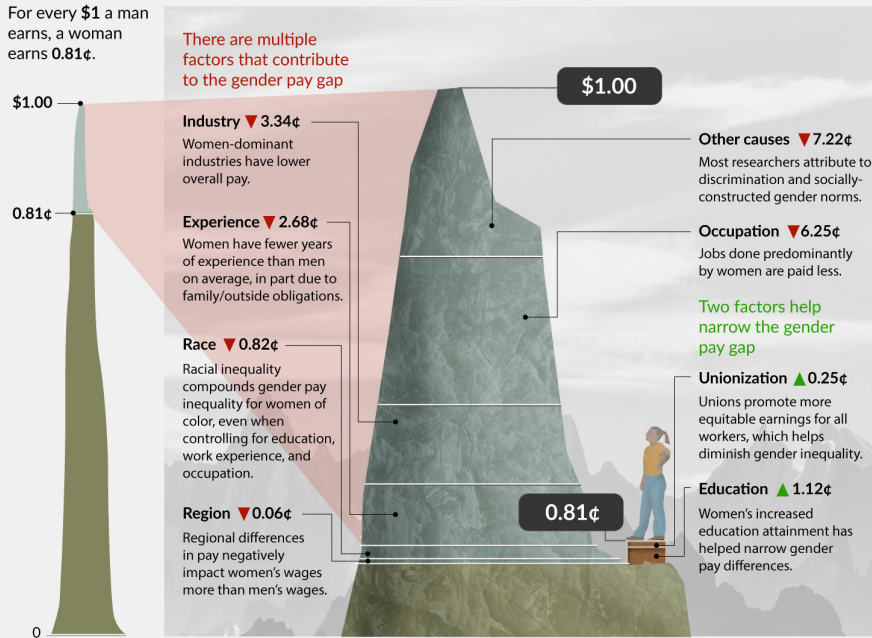
Blau and Kahn find that the total share of gender wage inequality explained by observable, measurable factors increased over the 30 years between their samples, from 51.5 percent to 62 percent. Yet 38 percent of the difference in women's and men's pay still cannot be explained by the measurable variables in their model, which they argue is likely driven by other factors that cannot be controlled for in supply-side analyses such as differences in productivity, discrimination, and potential other differences such as negotiating styles. (See Figure 1.)

FIGURE I

## Breaking out the causes of gender wage inequality in the United States

Women's pay on average remains almost 20 percent lower than men's

For every \$1 a man earns, a woman earns 0.81¢.



Source: Author's calculations based on calculation from Francine D. Blau and Lawrence M. Kahn, "The gender wage gap: Extent, trends, and explanations," *Journal of Economic Literature* 55 (3) (2017): 789–865.



The absolute difference between women's and men's median earnings also differs by age. Wage inequality is not a static phenomenon, and the effects compound over the course of a career. Comparing the mean wages of full-time, year-round workers in their prime earning years between ages 25 and 54—the same age range used in the Blau and Kahn study—shows that younger workers in 2016 (the most recent year complete data are available) had smaller wage differences relative to their older peers. The average difference in earnings for men and women workers in the 25-to-44 age range is \$15,349 per year, compared to \$22,142 for workers who are between the ages of 45 and 64. (See Table 2.)

**TABLE 2**

**Age matters when calculating gender wage inequality in the United States**  
 Total wage losses for full-time, year-round working women, ages 25 to 64, 2016

Age	Mean full-time, year-round earnings—men	Mean full-time, year-round earnings—women	Wage ratio	Difference in earnings	Number of women	Women's cumulative losses
25-44 years	\$67,048	\$51,699	77.12%	-\$15,349	22,199,000	-\$340,732,451,000
45-64 years	\$81,197	\$59,055	72.73%	-\$22,142	20,706,000	-\$458,472,252,000
					<b>Total losses</b>	<b>-\$799,204,703,000</b>

Source: PINC-05: Work Experience in 2016—People 15 Years Old and Over by Total Money Earnings in 2016, Age, Race, Hispanic Origin, and Sex, U.S. Census Bureau, Current Population Survey, 2017 Annual Social and Economic Supplement, available at <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-05.2016.html>.



Some age-related gender wage differences are likely caused by what economists and other social scientists refer to as “cohort effects,” since women in different age cohorts are likely to have different levels of education and experiences in the labor market. Research that tracks workers over time finds that when college-educated women first leave school, wage inequality is often relatively small, but it grows as women advance in their careers.<sup>36</sup> While the lost wages estimated in this report represent a significant difference in income at the individual level, when multiplied across the entire workforce, the result is hundreds of billions of dollars in lost wages. In total, gender wage inequality results in an estimated \$799.2 billion in wage differences annually.

Analyzing the average wage differences for working-age women also provides an estimation of the total cost of each cause of gender wage inequality identified by Blau and Kahn. Differences in men’s and women’s work experience, for example, results in an estimated total of \$112.7 billion in lower wages for women. Education helps women close wage differences by 5.9 percent and thus boosted women’s wages by an estimated \$47.2 billion overall, relative to what we would expect women’s wages to be if their levels of educational attainment relative to men’s had not increased since 1980. (See Table 3.)

**TABLE 3**

**The causes of lost earnings in the United States due to gender wage inequality**  
 Percentage of lost earnings due to eight factors for women, ages 25 to 64, 2016

Explanatory factor	Impact on wage inequality	Total estimated impact on wages
Education	-5.9%	\$47,153,077,477
Unionization	-1.3%	\$10,389,661,139
Unexplained	38.0%	-\$303,697,787,140
Occupation	32.9%	-\$262,938,347,287
Industry	17.6%	-\$140,660,027,728
Experience	14.1%	-\$112,687,863,123
Race	4.3%	-\$34,365,802,229
Region	0.3%	-\$2,397,614,109

Sources: Author's calculations based on *PINC-05: Work Experience in 2016—People 15 Years Old and Over by Total Money Earnings in 2016, Age, Race, Hispanic Origin, and Sex*, U.S. Census Bureau, Current Population Survey, 2017 Annual Social and Economic Supplement, available at <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-05.2016.html>; Francine D. Blau and Lawrence M. Kahn, "The gender wage gap: Extent, trends, and explanations," *Journal of Economic Literature* 55 (3) (2017): 789–865.



Although very recently published, the disaggregation reported by Blau and Kahn uses data ending in 2010. This report applies the findings of their model to more recent wage data from the 2016 Current Population Survey. As a result, these are rough estimations and should be interpreted as such. Still, there is little reason to believe that the underlying factors driving wage inequality have changed dramatically in the ensuing years, and they help to illustrate the scale of the total economic impact caused by gender wage differences. Each of these factors are explored further in the remainder of this report.

# Individual factors driving gender pay inequality, policy recommendations, and obstacles to reform

Economists Blau and Kahn provide us with the tools to disaggregate the data that demonstrate the persistence of gender wage inequality in the United States. The scholars break out the percentage costs of wage differences due to education, work experience, race and region, unionization, industry and occupation, and remaining unexplained reasons that are not identifiable in the data. Taking Blau and Kahn's 1980–2010 analysis as a jumping-off point, this paper knits together an array of other studies that dig in to each of the causal factors identified in their original analysis. This approach allows us to better understand the causes and consequences of each factor driving gender pay inequality, which in turn allows us to gain traction on a host of policy recommendations for mitigating those inequalities.

## Work experience

The fact that women tend to have less work experience than men explains 14 percent of gender wage inequality, representing roughly \$112.7 billion in wage differences. The importance of work experience on gender wage inequality has declined over time; in 1980, differences in work experience were responsible for more than one-fifth of wage differences between men and women. As women have begun to catch up with men in terms of labor force attachment, gender differences in work experience have narrowed as well.<sup>37</sup>

Explanations for women's increased labor force participation over this period of time vary. They include changes to the economy, including the growth of occupations that have traditionally been dominated by women workers, the stagnation of men's wages, technological advances, the greater ability of women and couples to control fertility, and changes in overall culture.<sup>38</sup> While the exact causes are multifaceted and open to interpretation, the indisputable fact is that women today are more likely to work in the formal labor market than women in generations past,<sup>39</sup> especially middle-class white women. Women of color, working-class women, and immigrant women have always been more likely to work outside the home for pay

because they and their families were more likely to rely upon their income.<sup>40</sup>

Work experience in the gender wage inequality model by Blau and Kahn measures full-time attachment to the labor force, which women remain less likely to exhibit compared to men because they are more likely to scale back work hours to part-time or to take time out of the labor force—often to provide family care.<sup>41</sup> But work experience can also include job tenure with a specific employer. Since the early 1980s, women’s job duration has increased by almost 30 percent, while men’s time spent at one job has declined slightly, nearly eliminating gender differences in job tenure.<sup>42</sup> Women are not more likely than men to quit their jobs overall, but they are more likely to quit for family reasons.<sup>43</sup> This means that men may be quitting to receive additional education or training or to take another job—all of which should boost their wages—while women are more likely to be leaving paid employment to provide unpaid family care, which tends to result in longer breaks out of the labor force that can have a detrimental effect on future earnings potential.

Even though more women work in the paid labor market today than in generations past, women on average still have less work experience and are more likely to exit the labor force, even temporarily, compared to men. There are numerous reasons why this is true, but one driving factor is that women are the family members who provide the majority of unpaid care to children, the sick, the disabled, and the aging. This effect can be seen acutely when comparing the wages of mothers to those of women without children, although the impact is likely similar for women workers with other types of caregiving responsibilities. Unmarried women without children earn 96 percent of what married men without children earn, while married women with a minor child at home earn only 76 percent.<sup>44</sup>

Family caregiving norms are changing, yet mothers still provide the majority of family care. In married families where both parents are employed full time, mothers work about an hour less per day than their husbands, yet spend more than an hour and a half each day on unpaid care and travel related to their children.<sup>45</sup> And although mothers are more likely than fathers to work fewer hours when employed, the difference in mothers’ pay cannot be solely attributed to reduced labor productivity.<sup>46</sup> The average mother experiences a wage decline of approximately 4 percent per child, but only about one-third of the difference is the result of decreased work hours and/or taking time off from work after the arrival of a new child.<sup>47</sup>

One study of women working on Wall Street found that mothers put in 92 percent of the hours put in by men and earned 47 percent less money.<sup>48</sup> The supply-side

explanation would be that men earn a premium for working longer hours, thus the nonlinear relationship between hours and wages.<sup>49</sup> But that same study found that fathers work only 90 percent as many hours as men without children, while taking home 122 percent as much pay.<sup>50</sup> An extensive body of research shows that many women pay a penalty for motherhood (although the effects are not evenly felt across all mothers), while fathers often experience wage premiums.<sup>51</sup>

The federal *Family and Medical Leave Act* of 1993 provides unpaid leave to qualifying workers,<sup>52</sup> but there are no federal laws that guarantee workers the right to paid leave or workplace flexibility when they need to care for themselves or a family member.<sup>53</sup> There is little indication that women are currently trading higher wages for better access to paid leave and workplace flexibility,<sup>54</sup> while research also shows that women are penalized for taking advantage of family friendly work-life policies when they are in place.<sup>55</sup> The impact of the absence of universal paid family leave on U.S. gender wage inequality cannot be overstated. The United States is the only advanced economy in the world without paid maternity leave, which is part of the reason why women's labor force participation in the United States has fallen relative to other OECD countries, and which also contributes to gender wage inequality.

Although the average mother in the United States loses 4 percent in wages per child, the effects differ by earnings, as does access to paid leave. Sociologist Michelle Budig at the University of Massachusetts Amherst, finds that low-wage workers (those in the bottom 5 percent of earnings) experience a motherhood wage penalty of 6.8 percent per child, while mothers in the top 10 percent of earnings actually experience an increase in wages.<sup>56</sup> Budig's model is not able to explain the reason, though notably only 4 percent of workers in the lowest 10 percent of earnings for their occupation have access to paid family leave, compared to 26 percent of those in the highest 10 percent of earnings.<sup>57</sup>

Access to paid leave makes mothers more likely to return to work after the birth of a child,<sup>58</sup> makes women return to work more quickly compared to mothers without paid leave,<sup>59</sup> and makes them more likely to return to the same or higher wages than they were earning before they gave birth.<sup>60</sup> Data show similar patterns for women who are caring for family members other than a newborn. Workers who live with a child with health problems are 48 percent more likely than their peers to have lost wages, and caregiving for an adult with health problems increases the odds of lost wages by 29 percent. Access to paid leave to address family health needs reduces the likelihood of lost wages by 30 percent.<sup>61</sup>



Reducing labor force participation reduces earnings, but scaling back or leaving work to provide unpaid care might make short-term financial sense to families when the cost of purchasing services from a professional caregiver such as a childcare provider or a home health aide is viewed as too high. As previously mentioned, women already experiencing lower wages results in lower opportunity costs that may influence the decision for them to be the family member who stays home. This in turn further lessens women's work experience and leads to lower future wages. But at the same time, the unpaid care these women provide for their family members is valuable. Across genders, the unpaid care provided by family members in 2013 had an estimated economic value of \$470 billion.<sup>62</sup>

In addition to caring for children, the growing number of aging parents means that more and more adult children need to care for them, which increases the demand on working women to provide unpaid care whether in or out of the workforce.<sup>63</sup> The lack of access to family friendly work-life policies such as paid leave in the United States is partially responsible for the decrease in women's labor force participation relative to other OECD countries.

#### *Policy recommendations and obstacles*

Increasing access to policies that support workers with family care responsibilities would help to bring women's work experience closer in line with men's.<sup>64</sup> Access to paid leave is associated with increased labor force attachment and higher wages, and would help significantly to reduce the differences in the labor force histories of women and men.<sup>65</sup>

Although current federal policy does not provide paid leave, five states (California, New Jersey, Rhode Island, New York, and Washington state) and the District of Columbia have passed laws that create paid family leave programs for workers in their states, although Washington state and Washington D.C.'s programs are not yet operational.<sup>66</sup> Research by economists Jean Kimmel of Western Michigan University and Catalina Amuedo-Dorantes of San Diego State University on the 12 states that had FMLA-type laws in place before the federal FMLA law was implemented found that eligibility for parental leave was associated with increase in women's earnings of approximately 7 percent on average and reduced motherhood wage inequality by two-thirds.<sup>67</sup> More recent research on the impact of California's paid family leave program finds that the program resulted in a 10 percent to 17 percent increase in the work hours of mothers with a child between the ages of 1 to 3, and that their wages may have increased by a similar amount.<sup>68</sup>

Similarly, a study on the impact of New Jersey’s paid family leave program conducted by Maria Tito, an economist with the Board of Governors of the Federal Reserve System, found that gender wage differences are lower in counties where more businesses are covered by the family leave law, likely because it reduces the amount of time women spend out of the labor force.<sup>69</sup>

Gender neutral policies such as those in place in a handful of states not only help women but also reduce some of the stigma and personal costs to taking leave, particularly since data shows that men have increased their parental leave-taking behaviors after the introduction of paid leave by these states.<sup>70</sup> The implementation of a national paid family leave and medical program such as the *FAMILY Act*, which has been introduced in Congress by Sen. Kirsten Gillibrand (D-NY) and Rep. Rosa DeLauro (D-CT), would create a national, gender-neutral social insurance program providing for the replacement of two-thirds of parents’ wages for up to 12 weeks of paid leave for the same qualifying conditions as the *Family and Medical Leave Act*. Prior research estimates that the creation of a paid family and medical leave program would result in a 7 percent wage increase for women and thus a 7 percent decrease in gender wage inequality.<sup>71</sup>

The Trump administration has proposed a plan to create a federal paid parental leave program, administered through states’ unemployment insurance systems, which would provide parents with up to 6 weeks of paid leave.<sup>72</sup> This plan is not only limited in scope, providing paid leave only after the arrival of a new child while ignoring other family caregiving needs, but also administratively untenable and underfunded.<sup>73</sup> Conservatives have also advanced a proposal for paid parental leave that would be funded by requiring leave-takers to borrow against their future Social Security retirement income.<sup>74</sup> This plan has many of the same pitfalls as the Trump administration’s proposal, including a limited scope and little attention to administrative overhead and feasibility. Republicans in Congress included in the fiscal year 2018 budget a tax credit to businesses that voluntarily choose to provide paid family and medical leave.<sup>75</sup> Evidence suggests that this policy would not change employer behavior, and the proposal is unlikely to have a significant impact on workers’ access to paid leave—and thus on gender wage inequality.<sup>76</sup>

Children, of course, require caregiving far beyond the first few months of their lives, and paid family leave is not the only policy needed to ensure that mothers are able to enter and remain in the paid labor force. Public investments in early childhood education and care also are needed to help offset the high costs of paid childcare that often lead to women scaling back or leaving the labor force to provide that care themselves. Recent research on the impact of rising childcare

costs on women's labor force participation by So Kubota, a doctoral candidate in economics at Princeton University, finds that the 32 percent increase in costs of childcare between 1990 and 2010 resulted in a 5 percent decrease in women's labor force participation.<sup>77</sup>

The United States currently spends the least on early childhood care compared to other OECD nations when expressed as a percentage of GDP—only 0.4 percent in the United States, compared to a cross-country average of 0.8 percent.<sup>78</sup> As a result, out-of-pocket costs for childcare in the United States are the third-highest among OECD countries.<sup>79</sup>

The *Child Care for Working Families Act* introduced in Congress by Sen. Patty Murray (D-WA) and Rep. Bobby Scott (D-VA), would guarantee childcare assistance to families earning up to 150 percent of their state's median income, limit families' childcare payments to 7 percent of their income in connection with the U.S. Department of Health and Human Services' definition of affordable childcare, improve childcare quality, and ensure better wages for childcare providers, most of whom are women.<sup>80</sup> If fully enacted, the bill is estimated to result in 2.3 million new jobs and increase the wages of childcare providers by 26 percent.<sup>81</sup> Although the direct impact on gender wage inequality has not been calculated, the employment and wage benefits would largely accrue to women.

Other family friendly work-life policies such as greater access to workplace flexibility and part-time parity would also help to increase labor force participation rates of (predominantly women) working caregivers, although a precise estimate on how these policies would reduce wage inequality are harder to quantify. But without a doubt, workplace flexibility, including the ability for workers to influence the days, hours, or locations where they complete their work, can help those with caregiving responsibilities manage their dual roles as caregivers and workers.

Alas, access to these types of workplace flexibility is rare for most workers, with only 39.3 percent of employees reporting access to flexible days, 48.7 percent with flexible hours, and 22.1 percent with flexible work locations.<sup>82</sup> When comparing otherwise identical workers, parental status and eldercare responsibilities do not significantly increase the likelihood of access to workplace flexibility, and where there is an impact, it is negative, undercutting the idea that workers who need these policies will self-select into jobs where they are available.<sup>83</sup> Right-to-request laws such as those in place in Vermont, San Francisco and Berkeley, California, and New York City allow workers to request flexibility from their employers while protecting them from retaliation or discrimination.<sup>84</sup> Federal proposals such as the *Schedules*

*That Work Act*, introduced in Congress by Sen. Elizabeth Warren (D-MA) and Rep. Rosa DeLauro (D-CT), would extend these protections nationally.<sup>85</sup>

Republicans in Congress have responded to this issue with their own legislation, the *Workflex in the 21st Century Act*, introduced in the House by Rep. Mimi Rogers (R-CA).<sup>86</sup> The bill would pre-empt state and local laws pertaining to paid leave and work schedules, allowing employers to create their own policies that they controlled instead. It would also change the way overtime pay is determined by allowing employers to avoid paying overtime as long as nonexempt employees did not work more than 80 hours in a two-week period, upending the 40 hour per week limit in place under the *Fair Labor Standards Act*. Rather than helping workers, this bill would allow employers to control who has access to paid leave and workplace flexibility and under what circumstances, in addition to undermining state and local laws that have already been signed into law.

The majority of the data presented in this report reflects only full-time workers, who have been the focus of most of the academic research. Yet part-time work is more common among women than men. Nearly a quarter of employed women work part-time (24.4 percent, compared to 12.1 percent of men), and women make up the majority of part-time workers (64.1 percent).<sup>87</sup> The lack of parity between full- and part-time workers, wherein part-time workers often receive lower hourly wages and fewer, if any, benefits, means that part-time employees often experience disproportionately lower earnings and benefits.<sup>88</sup> Federal legislation that would require pay parity for workers in part-time jobs, health care reforms that would lower the threshold of hours required by workers to be eligible for employer-sponsored health care, and changes to the national unemployment insurance system to lower requirements for hours worked to include part-time employment all would help to ensure that workers who are engaged in part-time work are not unduly excluded from wage and labor protections.<sup>89</sup>

### Industry and occupation

Fully half of the gender wage inequality (50.5 percent) in Blau and Kahn's model can be explained due to differences in the industries (17.6 percent) and occupations (32.9 percent) in which women and men are employed. This accounts for an estimated \$140.7 billion in wage differences caused by differences in industry and an additional \$262.9 billion in wage differences caused by gender differences in occupation.

Gender segregation by industry is an understudied topic that is deserving of greater attention.<sup>90</sup> Unfortunately, very little research has been conducted on

industrial segregation, especially in comparison with occupational segregation, which is well-studied.

Traditionally, women are underrepresented in goods-producing industries and overrepresented in service-providing industries.<sup>91</sup> Education and health services is by far the most common industry for women, where they comprise three-quarters (74.5 percent) of all workers, as of 2017.<sup>92</sup> Women are particularly underrepresented in industries that pay relatively higher wages to workers while requiring lower levels of formal education such as manufacturing (29.5 percent women) and construction (9.1 percent).<sup>93</sup> Occupations have become significantly more integrated since the 1970s, but progress has stalled since 1996 through 2011, the most recent year for which complete data are available.<sup>94</sup>

Wages tend to be lower in occupations that are women-dominated, and this is true both among professional occupations and lower-skilled work.<sup>95</sup> There is also evidence that there is a causal mechanism at play—it is not simply that women gravitate for whatever reason toward lower-paid work, but also that an influx of women into an occupation lowers wages, while men who work in women-dominated occupations experience wage premiums.<sup>96</sup>

Women have made inroads into traditionally men-dominated industries, with women who have higher levels of formal education finding it easier to break through. Highly educated women have made significant progress between 1972 and 2012 moving into managerial and professional occupations that were previously dominated by men.<sup>97</sup> Although women in the United States are less likely to be in the labor force than women in many other OECD countries, they are more likely to be in managerial jobs as of 2013, the latest year for which data are available.<sup>98</sup> White women in particular have disproportionately reaped the benefits of declines in occupational segregation, while women of color have seen less mobility.<sup>99</sup>

Indeed, occupational changes among black women over time have not had the same positive effect on wages. There is a broader distribution of black women across occupations today than in the past, but this has not translated into corresponding decreases in poverty rates among black women. In 1960, roughly 12 percent of black women clerical workers had wages that placed them at or below the poverty line; by 2008, the latest year for which data are available, black women's rates of employment in clerical work had increased, but the rate of those earning poverty-level wages had also increased to 16 percent.<sup>100</sup>

Differences between occupations is the single largest explanatory factor behind gender wage inequality, and differences in wages within occupations exist as well. In 2016, out of the 120 occupations with data on earnings by gender, 107 had lower median weekly wages for full-time working women when compared to men.<sup>101</sup> And even within the same occupational categories there are gendered differences by firm, and firms that employ higher proportions of women pay lower wages relative to more men-dominated firms.<sup>102</sup>

Women also tend to be clustered at the lower end of the wage hierarchy within occupational groups. Women in 2017 made up nearly half of all workers in management, business, and financial operations occupations (44 percent), for example, but they were only about a third of all chief executives (28 percent) and general and operations managers (34.1 percent).<sup>103</sup> Women also make up more than half of the legal occupations (52.8 percent), but only about a third of lawyers (37.4 percent) are women, which represents a significantly higher paying position. Women are, conversely, overrepresented as paralegals, legal assistants, and other legal support occupations.<sup>104</sup>

The effects of industry and occupation (and also unionization) on gender wage inequality are larger for workers at the bottom of the income spectrum compared to workers in the top 90th percentile of earnings, while differences between workers in the same industries and occupations (and also union status) have a larger effect on wage differences for those at the top of the wage distribution.<sup>105</sup> Some of this different distribution of effects across the income spectrum may be due occupational classifications no longer providing the same insights into job characteristics, including pay, than they have historically.<sup>106</sup> Economists Enghin Atalay and Phai Phongthientham at the University of Wisconsin-Madison, Sebastian Sotelo at the University of Michigan, and Daniel Tannenbaum at the University of Nebraska find that tasks, skill requirements, and other job characteristics within the same occupations changed between 1960 and 2000, and that these within-occupation changes explain a significant portion of labor income inequality.<sup>107</sup> While their paper is not focused on gender wage inequality, this research indicates that addressing differences in skills, including how different skills are valued, and tasks required of workers may provide additional insights beyond those provided by analyzing occupations.

#### *Policy recommendations and obstacles*

Policies can help to reduce barriers for women who are interested in entering into occupations that are dominated by men. Careers in science, technology, engineer-

ing, and math—the so-called STEM occupations—can offer one valuable entry-point for women workers, as these are high-growth, high-paying fields. In addition to encouraging and supporting STEM education among women, policies could be advanced that would help to keep women from leaving the field once they enter it. Women in these fields are more than twice as likely as professional women overall to leave their jobs, with half of women leaving in the first 12 years, the majority of whom leave in the first 5 years, according to a 2013 study.<sup>108</sup> Many women move into other types of jobs rather than leaving the labor force entirely, and having an advanced degree makes them more likely to leave STEM jobs. Getting married and having children also has a much stronger impact on women in these occupations, who leave their jobs more often compared to other professional women.<sup>109</sup> Taken as a whole, these findings indicate that there is something about the field that is driving them out.

Two examples of policies that attempt to combat this trend and are worthy of greater investment and expansion are the National Institute of Health’s family friendly initiatives and the National Science Foundation’s ADVANCE grant-making program. The NSF provides competitive grants to nonprofit two-year and four-year academic institutions to:

- Develop new strategies to produce institutional change that will promote gender equity
- Adapt and implement these evidence-based organizational change strategies
- Partner with other academic institutions or STEM organizations to increase gender equity<sup>110</sup>

The National Institute of Health has instituted a suite of policies that are intended to foster a more family friendly environment, which has a disproportionate benefit for women. These include:

- Providing paid family leave to trainees and fellows
- Altering the grant-application process to include explanations of how personal circumstances including family responsibilities have impacted applicants’ careers or productivity

- Requiring applicants for conference grant support to include a plan to identify childcare at the conference site<sup>111</sup>

The Trump administration has proposed cutting the National Science Foundation's budget by 30 percent in 2019 relative to 2017.<sup>112</sup> At this time, it is unclear to what extent decreased funding will impact the NSF's goals to promote greater diversity in STEM fields. The administration's budget proposal would also cut funding for the National Institutes of Health by 27 percent.<sup>113</sup> At the time of this report, it is difficult to project what program cuts may be necessary and how programs and initiatives may be impacted.

Greater investments in the registered apprenticeship system, which has existed in the United States since 1937, also could help to reduce gender segregation and encourage women's participation in nontraditional sectors.<sup>114</sup> High-quality apprenticeship programs provide a combination of technical or academic classroom training and on-the-job training, all of which is paid with progressively increasing wages. Apprenticeships help to prepare workers with necessary job-related skills and help employers to meet their workforce needs. Apprenticeships are also associated with higher wages for workers. The U.S. Department of Labor estimates the average starting salary of "fully proficient" workers who complete an apprenticeship to be \$50,000 per year,<sup>115</sup> higher than the median income for all full-time, year-round working women of \$43,199 in 2016.<sup>116</sup>

Large gender inequities exist within current apprenticeship programs. Women are only a small minority of current apprentices, and they tend to be overrepresented in programs with lower wages.<sup>117</sup> Expanding apprenticeship opportunities for women could help to boost their wages and further narrow gender wage inequality. Developing more pre-apprenticeship programs, ensuring that programs prioritize diversity, and better enforcement of Equal Opportunity Employment regulations that require affirmative action and prohibit discrimination in apprenticeship programs would all help to ensure that women (and men of color) are able to reap the benefits of apprenticing.<sup>118</sup>

The Women in Apprenticeship and Nontraditional Occupations, or WANTO, grant program provides funds explicitly aimed at diversifying the gender makeup of apprenticeship programs. In 2016, the U.S. Department of Labor announced an investment of \$1.9 million in competitive grants to "recruit, train and retain women in high-skill occupations, such as advanced manufacturing, transportation, energy, construction and information technology."<sup>119</sup> The grant period is still



underway, and the results and analyses of these investments are not yet known, but they will provide valuable evidence-driven insights into how apprenticeships can help decrease industry and occupational segregation by increasing the number of women in nontraditional careers, thereby narrowing gender wage inequality.

But since President Trump took office, the Department of Labor has canceled multiple contracts intended to promote diversity in apprenticeships, and while intermediary contracts have since been reinstated, there has been little stated commitment to continuing these congressionally approved funds.<sup>120</sup> The administration's 2018 budget would eliminate all WANTO grant program funding, claiming that its goals would be met under other initiatives.<sup>121</sup> The 2019 budget repeated this elimination. President Trump pledged in 2017 to create 5 million new apprenticeships over five years and signed an executive order to expand apprenticeship programs.<sup>122</sup> Yet efforts from the administration have focused on creating "industry-recognized" apprenticeships, which would undermine the registered apprenticeship system and likely result in lower-quality apprenticeship programs with less federal oversight.<sup>123</sup> WANTO grant funding should be maintained, and any new or existing apprenticeship programs should include the goals of promoting greater gender, racial, and ethnic diversity in apprenticeships.

Women need to have greater access to higher-paying jobs in traditionally men-dominated industries, while at the same time women need higher wages in the industries and occupations where they are currently employed. Not every worker can (or should) be in a STEM or professional career, and it is vital to ensure that all workers are fairly compensated for their work at all levels. As detailed above, raising the minimum wage would have a disproportionately beneficial effect on women and would help to reduce gender wage inequality. And better access to work-family policies such as paid leave and workplace flexibility would also help women maintain continuous employment and advance within their jobs.

Similarly, full implementation of the Obama-era overtime expansion rule, which would raise the minimum salary for exempt workers to \$47,476, would have a beneficial impact on wage differences, since the majority of workers who would be affected are women.<sup>124</sup> A quarter of all mothers and nearly a third of all single mothers would be positively impacted by the implementation of the overtime rule.<sup>125</sup>

Again, however, implementation has been halted by conservatives. The ruling was challenged in courts by 21 states and more than 55 business groups, led by the U.S. Chamber of Commerce, which filed lawsuits claiming that the Department

of Labor had overstepped its authority.<sup>126</sup> The U.S. District Court ruled in the challengers' favor, and while the Department of Justice initially appealed the ruling, the appeal is currently on hold while the Department of Labor undergoes additional rulemaking to determine a new salary threshold for overtime eligibility.<sup>127</sup> Although Labor Secretary R. Alexander Acosta has testified that he believes the salary threshold is currently too low, there has been no clear indication to date how the current administration plans to address the issue.<sup>128</sup>

While most states adhere to the national standards set by the Department of Labor, some have raised their salary thresholds for overtime. In California, for example, the threshold is currently set at \$45,760 for salaried workers and is tied to the minimum wage, so the two automatically increase in tandem.<sup>129</sup> In the absence of meaningful movement at the federal level, other states should explore similar options.

## Unionization

As overall unionization rates have fallen over the past five decades,<sup>130</sup> the difference in union representation between genders has diminished.<sup>131</sup> While men remain slightly more likely than women to be union members (11.2 percent versus 10.2 percent),<sup>132</sup> the ability of unions to raise wage floors and promote more equitable earnings has helped to diminish gender wage inequality by 1.3 percent, representing an estimated \$10.4 billion in increased earnings for women in 2016 based on the Blau and Kahn model. Being a member of a union raises wages in general for all workers and narrows income differences between women and men, as well as between whites and people of color.<sup>133</sup>

Unionization has been particularly beneficial to all women and to men of color. This is both because collective bargaining agreements tend to raise wages for covered workers, and because they tend to create standard wage policies that reduce the potential for wage discrimination between workers in the same (or similar) jobs.<sup>134</sup> Women in 2016 who were covered by union contracts with their employers had wages that were 9.2 percent higher than those of comparable nonunion women, and workers of color also experienced wage boosts through unionization.<sup>135</sup> The benefits are even larger for women in service occupations, where unionization is associated with women workers earning 87 percent more in total compensation compared to nonunion women workers.<sup>136</sup>

These wage gains are complemented by other benefits that lower gender wage inequality. Union members have greater access to paid sick days, employer-provided health insurance, and greater control over and advance notice of their work sched-

ules, all of which help workers maintain employment and labor force attachment.<sup>137</sup> Unions can have an impact on wages even for workers who are not members of their collective bargaining units by changing norms around rates of pay, and encouraging nonunion employers to increase wages to compete for workers. Employers sometimes also raise wages to prevent union organizing among their employees.<sup>138</sup>

Still, the effects of unionization are not felt equally by all women workers. Union women working within women-dominated establishments in women-dominated subsectors of the manufacturing industry do not receive as much of a wage benefit compared to women in subsectors with a greater gender balance.<sup>139</sup> And overall, the decline in unionization rates across all U.S. workers since the end of the 1970s explains one-fifth of the growth in income inequality experienced by women between 1973 to 2007, as well as one-third for men.<sup>140</sup> Since then, rates of unionization have continued to decline.

The narrowing of unionization rates between men and women means that the role of union status in explaining wage inequality has also diminished, but because this trend is coupled with overall lower rates of union membership, workers of all genders are less likely to experience the wage benefits associated with collective bargaining units. Part of the reason unionization rates have declined over time is due to state-level attacks on public-sector bargaining rights through the expansion of Right to Work laws.<sup>141</sup> Research conducted by researchers at the University of Illinois, Urbana-Champaign found that Right to Work laws in Indiana, Michigan, and Wisconsin resulted in a 2.1 percent decrease in the unionization rate and lowered real hourly wages by 2.6 percent on average.<sup>142</sup>

### *Policy recommendations and obstacles*

While unions have helped to reduce wage inequality, there is room for an even greater reduction based on both higher rates of unionization and a potential focus within collective bargaining agreements on gender equity. Strengthening the rights of workers to collectively bargain would raise wages while helping to further reduce gender wage differences, and far more can be done to ensure that workers are able to exercise their right to form unions. Although the *National Labor Relations Act* has made it illegal for private-sector employers to fire or otherwise punish workers who are involved in union-organizing since its passage in 1935, the penalties for doing so are minimal.<sup>143</sup> Employers in violation of the law may be required to reinstate workers, provide back pay, or rerun a union election, but there are few additional legal consequences and no compensation for damages.<sup>144</sup> Comprehensive labor-law reform legislation should create meaningful penalties

for employers who violate the NLRA so that there is a greater disincentive for bad employer behavior. The *Workplace Action for a Growing Economy (WAGE) Act*—introduced in Congress by Sen. Patty Murray (D-WA) and Rep. Bobby Scott (D-VA)—would create new protections for workers attempting to unionize and would impose stricter penalties on employers who violate the law.<sup>145</sup> This could also include making the right to join a union an individual right, which would allow workers who are not covered under the NLRA (a group which includes independent contractors)<sup>146</sup> the private right to sue if they experience discrimination while attempting to organize a union.<sup>147</sup>

Ensuring that independent contractors have opportunities to collectively bargain is of increasing importance as the “gig” economy continues to grow.<sup>148</sup> The U.S. Bureau of Labor Statistics collected data on contingent and alternative work arrangements in 2016, although a report of the findings has not yet been released.<sup>149</sup> Research conducted by The McKinsey Global Institute estimates that there are between 54 million to 68 million people who work in the freelance economy, but because they are currently classified as independent contractors, they are not covered by the protections of the NLRA, along with a host of other labor laws such as the minimum wage.<sup>150</sup>

The Trump administration has weakened the rights of workers to collectively organize by appointing two new anti-union members to the National Labor Relations Board, the government entity tasked with overseeing employee’s rights to unionize. The NLRB has already overturned many of the decisions issued under the Obama administration that would have made it easier for employees to form unions.<sup>151</sup> The board also started the process to roll back rules that would modernize union elections, and the Trump administration filed an amicus brief that encourages the Supreme Court to rule that private-sector unions cannot require fair share fees from the workers that they represent.<sup>152</sup> This would have a disproportionately negative impact on black women, who are especially likely to work in public-sector jobs.<sup>153</sup> The board’s general counsel, a Trump appointee, has also put forth a proposal to reorganize regional offices, which would result in a structure that was friendlier toward business interests at the expense of workers.<sup>154</sup>

But some states and cities are stepping up where they can. The New York state Department of Labor, for instance, ruled in 2016 that drivers for Uber Technologies, Inc. and Lyft, Inc. are employees, not independent contractors, and thus are eligible for certain worker protections.<sup>155</sup> New York City’s Fair Workweek and Fast Food Deductions laws include a variety of reforms to local labor laws, and also would require companies to honor worker requests to deduct voluntary

payments to a 501c(3) that would advocate on their behalf. This law, however, has been stayed pending a constitutional challenge by the Restaurant Law Center and the National Restaurant Association.<sup>156</sup>

In December 2015, Seattle's city council passed an ordinance to allow drivers for Uber and Lyft to unionize,<sup>157</sup> although it has been legally challenged by the Chamber of Commerce, and the case is now under appeal after initially being dismissed.<sup>158</sup> The legal outcome of Seattle's approach remains uncertain at the time of this report, but these actions indicate an appetite for developing creative solutions to rethink the future of collective bargaining in the gig economy at the local level. The Seattle Domestic Workers Alliance is also advocating for a Domestic Workers Bill of Rights that would create a city commission comprising workers and employers to monitor wages, benefits, and working conditions.<sup>159</sup>

## Education

Education is one of the factors that has helped to narrow wage differences between women and men, albeit not enough to eliminate them entirely. Women have been outpacing men in educational attainment since the 1980s, with women now attending college at higher rates than men and earning the majority of bachelor's, master's, and doctorate degrees.<sup>160</sup> Women's increased educational attainment has helped reduce gender pay inequality by 5.9%, representing a \$47.2 billion increase in earnings for women in 2016 based on Blau and Kahn's model. This trend has been driven by a variety of factors, including legislative changes, among them:

- Implementation in 1972 of Title IX of the Education Amendments in the U.S. Code of Laws, which prohibits sex discrimination in federally funded education programs<sup>161</sup>
- Changes in cultural norms regarding higher educational achievement expectations among women
- Delays in the timing of marriage, providing women with more time to go to college or gain work experience
- Access to birth control, which gives women greater control over whether and when to have children<sup>162</sup>

Each of these factors (and myriad other changes<sup>163</sup> in the economy and society) are interrelated, but the overall impact has been an increase in women's formal educational attainment, indicating that simply advocating for more women to receive post-secondary education is not the ultimate answer to eradicating gender wage inequality.

This is not to say that additional educational opportunities are not part of the solution to women's lower wages. Women may be outpacing men in educational attainment, yet on average they choose different fields of study, which often pay lower wages. Women are significantly more likely to major in education, social sciences, and the humanities, while men are more likely than women to major in engineering and computer and information sciences.<sup>164</sup> University of Maryland economist Lisa Dickson finds that even when controlling for SAT scores, high school rankings, and differences in schools, equally qualified women are less likely to start college declaring a major in engineering or computer science, and if they do, they are significantly more likely to change their major away from these fields during their college years.<sup>165</sup>

Research conducted by Basit Zafar at the Federal Reserve Bank of New York finds that most of the differences in the choice of college majors between women and men were not made because of differences in beliefs about ability or potential future earnings, but rather by how much students thought they would enjoy the coursework or working in a job in that field—factors that are highly likely to be influenced by gender norms and socialization.<sup>166</sup> And even when receiving the same education in the same major, women and men often make different choices about what types of jobs to take. Research on women with MBAs, for example, finds that women pay a wage penalty for exhibiting higher ethical standards in their career choices and choosing jobs that contribute back to society.<sup>167</sup>

Despite women's overall increased educational attainment at all levels, significant barriers to higher education still exist. Students from low-income families, regardless of their aptitude and test scores, are significantly less likely to complete college, and their rates of college attendance are dropping.<sup>168</sup> The percentage of low-income students enrolling in higher education immediately after high school graduation has declined by 10 percentage points since 2008, although it is difficult to pinpoint the exact drivers behind the decline.<sup>169</sup> Women from low-income families are more likely than their male peers to have completed college, but they still lag far behind all students from wealthier families. When comparing women who were high school sophomores in 2002, women whose families were in the highest quartile of socioeconomic status were four times more likely to have

completed a bachelor's degree by 2013 compared to women in the lowest quartile (70.3 percent versus 17.6 percent).<sup>170</sup>

Among nontraditional undergraduates—a group which includes older students, married students, and students with children—men and women are equally likely to have delayed entry to school and to work full time or part time while attending college, but women are significantly more likely to be caring for dependents while attending school, whether single or married.<sup>171</sup> The majority of undergraduate student parents are women (71 percent) and nearly half are single mothers (42.5 percent).<sup>172</sup> Similarly, undergraduate students with children are more likely to be low-income, are more likely to be people of color, and have higher levels of debt after graduation.<sup>173</sup> They are also less likely to complete their programs within six years of enrollment, leading to an outcome where many student parents are left with student loan debt but no degree.<sup>174</sup>

### *Policy recommendations and obstacles*

Even though women overall have overtaken men in educational attainment, there are policies that could help underrepresented groups of women (and men) complete college. Any policies that help make higher education more affordable will show a distinct benefit for students from low-income families, which currently struggle to pay for postsecondary education. Expanding Pell grants, which, unlike loans, do not have to be repaid, is one option. Increasing the maximum grant amount would be one way to help.

The Trump administration's fiscal year 2019 proposed budget does not increase the maximum grant amount for the Pell Grant program, instead locking it at \$5,920 without automatic adjustments for inflation. What's more, the Republican-led House of Representatives passed the *Promoting Real Opportunity, Success, and Prosperity through Education Reform (PROSPER) Act* out of committee in December 2017, although it has not yet come up for a floor vote and companion legislation has not yet been introduced in the Senate.<sup>175</sup> Among other changes to higher education, this bill would eliminate Federal Supplemental Educational Opportunity Grants, which currently provides funds that do not need to be repaid to 1.6 million low-income students. It would also eliminate subsidized Stafford loans, which do not accrue interest while the borrower is still enrolled in school. And it would end public-service loan forgiveness programs, which provide loan forgiveness to qualifying workers after 10 years of payments while engaged in full-time public-service work. The Administration's proposed budget echoes this elimination.

Additional steps could also be taken to help improve the odds of success for student parents, most of whom are women. One option would be increasing investments in on-campus childcare centers to remove at least one barrier student parents face to completing their degrees.<sup>176</sup>

At the state and local level, a number of states and municipalities are exploring how to make attending community colleges free for students. Tennessee, Oregon, Rhode Island, and San Francisco all allow qualifying residents to attend community college tuition-free.<sup>177</sup> And starting in the fall of 2017, qualifying students from families making less than \$125,000 per year are eligible for free tuition at all City University of New York and State University of New York two- and four-year colleges in New York state.<sup>178</sup>

And although the rates of student parents are increasing at the same time that the percentage of college campuses providing childcare centers is declining, there are a number of states that are making these investments to promote parents' ability to complete their degrees.<sup>179</sup> In California, Hawaii, Idaho, Illinois, Nevada, New York, Rhode Island, Utah, and Washington, at least 70 percent of all public two- and four-year higher education institutions have campus childcare.<sup>180</sup> The expansion of these types of investments would help to ensure that student parents are able to be successful, ensuring a better-educated workforce and boosting wages for these workers.

In addition to helping increase access to higher education, policies can also be implemented that would help to increase the number of women pursuing degrees in fields that have historically been dominated by men. Ensuring that women are able to enter the STEM fields is especially important, as these are fields with above-average wages and above-average job growth, and most of them require at least a bachelor's degree.<sup>181</sup> By 2022, the demand for workers in STEM fields is projected to outpace the number of potential workers with STEM degrees by roughly 1 million.<sup>182</sup> The National Academies of Sciences has released detailed proposals on investing in Kindergarten through grade 12 mathematics and science teachers and instruction that would help to ensure that students are prepared for STEM majors in college.<sup>183</sup>

Formally including an emphasis on gender would help strengthen these impacts for women. Additional proposals have been put forward that would help support women students in order to increase their odds of success in STEM majors and reduce the number of students who show interest and aptitude but change majors away from STEM fields. These include:



- Improving freshman advising
- Increasing the number of women faculty members through developing diversity programs
- Revising the faculty hiring search process to increase the recruitment of women and people of color
- Establishing research-enabling grants for primary caregivers<sup>184</sup>

The Trump administration has indicated a commitment to STEM education, signing a Presidential Memorandum in 2017 that will provide \$200 million per year in grant funds dedicated to expanding access to STEM and computer science education for Kindergarten through grade 12 students.<sup>185</sup> This is not, however, new funding but rather a redirection of existing grant money already held by the U.S. Department of Education. Although the memorandum explicitly mentions gender differences in computer science classes, it is unclear to what extent the grants would focus on girls.

A number of bills have been introduced in Congress to encourage greater participation of women and other underrepresented groups in STEM fields. The *Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act*, which was passed into law in February 2017, directs NASA to develop strategies to encourage women and girls to study STEM fields and pursue careers in aerospace.<sup>186</sup> The *Women and Minorities in STEM Booster Act of 2017*, introduced by Sen. Mazie Hirono (D-HI) and Rep. Carolyn Maloney (D-NY), would require the National Science Foundation to award competitive grants aimed at increasing the representation of women and other underrepresented minorities in STEM fields.<sup>187</sup> The covered grant activities would include outreach, mentoring, and internship programs. The *Code Like a Girl Act*, introduced by Sen. Catherine Cortez Masto (D-NV) and Rep. Jackie Rosen (D-NV), would direct the National Science Foundation to award competitive grants to fund research on factors that influence willingness of girls under the age of 11 to participate in STEM activities.<sup>188</sup>

## Race

Race “explains” 4.3 percent of gender wage inequality, according to the model developed by Blau and Kahn, amounting to \$34.4 billion in wage differences. Although Blau and Kahn control for race in their model, the reasons for racial and

ethnic differences are not explored in detail in their original analysis. Race is not so much an explanatory factor, but rather a key consideration for understanding that wage inequalities are complicated and often exacerbated by the intersection of gender *and* race, such that the causes of pay inequality for women of color may vary in type and degree as compared to white women. Wage data show that women of different racial and ethnic backgrounds have dramatically different earnings when compared to each other, to men of their same racial or ethnic background, or to white men. Furthermore, these statistics further vary depending on which wage data are used to make the comparisons. (See Table 4.)

**TABLE 4**

**U.S. gender wage inequality measured by race and ethnicity**

U.S. wage inequality calculations by gender, race, and ethnicity, using hourly, weekly, and annual wage data, 2015

	Hourly wages		Weekly wages		Annual wages	
	Compared to white men	Compared to same race/ethnicity	Compared to white men	Compared to same race/ethnicity	Compared to white men	Compared to same race/ethnicity
White women	81.0%	81.0%	80.8%	80.8%	75.3%	75.3%
Black women	61.9%	86.7%	66.8%	90.4%	63.3%	88.1%
Latinas	57.1%	85.7%	61.5%	89.7%	54.4%	87.2%
Asian women	85.7%	75.0%	95.3%	77.7%	84.5%	78.3%

Sources: U.S. Bureau of Labor Statistics, Highlights of women's earnings in 2015 (Department of Labor, 2017), available at <https://www.bls.gov/opub/reports/womens-earnings/2015/home.htm>; Ariane Hegewisch and Asha DuMonthier, "The Gender Wage Gap: 2015 Annual Earnings Differences by Gender, Race, and Ethnicity" (Washington: Institute for Women's Policy Research, 2016), available at <https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C446.pdf>; Eileen Patten, "Racial, gender wage gaps persist in U.S. despite some progress" (Washington: Pew Research Group, 2016) available at <http://www.pewresearch.org/fact-tank/2016/07/01/racial-gender-wage-gaps-persist-in-u-s-despite-some-progress/>.



Bundling all women together into one allegedly homogeneous group overlooks key differences, as does the decision to compare women of particular racial or ethnic groups only to white men or only to men of their same race or ethnicity. Women of color and white women experience pay differences with men regardless of the group to which they are compared, while black men and Latinos experience pay differences when compared to white and Asian men. This indicates there are complex factors at play, and that racial wage inequality is not limited to women.

Racial wage inequality compounds the effects of gender wage inequality, and as the Blau and Kahn model shows, the effect of race persists even when controlling for other worker characteristics such as education, work experience, and occupation. Additional research on wage inequality between black and white workers mirrors these results. Black-white wage differences have grown since 1979, and while they temporarily narrowed during the tight labor market in the late 1990s,

they have increased since 2000.<sup>189</sup> As of 2015, when controlling for education, experience, metro status, and region of residence, black men earn 22 percent less than white men, while black women earn 34.2 percent less than white men and 11.7 percent less than white women.<sup>190</sup> Wage inequality for women of color has narrowed slightly over time, and between 1980 and 2015, wage differences when compared with white men have declined 9 percent for black women and 5 percent for Hispanic women.<sup>191</sup>

Part of this is likely due to women's increased educational attainment, which spanned all racial and ethnic groups. Between 1993 and 2016, the percentage of black women ages 25 to 29 who had completed at least four years of college nearly doubled (from 13.8 percent to 25 percent), and more than tripled for Hispanic women (from 9.8 percent to 30.8 percent).<sup>192</sup> Over the past 35 years, however, wage inequality between white men and black and Hispanic men has not improved, in spite of the fact that black and Hispanic men have also dramatically increased their educational attainment.<sup>193</sup> Black and Hispanic men do have lower rates of educational attainment relative to white men, but black men who are recent college graduates start out their careers earning less than white college graduates, and these differences have also grown over time. In 1980, black men with a bachelor's degree earned 8.8 percent less than white college-educated men, but by 2014, the differences had more than doubled to 18 percent.<sup>194</sup>

### *Policy recommendations and obstacles*

Unemployment rates for black and Hispanic workers are significantly higher than for white workers regardless of educational attainment.<sup>195</sup> Underemployment rates, which include those who are unemployed and actively looking for work, people working part time for economic reasons, and people who are marginally attached to the labor force, show even larger differences, particularly for black workers.<sup>196</sup> People of color experience significant employment discrimination,<sup>197</sup> with multiple studies finding that white men who have recently been released from prison—a group which experiences significant employment discrimination—have better job prospects than black and Hispanic men with no criminal record.<sup>198</sup> Some of the differences in wages between whites, blacks, and Hispanics are due to differences in education and occupation, but these differences are also the result of decades of discrimination. So, while policies aimed toward raising wages and promoting educational attainment would undoubtedly help workers of color, policy interventions to address racial discrimination are also necessary.

Public policy solutions to address the legacy of institutional and interpersonal racism in the United States are worthy of further discussion and analysis far beyond the scope of this report. But one necessary piece of the puzzle is collecting better data to understand the current landscape of the problems facing workers of color in order to better address them. The Equal Employment Opportunity Commission is charged with overseeing Title VII of the *Civil Rights Act* of 1964, which prohibits employers discriminating in employment based on race, color, religion, sex, and national origin.<sup>199</sup> Collecting firm-specific employment and pay data by race and ethnicity is important to enforcing anti-discrimination laws, but it is not currently collected by the agency.

In September 2016, the Equal Employment Opportunity Commission announced that beginning in March 2018, it would collect summary pay data and aggregate hours worked for full- and part-time workers by pay bands and by gender, race, and ethnicity from employers with more than 100 employees.<sup>200</sup> This data was to be used to help improve the EEOC's future investigations into gender, racial, and ethnic pay discrimination. In August 2017, however, the Trump administration issued a stay on this effort before it ever began.<sup>201</sup> No further action from the administration on the issue of data collection pertinent to racial and ethnic employment discrimination has been made publicly available since that time.

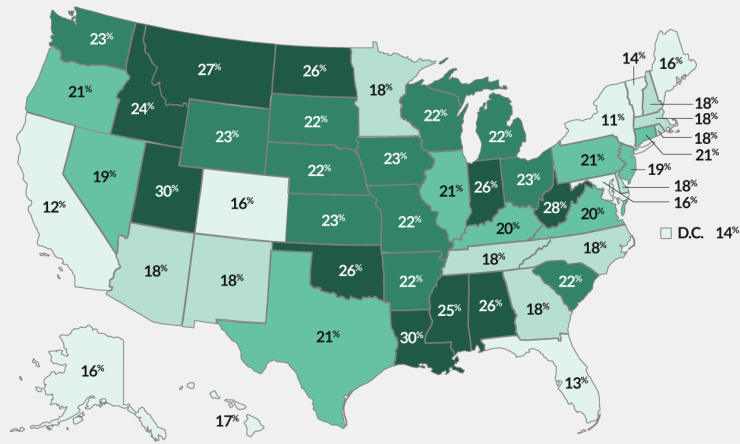
## Regions

Regional differences in pay are to be expected, since the cost of living varies across states, and wages should, at least in theory, reflect the cost of living. In the absence of inequality, those effects should be relatively evenly spread across men and women, but the Blau and Kahn model finds that region does play a small part in gender wage differences. Their modeling shows that region impacts women's wages relative to men by 0.3 percent, amounting to an estimated \$2.4 billion in wage differences in 2016. Gender wage differences also vary state by state when comparing men and women who are full-time, year-round workers. (See Figure 2.)

FIGURE 2

### Gender wage gaps by state, 2016

The national average of the difference between men and women's wages is 20%. How each state compares:



Source: National Women's Law Center, "The Wage Gap By State for Women Overall 2016" (2017), available at <https://nwlcc-ciw49tixgw5lbab.stackpathdns.com/wp-content/uploads/2017/09/Wage-Gap-State-By-State-2017.pdf>.



### Policy recommendations and obstacles

The fact that region has a statistically significant relationship to gender wage inequality illustrates why national laws are necessary to level the playing field for all workers, regardless of where they live and work. With the exceptions of Alabama and Mississippi, all other states have some form of equal pay laws in place in addition to federal protections, although state laws' depth and reach varies.<sup>202</sup> But equal pay laws are not the only form of labor standards and protections that boost women's wages. States with levels of gender wage inequality that were smaller than the national average in 2016 were nearly twice as likely to have a state minimum wage that was higher than the national minimum wage of \$7.25.<sup>203</sup>

One logical next step would be to raise the federal minimum wage, as women make up the majority of minimum-wage earners.<sup>204</sup> If the minimum wage were increased to only \$12 per hour, 30 percent of all working women would receive a raise.<sup>205</sup> Recent research by economist Arindrajit Dube at the University of Massachusetts Amherst finds that raising the minimum wage to \$12 would likely lead to a 2.45 percent reduction in the nonelderly poverty rate.<sup>206</sup> A 2014 study conducted by the Obama administration found that raising the minimum wage to just \$10.10 would narrow gender wage inequality by roughly 5 percent, which would be equivalent to an estimated \$24 billion in wages based on the projections in this report.<sup>207</sup> This is significantly lower than the \$15 minimum wage included in the *Raise the Wage Act* introduced in this Congress by Sen. Bernie Sanders (I-VT) and Rep. Bobby Scott (D-VA), which would likely have an even larger impact.

Federal legislation to raise the minimum wage is highly unlikely to become law in the current Congress. The Trump administration has been silent on the issue, and while campaigning then-candidate Trump gave conflicting statements, often conflating state and federal minimum-wage rates.<sup>208</sup> In the absence of federal legislation, states and cities across the country are passing laws to increase their minimum wages. As of January 1, 2018, 29 states and the District of Columbia had minimum wages higher than the federal level.<sup>209</sup> And at least 41 localities have set their minimum wage above their state's minimum.<sup>210</sup> These efforts not only lift wages for millions of workers, but also have been shown to help reduce gender wage inequality.<sup>211</sup>

### What's left? Unexplained gender pay inequality

Finally, a portion of gender pay inequality remains unexplained by the observable data—38 percent, according to the model developed by Blau and Kahn as of 2010—with other research finding similar results.<sup>212</sup> The explanatory factors outlined above—work experience, industry and occupation, education, unionization, race, and region—are mostly rooted in the argument that worker characteristics explain gender wage inequality, and the modeling cited here confirms their significant contribution to wage inequality between women and men. This is partially a limitation of empirical methods in economics, as well as the ways in which this limitation is reinforced by biases in economics against sociological and structural explanations. Factors such as gender stereotyping and discrimination are far more difficult to precisely model alongside more easily measurable factors such as years of schooling or the occupation of a worker. But the challenge in measuring these factors does not make them any less important.

Indeed, as Blau and Kahn note, “The unexplained [portion of the gender wage] gap will also understate discrimination if some of the explanatory variables such as experience, occupation, industry or union status have themselves been influenced by discrimination—either directly through the discriminatory actions of employers, coworkers or customers or indirectly through feedback effects.”<sup>213</sup> The estimated total impact of these unexplained causes of gender wage inequality resulted in \$303.7 billion in wage differences between women and men in 2016. As has been discussed throughout this report, there is significant reason to believe that all of the other explanatory factors identified by Blau and Kahn are influenced either directly or indirectly by discrimination and gender stereotyping. It is likely then, that the unexplained portion of gender wage inequality is even higher than they estimate in their model.

Evidence suggests that outright discrimination is not the only factor influencing the unexplained portion of wage inequality—some of that unexplained portion is likely due to other factors, including the interplay of socially constructed gender norms and economics. But it is not likely that wage differences are rooted in differences in the innate abilities of women and men. High school girls tend to outperform boys in most subjects, with particular advantages in verbal test scores.<sup>214</sup> Women and girls do tend to perform less well than men and boys on math tests—and although the differences are small, there are more boys than girls with extremely high math test scores.<sup>215</sup> Gendered differences in competitiveness may distort these results and may bias test results.<sup>216</sup> Women and girls who are equally talented students, for example, are less likely to pursue math intensive courses of study, and, as previously mentioned, are more likely to change their college majors away from these subjects. Research suggests that gender differences in competitiveness are more likely to stem from socially constructed ideas of gender roles rather than innate biological differences in male and female competitiveness.

For instance, one study of engineering students found that many women change their majors not because they are less skilled, but because they are more likely to negatively interpret their grades, have lower self-confidence, and experience a lack of support from faculty and peers.<sup>217</sup> Unfortunately, this means that women who might be uniquely suited toward and talented at particular kinds of careers may never pursue them.<sup>218</sup> If a young woman who is gifted at mathematics, for example, is dissuaded from majoring in a STEM subject, she may limit her career prospects and lose out on potential future earnings.<sup>219</sup>

Even if differences in underlying abilities do not differ significantly between genders, there may still be underlying productivity differences. Women work fewer hours than men, even when working full time, although much of this time difference seems to be accounted for by women spending more time providing home and family care. Research on men and women with MBAs finds that there are small differences in the productivity characteristics of women and men (such as work hours), and that women experience a disproportionate wage penalty as a result.<sup>220</sup>

Studies of academics also find that in addition to married women and mothers being less likely to be offered tenure-track positions, women spend more time on teaching than research compared to men, and women publish fewer academic articles than men—all of which are important to receiving tenure.<sup>221</sup> Yet research focusing on academic economists suggests that men may be using their parental leave to increase their productivity by publishing more, while women are less able

to do so because they are more likely to be using their leave to recover from childbirth and/or care for a new baby.<sup>222</sup>

Research on blue-collar workers finds a 2 percent difference in productivity between men and women in the United States, yet productivity differences are smaller for younger women and highest for women who are most likely to be providing family care.<sup>223</sup> On the whole, then, there is no evidence to suggest that women are inherently less productive than men, which means productivity differences are likely strongly influenced by outside forces such as family responsibilities rather than innate gender differences.

In addition to the finding that women are more likely to be employed in firms that pay lower wages, it is also plausible that differences in negotiating skills may influence men and women's different earnings. Adherence to traditional gender roles is positively associated with wages for men, but negatively associated for women.<sup>224</sup> Women are, on average, found to be less likely to negotiate salaries compared to men.<sup>225</sup> Subsequent studies, however, find that while men are more likely to negotiate in situations when there is no explicit mention that wages are negotiable, the gender difference disappears when there is a mention of negotiability.<sup>226</sup>

Yet there also is evidence that when women do negotiate, their efforts are perceived differently than when men negotiate. Under experimental conditions, women are more likely than men to be penalized for negotiating compensation packages, and men evaluators were more likely to penalize women than men after the negotiations end.<sup>227</sup> The same study found that women were less inclined to negotiate when a man was evaluating, but that there was no difference in negotiating attempts with women evaluators. This suggests that, at least in some cases, women may be less likely to negotiate but also are less likely to be successful when doing so.

Although it is impossible to quantify exactly what causes the unexplained portion of wage inequality, it is likely to be at least partially driven by discrimination.<sup>228</sup> Increases in gender wage differences over women's lifetimes indicates that some of this unexplained increase is due to changes in the work lives of women and men over time—since women are more likely to have career interruptions, for example. But some of it is probably due to the compounding effects of discrimination as well. When bonuses and raises are calculated as a percentage of current wages, women—who start out their careers earning less than men even when controlling for education, college major, work hours, occupation, and other factors associated with pay—experience widening inequality over time.<sup>229</sup> And although chang-



ing firms is a significant way for workers to increase their earnings, earnings at a worker's previous place of employment often impact earnings at a future job.

### *Policy recommendations and obstacles*

The *Fair Pay Act* was originally introduced in 1994 and has been reintroduced over the years, including in the 115th Congress by Rep. Eleanor Holmes Norton (D-DC).<sup>230</sup> This bill would address some of the lingering issues from the *Equal Pay Act* of 1963, which explicitly prohibits sex discrimination. In response to narrow judicial interpretations of the term “equal work” as laid out in that original law, the *Fair Pay Act* would expand the statute to cover “equivalent work” and would further clarify that any differentials in pay must be factors that are job-related or have legitimate business interests.<sup>231</sup> It would also protect workers who disclose their pay at work and would increase the damages available to victims of gender-based wage discrimination by allowing for compensatory and punitive damages alongside lost wages.

The *Paycheck Fairness Act*, first introduced in 1997 and most recently in 2017 by Sen. Patty Murray (D-WA) and Rep. Rosa DeLauro (D-CT), also would require employers to prove that differences in pay were the result of business-related factors, would protect workers who disclose their pay to others at work, and would allow for compensatory and punitive damages.<sup>232</sup> The proposed legislation also includes authorization for the U.S. Department of Labor to create a grant program to promote negotiation skills-training programs for girls and women and would establish greater data collection within the federal government on wage inequality, including requiring employers to provide wage data disaggregated by gender to the Equal Employment Opportunity Commission.

These would be welcome steps to help eliminate wage inequality, particularly from a demand-side perspective, by helping to reduce discrimination. Yet the *Fair Pay Act* and the *Paycheck Fairness Act* have not gained traction in Congress over the past two decades—and the prospects for enactment are not promising in 2018 either. Republicans in Congress have their own solution to gender wage inequality, although the bill has a far shorter reach. The *Workplace Advancement Act*, introduced by Sen. Deb Fischer (R-NE) and Rep. Stephen Knight (R-CA), would amend the *Fair Labor Standards Act* to protect workers from retaliation if they discuss their wages with the intention of discovering unequal pay for equal work.<sup>233</sup> But the bill does nothing else to combat equal pay, and only protects salary discussions if workers can prove they were doing so to determine whether they are being paid equally for equal work. Even this very narrow bill shows no indications of moving forward under the current Congress.

Looking out past the current Congress and the Trump administration, the *Paycheck Fairness Act* is simply one of many necessary steps toward combatting gender pay inequality. Further action is needed because discrimination is not likely to be the only cause of the unexplained portion of wage inequality. Because past discrimination can continue to depress women's wages as they advance in their careers, policies to ban employers from asking about previous wages during the job application process can help to mitigate the effects of past wage disparities. Already, Massachusetts, California, Oregon, Delaware, Puerto Rico, New York, San Francisco, Pittsburgh, and New Orleans have all passed measures to ban employers from asking about previous wages during the job application process, and a federal policy such as the *Paycheck Fairness Act* that includes measures to protect and encourage pay transparency would expand that protection to workers in other cities and states.<sup>234</sup>

While pay transparency is necessary to alert workers who are being discriminated against that they are underpaid relative to their peers, research on its effects show mixed results. There is some evidence that pay transparency can have positive effects for workers including decreased inequality, while at the same time it can also increase gender wage inequality if pay information is only shared through word-of-mouth, as co-worker networks are often gender imbalanced.<sup>235</sup> Further research is needed to fully understand the impacts of pay transparency and the most beneficial methods of achieving positive effects.

Gender wage inequality can be easy to overlook if it is not appropriately measured and tracked. The United States lags behind many other advanced economies when it comes to collecting data on gender and wages.<sup>236</sup> Iceland has recently taken an innovative stance by introducing legislation that would require employers to regularly conduct audits to determine whether men and women are being paid equally and would face fines if steps were not taken to ensure equal pay.<sup>237</sup> This is similar to equal pay laws in Quebec, which require employers in the Canadian province to internally audit their pay practices to ensure that compensation within firms is equitable.<sup>238</sup> Switzerland's Federal Equal Pay Instrument has required employers to reduce gendered wage differences using a wage regression formula that controls for productivity, education, and job-related characteristics to help employers to quantify unexplained wage inequality. Economist Giannina Vaccaro has studied this policy and found that it has a significant impact on reducing the unexplained portion of gender wage differences.<sup>239</sup> While similar legislation has not yet been proposed in the U.S. context, these would be proactive ways of combatting gender (and racial) wage inequality.

It is imperative to ensure that enforcement agencies and researchers have access to appropriate pay data to track wage inequality and ensure the efficacy of public policies intended to help reduce it. Measuring the success of equal pay policies will provide useful feedback as to what is (or is not) working, but this will only be possible through the collection of gender, race, ethnicity, and wage data. The *Paycheck Fairness Act*, for example, would reauthorize the Bureau of Labor Statistics to collect gender-based data through the Current Employment Statistics survey. It would also require the Equal Employment Opportunity Commission to collect data from employers on the wages, gender, race, and national origin of their employees.

Ensuring that enforcement agencies at the federal level and, if necessary, at the state and local level have ready access to wage data is fundamental to their ability to ensure compliance with anti-discrimination laws. Requiring employers to submit data on their employees may serve to narrow wage inequality in a proactive function, similar to the program in Quebec and the one proposed in Iceland.

The current administration has been largely silent regarding gender wage inequality, and its only action on the issue has been to block the collection of additional pay data by the Equal Employment Opportunity Commission. In 2017, House Republicans voted against an amendment that would have ensured additional funding for the EEOC to collect pertinent data to help the commission identify and address wage discrimination.<sup>240</sup> Short of the passage of legislation explicitly requiring additional data collection, it is unlikely that the agency will be able to collect the information necessary to better enforce the equal pay laws already in effect in this political climate.

All but two states have equal pay laws on the books, although not all go much further than what is required under current federal law.<sup>241</sup> Among other protections, as of 2017, 18 states have laws to protect workers who disclose their pay, six have laws that clarify employer defenses for lower pay, and four have comparable worth laws.<sup>242</sup> In the absence of meaningful action from the administration and Congress, states will need to continue to lead the way in implementing policy solutions to help eliminate gender wage inequality.

# Conclusion

The United States used to be a leader among the developed democracies of the world in addressing gender discrimination in the workplace and in society. No longer. Today, the United States currently has higher gender wage inequality than the majority of OECD countries<sup>243</sup>—even though it was the first wealthy nation to pass and implement laws and regulations that outlawed gender discrimination.<sup>244</sup> Blatant gender discrimination is no longer what causes the main differences in men’s and women’s pay, yet anti-discrimination laws have been the main way that gender wage differences have historically been addressed when seeking policy measures to narrow gendered differences in pay.

The *Equal Pay Act* of 1963 explicitly prohibits sex discrimination and states that:

*No employer ... shall discriminate ... between employees on the basis of sex by paying wages to employees ... at a rate less than the rate at which he (sic) pays wages to employees of the opposite sex ... for equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions...*<sup>245</sup>

The statute, however, goes on to state that wages can be based on any differential other than sex, which can make proving gender based discrimination difficult in the court of law.<sup>246</sup>

Title VII of the *Civil Rights Act* of 1964 goes a step further and prohibits employment discrimination based on race, color, religion, sex, and national origin.<sup>247</sup> And Title IX of the Education Amendments of 1972 prohibits sex discrimination in the educational system or other activities receiving federal dollars.<sup>248</sup>

The most recent piece of federal legislation passed to help address gender wage inequality is the *Lilly Ledbetter Fair Pay Act* of 2009, which amends the *Civil Rights Act* of 1964 by extending the statute of limitations for filing lawsuits alleging unequal pay.<sup>249</sup> It is an important protection for people who find they have been

discriminated against, but the Ledbetter Act only responds to the Supreme Court ruling on the statute of limitations by providing an extended time window for bringing legal action and does not prevent wage discrimination from occurring.<sup>250</sup>

More needs to be done. This report presented the reasons why and possible policy solutions at the federal level, as well as in select state and local policy settings. The report also detailed the many obstacles that prevent these common-sense reforms from proceeding. Why common sense? The research clearly shows that differences in women's and men's pay are caused by a combination of easily measurable individual characteristics and larger structural factors. Wage inequality narrows when comparing men and women who are identical in measurable ways such as education, work experience, and occupations, but it never fully disappears. And research continues to show that the choices women and men make about work are influenced by cultural norms and discrimination as well, even if it may be subtle and subconscious.

Unequal pay between women and men drags down the growth of the U.S. economy and threatens the economic security and retirement security of working families. Building a strong economy that works for everyone is not possible unless gender pay discrimination is fully addressed. Adequately addressing gender wage inequality will require taking an all-inclusive approach, simultaneously focusing on discrimination alongside factors such as occupational segregation and the United States' lack of work-family policies.

## About the author

Sarah Jane Glynn is a sociologist and expert in work-family policies, gender wage inequality, and family economic security. Sarah Jane holds a bachelor's degree in women's studies from UCLA and a Ph.D. in sociology from Vanderbilt University.

## Acknowledgments

This research was made possible through the generous support of the Rockefeller Family Fund. A special thank you to all those who reviewed earlier versions of the report, including but not limited to Bridget Ansel, Kate Bahn, Austin Clemens, Jessica Fulton, Angela Hanks, Jeffrey Hayes, Elisabeth Jacobs, Matt Markezich, Katherine Sydor, and Karla Walter. Finally, thank you to all the participants of the Washington Center for Equitable Growth's Mitigating Pay Inequality in the United States workshop in September 2017.

# Endnotes

- 1 U.S. Bureau of the Census, *Age and Sex, 2011-2015 American Community Survey 5-Year Estimates, American Community Survey* (Department of Commerce, 2016), available at [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15\\_5YR/S0101](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_5YR/S0101).
- 2 U.S. Bureau of Labor Statistics, *Table A-1. Employment status of the civilian population by sex and age* (Department of Labor, 2017), available at <https://www.bls.gov/news.release/empst.t01.htm>.
- 3 U.S. Bureau of Labor Statistics, *Employment status of the civilian noninstitutional population by age, sex, and race* (Department of Labor, 2017), available at <https://www.bls.gov/cps/cpsaat03.pdf>.
- 4 U.S. Bureau of Labor Statistics, "Changes in men's and women's labor force participation rates," *Economics Daily blog*, January 10, 2007, available at <https://www.bls.gov/opub/ted/2007/jan/wk2/art03.htm>.
- 5 Timothy Grall, "Custodial Mothers and Fathers and Their Child Support: 2013" (Washington: U.S. Census Bureau, 2016), available at (<https://www.census.gov/content/dam/Census/library/publications/2016/demo/P60-255.pdf>).
- 6 Sarah Jane Glynn, "Breadwinning Mothers, Then and Now" (Washington: Center for American Progress, 2014), available at <https://cdn.americanprogress.org/wp-content/uploads/2014/06/Glynn-Breadwinners-report-FINAL.pdf>.
- 7 Heather Boushey, *Finding Time: The Economics of Work-Life Conflict* (Cambridge, MA: Harvard University Press, 2016).
- 8 DeAnne Aguirre and others, "Empowering the Third Billion: Women and the world of work in 2012" (New York: Booz & Company, 2012), available at <https://www.strategyand.pwc.com/media/file/Strategyand-Empowering-the-Third-Billion-Full-Report.pdf>; Katrin Elborgh-Woytek and others, "Women, Work, and the Economy: Macroeconomic Gains from Gender Equity" (Washington: International Monetary Fund, 2013), available at <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Women-Work-and-the-Economy-Macroeconomic-Gains-from-Gender-Equity-40915>.
- 9 U.S. Department of Labor, *The Cost of Doing Nothing* (2015), available at <https://www.dol.gov/featured/paid-leave/cost-of-doing-nothing-report.pdf>.
- 10 Chang-Tai Hsieh and others, "The allocation of talent and us economic growth." Working Paper 18693 (National Bureau of Economic Research, 2013).
- 11 Eileen Appelbaum, Heather Boushey, and John Schmitt, "The Economic Importance of Women's Rising Hours of Work" (Washington: Center for American Progress and the Center for Economic and Policy Research, 2014), available at <https://cdn.americanprogress.org/wp-content/uploads/2014/04/WomensRisingWorkv2.pdf>.
- 12 Elborgh-Woytek and others, "Women, Work, and the Economy: Macroeconomic Gains from Gender Equity"
- 13 U.S. Bureau of Labor Statistics, *Average hours per day spent in selected activities on days worked by employment status and sex* (Department of Labor, 2016), available at <https://www.bls.gov/charts/american-time-use/activity-by-work.htm>.
- 14 Elborgh-Woytek and others, "Women, Work, and the Economy: Macroeconomic Gains from Gender Equity"
- 15 "LFS by sex and age – indicators," available at [https://stats.oecd.org/Index.aspx?DataSetCode=LFS\\_SEXAGE\\_I\\_R#](https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R#) (last accessed March 29, 2018); Francine D. Blau and Lawrence M. Kahn, "Female Labor Supply: Why is the Us Falling Behind?," *American Economic Review* 103 (3) (2013): 251–56.
- 16 Blau and Kahn, "Female Labor Supply: Why is the Us Falling Behind?"
- 17 Bernadette D. Proctor, Jessica L. Semega, and Melissa A. Kollar, "Income and Poverty in the United States: 2016" (Washington: U.S. Census Bureau, 2016), available at <https://www.census.gov/content/dam/Census/library/publications/2017/demo/P60-259.pdf>.
- 18 National Women's Law Center, "Women and the lifetime wage gap: How many woman years does it take to equal 40 man years?" (2017), available at <https://nwlc.org/wp-content/uploads/2017/03/Women-and-the-Lifetime-Wage-Gap-2017-1.pdf>.
- 19 Ibid.
- 20 Sarah Jane Glynn and Christian Weller, "The Gender Wage Gap and Women's Retirement Security Go Hand in Hand," *Huffington Post*, April 1, 2016, available at [http://www.huffingtonpost.com/sarah-jane-glynn/gender-wage-gap-retirement-security\\_b\\_9661748.html](http://www.huffingtonpost.com/sarah-jane-glynn/gender-wage-gap-retirement-security_b_9661748.html).
- 21 Jennifer Erin Brown and others, "Shortchanged in Retirement: Continuing Challenges to Women's Financial Future" (Washington: National Institute on Retirement Security, 2016), available at [https://www.nirsonline.org/wp-content/uploads/2017/06/final\\_shortchanged\\_retirement\\_report\\_2016.pdf](https://www.nirsonline.org/wp-content/uploads/2017/06/final_shortchanged_retirement_report_2016.pdf).
- 22 U.S. Bureau of Labor Statistics, *Table A-7A. Time spent in primary activities by married mothers and fathers by employment status of self and spouse, average for the combined years 2011-15, own household child under age 18* (Department of Labor, 2016), available at [https://www.bls.gov/tus/tables/a7\\_1115.pdf](https://www.bls.gov/tus/tables/a7_1115.pdf).

- 23 Ariane Hegewisch and Emma Williams-Baron, "The Gender Wage Gap by Occupation 2016 and by Race and Ethnicity" (Washington: Institute for Women's Policy Research, 2017), available at <https://iwpr.org/wp-content/uploads/2017/04/C456.pdf>.
- 24 Proctor, Semega, and Kollar, "Income and Poverty in the United States: 2016."
- 25 Ariane Hegewisch and Emma Williams-Baron, "The Gender Wage Gap by Occupation 2016 and by Race and Ethnicity" (Washington: Institute for Women's Policy Research, 2017), available at <https://iwpr.org/wp-content/uploads/2017/04/C456.pdf>.
- 26 Rakesh Kochhar, "How Pew Research measured the gender pay gap" (Washington: Pew Research Group, 2013), available at <http://www.pewresearch.org/fact-tank/2013/12/11/how-pew-research-measured-the-gender-pay-gap/>.
- 27 U.S. Bureau of Labor Statistics, *Employed and unemployed full- and part-time workers by age, sex, race, and Hispanic or Latino ethnicity* (Department of Labor, 2017), available at <https://www.bls.gov/cps/cpsaat08.htm>.
- 28 Hilary M. Lips, "The gender pay gap: Challenging the rationalizations. Perceived equity, discrimination, and the limits of human capital models," *Sex Roles* 68 (3-4) (2013): 169–185; Francine D. Blau and Lawrence M. Kahn, "The gender pay gap: Have women gone as far as they can?," *Academy of Management Perspectives* 21 (2007): 7–23.
- 29 Lips, "The gender pay gap: Challenging the rationalizations. Perceived equity, discrimination, and the limits of human capital models."
- 30 Claudia Goldin, "Hours Flexibility and the Gender Gap in Pay" (Washington: Center for American Progress, 2015), available at [https://cdn.americanprogress.org/wp-content/uploads/2015/04/Goldin\\_EqualPay-report14.pdf](https://cdn.americanprogress.org/wp-content/uploads/2015/04/Goldin_EqualPay-report14.pdf).
- 31 *Fair Labor Standards Act of 1938*, Public Law 75-718, 75 Congress. (June 25, 1938).
- 32 Youngjoo Cha and Kim A. Weeden, "Overwork and the slow convergence in the gender gap in wages," *American Sociological Review* 79 (3) (2014): 457–484.
- 33 Denise Venable, "The wage gap myth" (Washington: National Center for Policy Analysis, 2002); Christina Hoff Sommers, "Wage Gap Myth Exposed — By Feminists," *Huffington Post*, November 4, 2012, available at [http://www.huffingtonpost.com/christina-hoff-sommers/wage-gap\\_b\\_2073804.html](http://www.huffingtonpost.com/christina-hoff-sommers/wage-gap_b_2073804.html).
- 34 Gary S. Becker, *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, 2nd ed. (Chicago: University of Chicago Press, 1975); Matt L. Huffman, "Organizations, managers, and wage inequality," *Sex Roles* 68 (3-4) (2013): 216–222; Lips, "The gender pay gap: Challenging the rationalizations. Perceived equity, discrimination, and the limits of human capital models."
- 35 Francine D. Blau and Lawrence M. Kahn, "The Gender Earnings Gap: Learning from International Comparisons," *American Economic Review* 82 (2) (1992): 533–538; Blau and Kahn, "The Gender Pay Gap: Have Women Gone as Far as They Can?"; Francine D. Blau and Lawrence M. Kahn, "The gender wage gap: Extent, trends, and explanations," *Journal of Economic Literature* 55 (3) (2017): 789–865.
- 36 Judy Goldberg Dey and Catherine Hill, "Behind the pay gap" (Washington: American Association of University Women Educational Foundation, 2013), available at <https://www.aauw.org/files/2013/02/Behind-the-Pay-Gap.pdf>; Marianne Bertrand, Claudia Goldin, and Lawrence F. Katz, "Dynamics of the gender gap for young professionals in the financial and corporate sectors," *American Economic Journal: Applied Economics* 2 (3) (2010): 228–255.
- 37 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 38 Martha J. Bailey, Brad Hershbein, and Amalia R. Miller, "The opt-in revolution? Contraception and the gender gap in wages," *American Economic Journal: Applied Economics* 4 (3) (2012): 225–254; George-Levi Gayle and Limor Golan, "Estimating a Dynamic Adverse-Selection Model: Labour-Force Experience and the Changing Gender Earnings Gap 1968–1997," *Review of Economic Studies* 79 (1) (2012): 227–267; Raquel Fernández, "Cultural change as learning: The evolution of female labor force participation over a century," *The American Economic Review* 103 (1) (2013): 472–500; Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 39 Boushey, *Finding Time*.
- 40 Jocelyn Frye, "The Missing Conversation About Work and Family" (Washington: Center for American Progress, 2016), available at <https://www.americanprogress.org/issues/women/reports/2016/10/03/145208/the-missing-conversation-about-work-and-family/>.
- 41 Susan L. Ettner, "The opportunity costs of elder care," *Journal of Human Resources* 31 (1) (1996): 189–205; Meredith B. Lilly, Audrey Laporte, and Peter C. Coyte, "Labor market work and home care's unpaid caregivers: a systematic review of labor force participation rates, predictors of labor market withdrawal, and hours of work," *Milbank Quarterly* 85 (4) (2007): 641–690; Blau and Kahn, "Female Labor Supply: Why is the US Falling Behind?"; Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 42 Executive Office of the President of the United States, *Eleven Facts About American Families And Work* (Government Printing Office, 2014), available at [https://obamawhitehouse.archives.gov/sites/default/files/docs/eleven\\_facts\\_about\\_family\\_and\\_work\\_final.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/eleven_facts_about_family_and_work_final.pdf).
- 43 Gary N. Powell and Jeffrey H. Greenhaus, "Sex, gender, and decisions at the family—work interface," *Journal of Management* 36 (4) (2010): 1011–1039.
- 44 Michelle Budig, "The Fatherhood Bonus and The Motherhood Penalty: Parenthood and the Gender Gap in Pay" (Washington: Third Way, 2014), available at <http://www.thirdway.org/report/the-fatherhood-bonus-and-the-motherhood-penalty-parenthood-and-the-gender-gap-in-pay>.
- 45 U.S. Bureau of Labor Statistics, *Table A-7A. Time spent in primary activities by married mothers and fathers by employment status of self and spouse, average for the combined years 2011-15, own household child under age 18*.
- 46 Author's analysis of Sandra L. Hofferth, Sarah M. Flood, and Matthew Sobek, "American Time Use Survey Data Extract Builder: Version 2.6" (College Park, MD and Minneapolis, MN: University of Maryland and University of Minnesota, 2017), available at <https://doi.org/10.18128/D060.V2.6>.
- 47 Budig, "The Fatherhood Bonus and The Motherhood Penalty: Parenthood and the Gender Gap in Pay."
- 48 Louise Marie Roth, *Selling women short: Gender and money on Wall Street* (Princeton, NJ: Princeton University Press, 2006).
- 49 Goldin, "Hours Flexibility and the Gender Gap in Pay."



- 50 Roth, *Selling women short: Gender and money on Wall Street*.
- 51 Margaret Gough and Mary Noonan, "A review of the motherhood wage penalty in the United States," *Sociology Compass* 7 (4) (2013): 328–342; Michelle J. Budig and Melissa J. Hodges, "Statistical models and empirical evidence for differences in the motherhood penalty across the earnings distribution," *American Sociological Review* 79 (2) (2014): 358–364; Stephen Benard and Shelley J. Correll, "The Motherhood Wage Penalty and Status Discrimination." In Amy Wharton, ed., *Working in America: Continuity, Conflict, and Change in a New Economic Era* (New York: Routledge, 2015); Kim A. Weeden, Youngjoo Cha, and Mauricio Bucca, "Long Work Hours, Part-Time Work, and Trends in the Gender Gap in Pay, the Motherhood Wage Penalty, and the Fatherhood Wage Premium," *RSF: The Russell Sage Foundation Journal of the Social Sciences* 2 (4) (2016): 71–102.
- 52 *The Family and Medical Leave Act of 1993*, Public Law 3, 103 Cong. 1 sess. (February 5, 1993).
- 53 *The Americans with Disabilities Act does provide some protections by requiring employers to provide "reasonable accommodations" to workers with disabilities. These can include unpaid leave beyond the 12 weeks provided under the FMLA and modified schedules. However, workers with impairments due to a non-chronic condition such as an injury are not covered by the ADA, and pregnancy is not considered an impairment that is covered under the ADA unless the worker experiences medical complications.*
- 54 Sarah Jane Glynn, Heather Boushey, and Peter Berg, "Who Gets Time Off?: Predicting Access to Paid Leave and Workplace Flexibility" (Washington: Center for American Progress, 2016), available at <https://www.americanprogress.org/issues/economy/reports/2016/04/26/134824/who-gets-time-off/>.
- 55 Roth, *Selling women short: Gender and money on Wall Street*; Shelley J. Correll, Stephen Benard, and In Paik, "Getting a job: Is there a motherhood penalty?," *American Journal of Sociology* 112 (5) (2007): 1297–1338.
- 56 Budig, "The Fatherhood Bonus and The Motherhood Penalty: Parenthood and the Gender Gap in Pay."
- 57 U.S. Bureau of Labor Statistics, *Table 32. Leave benefits: Access, civilian workers, March 2017* (Department of Labor, 2017), available at <https://www.bls.gov/ncs/ebbs/benefits/2017/ownership/civilian/table32a.pdf>.
- 58 Elizabeth Washbrook and others, "Public policies, women's employment after childbearing, and child well-being," *The BE Journal of Economic Analysis & Policy* 11 (1) (2011): 1–50.
- 59 Charles L. Baum and Christopher J. Ruhm, "The effects of paid family leave in California on labor market outcomes," *Journal of Policy Analysis and Management* 35 (2) (2016): 333–356.
- 60 Heather Boushey, "Family Friendly Policies: Helping Mothers Make Ends Meet," *Review of Social Economy* 66 (1) (2008): 51–70.
- 61 Alison Earle and Jody Heymann, "The cost of caregiving: Wage loss among caregivers of elderly and disabled adults and children with special needs," *Community, Work & Family* 15 (3) (2012): 357–375.
- 62 Susan C. Reinhard and others, "Valuing the Invaluable: 2015 Update" (Washington: AARP Public Policy Institute, 2015), available at <http://www.aarp.org/content/dam/aarp/ppi/2015/valuing-the-invaluable-2015-update-new.pdf>.
- 63 Grayson Vincent and Victoria Velkoff, "The next four decades: The older population in the United States: 2010 to 2050, 2010" (Washington: U.S. Government Printing Office, 2011); Susan Reinhard, Carol Levine, and Sarah Samis, "Employed Family Caregivers Providing Complex Care" (Washington and New York: AARP Public Policy Institute and United Hospital Fund, 2013).
- 64 Blau and Kahn, "Female Labor Supply: Why is the US Falling Behind?"
- 65 Jane Waldfogel, "The family gap for young women in the United States and Britain: Can maternity leave make a difference?," *Journal of Labor Economics* 16 (3) (1998): 505–545; Joya Misra, Michelle Budig, and Irene Boeckmann, "Work-family policies and the effects of children on women's employment hours and wages," *Community, Work & Family* 14 (2) (2011): 139–157; Washbrook and others, "Public policies, women's employment after childbearing, and child well-being."
- 66 Sarah Jane Glynn, Alexandra L. Bradley, and Benjamin W. Veghte, "Paid Family and Medical Leave Programs: State Pathways and Design Options" (Washington: National Academy of Social Insurance, 2017).
- 67 Jean Kimmel and Catalina Amuedo-Dorantes, "Effects of Family Leave on Wages, Employment, and the Family Wage Gap: Distributional Implications," *Washington University Journal of Law & Policy* 15 (2004): 115–343.
- 68 Maya Rossin-Slater, Christopher J. Ruhm, and Jane Waldfogel, "The effects of California's paid family leave program on mothers' leave-taking and subsequent labor market outcomes," *Journal of Policy Analysis and Management* 32 (2) (2013): 224–245.
- 69 Maria D. Tito, "Maternity Leave and the Gender Wage Gap: An Analysis of New Jersey Family Leave Insurance" (Washington: Board of Governors of the Federal Reserve System, 2016). There are international studies that show maternity leave policies can increase the gender wage gap, but this effect is likely caused by countries implementing policies that only or primarily cover women and provide lengthy leaves, increasing the time that women spend away from work relative to men and thereby increasing differences in job experience between genders and potentially leading to employment discrimination. For more information, see Hadas Mandel and Moshe Semyonov, "Family policies, wage structures, and gender gaps: Sources of earnings inequality in 20 countries," *American Sociological Review* 70 (6) (2005): 949–967.
- 70 Cassandra D. Engeman, "Ten Years of the California Paid Family Leave Program: Strengthening Commitment to Work, Affirming Commitment to Family" (Santa Barbara, CA: Center for the Study of Work, Labor and Democracy at the University of California, Santa Barbara, 2012), available at <http://www.femst.ucsb.edu/projects/crwsj/engagements/pdf/Engeman-PFL-Policy-Brief.pdf>.
- 71 Kimmel and Amuedo-Dorantes, "Effects of Family Leave on Wages, Employment, and the Family Wage Gap: Distributional Implications."
- 72 U.S. Office of Management and Budget, *An American Budget: Budget of the U.S. Government, Fiscal Year 2019* (Government Printing Office, 2017), available at <https://www.whitehouse.gov/wp-content/uploads/2018/02/budget-fy2019.pdf>.
- 73 Sunny Forthingham and Sarah Jane Glynn, "Rhetoric vs. Reality: 4 Myths About Paid Parental Leave" (Washington: Center for American Progress, 2017), available at <https://www.americanprogress.org/issues/women/reports/2017/08/14/437285/rhetoric-vs-reality-4-myths-paid-parental-leave/>.

- 74 Kristin A. Shapiro, "A Budget-Neutral Approach to Parental Leave" (Washington: Independent Women's Forum, 2018), available at <http://pdf.iwfo.org/budget-neutral-approach-parental-leave-PF18.pdf>.
- 75 *An Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018*, Public Law 97, 115 Cong. 1 sess. (December 22, 2017).
- 76 Sunny Frothingham and Sarah Jane Glynn, "Rhetoric vs. Reality: Paid Family and Medical Leave Proposed Business Tax Credits and Pregnancy 401(k)s Fall Short for Working Families" (Washington: Center for American Progress, 2016), available at <https://cdn.american-progress.org/wp-content/uploads/2016/08/10084857/PaidLeaveRhetoric.pdf>.
- 77 So Kubota, "Child care costs and stagnating female labor force participation in the US" (2017), available at <https://sites.google.com/site/gkubotas/research>.
- 78 Claudia Olivetti and Barbara Petrongolo, "The economic consequences of family policies: lessons from a century of legislation in high-income countries," *The Journal of Economic Perspectives* 31 (1) (2017): 205–230.
- 79 Joint Economic Committee Democratic Staff, *Gender Pay Inequality: Consequences for Women, Families and the Economy* (Government Printing Office, 2016), available at [https://www.jec.senate.gov/public/\\_cache/files/0779dc2f-4a4e-4386-b847-9ae919735acc/gender-pay-inequality---us-congress-joint-economic-committee.pdf](https://www.jec.senate.gov/public/_cache/files/0779dc2f-4a4e-4386-b847-9ae919735acc/gender-pay-inequality---us-congress-joint-economic-committee.pdf).
- 80 *Child Care for Working Families Act*, S. 1806, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 81 Ajay Chaudry and Katie Hamm, "The Child Care for Working Families Act Will Boost Employment and Create Jobs" (Washington: Center for American Progress, 2017), available at <https://www.americanprogress.org/issues/early-childhood/reports/2017/12/07/443783/child-care-working-families-act-will-boost-employment-create-jobs/>.
- 82 Glynn, Boushey, and Berg, "Who Gets Time Off?"
- 83 Ibid.
- 84 1 Million for Work Flexibility, "Work Flexibility Policy in the United States" (2017), available at <https://www.workflexibility.org/policy/>.
- 85 *Schedules That Work Act*, S.1386, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 86 *Workflex in the 21st Century Act*, H.R. 4219, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 87 In 2017, there were roughly 125,967,000 full-time employed workers age 16 and older, 54,396,000 of whom were women. There were an additional 27,370,000 part-time workers, 17,539,000 of them women. U.S. Bureau of Labor Statistics, *Table 8. Employed and unemployed full- and part-time workers by age, sex, race, and Hispanic or Latino ethnicity* (Department of Labor, 2018), available at <https://www.bls.gov/cps/cpsaat08.htm>.
- 88 Lonnie Golden, "Still falling short on hours and pay: Part-time work becoming new normal" (Washington: Economic Policy Institute, 2016), available at <http://www.epi.org/publication/still-falling-short-on-hours-and-pay-part-time-work-becoming-new-normal/>.
- 89 Ibid.
- 90 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 91 Bliss Cartwright, Patrick Ronald Edwards, and Qi Wang, "Job and industry gender segregation: NAICS categories and EEO-1 job groups" (Washington: U.S. Department of Labor, 2011), available at <https://www.bls.gov/opub/mlr/2011/11/art3full.pdf>.
- 92 U.S. Bureau of Labor Statistics, *Household Data Annual Averages, Employed persons by industry, sex, race, and occupation* (Department of Labor, 2017), available at <https://www.bls.gov/cps/cpsaat17.htm>.
- 93 Ibid.
- 94 Ariane Hegewisch and others, "Separate and not equal? Gender segregation in the labor market and the gender wage gap" (Washington: Institute for Women's Policy Research, 2010), available at <https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C377.pdf>; Ariane Hegewisch and Heidi Hartmann, "Occupational Segregation and the Gender Wage Gap: A Job Half Done" (Washington: Institute for Women's Policy Research, 2014), available at <https://iwpr.org/publications/occupational-segregation-and-the-gender-wage-gap-a-job-half-done/>.
- 95 Hegewisch and others, "Separate and not equal? Gender segregation in the labor market and the gender wage gap."
- 96 Christine L. Williams, "The glass escalator: Hidden advantages for men in the 'female' professions," *Social problems* 39 (3) (1992): 253–267; Asaf Levanon, Paula England, and Paul Allison, "Occupational feminization and pay: assessing causal dynamics using 1950-2000 US census data," *Social Forces* 88 (2) (2009): 865–891.
- 97 Hegewisch and Hartmann, "Occupational Segregation and the Gender Wage Gap: A Job Half Done."
- 98 "Share of employed who are managers, by sex," available at <http://stats.oecd.org/index.aspx?queryid=54752#> (last accessed March 29, 2018).
- 99 Beth Mintz and Daniel H. Krymkowski, "The intersection of race/ethnicity and gender in occupational segregation: Changes over time in the contemporary United States," *International Journal of Sociology* 40 (4) (2010): 31–58.
- 100 Enobong Branch, *Opportunity denied: Limiting Black women to devalued work* (New Brunswick, NJ: Rutgers University Press, 2011).
- 101 Institute for Women's Policy Research, "The Gender Wage Gap by Occupation 2016 and by Race and Ethnicity" (2017), available at <https://iwpr.org/wp-content/uploads/2017/04/C456.pdf>.
- 102 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 103 U.S. Bureau of Labor Statistics, *Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity* (Department of Labor, 2017), available at <https://www.bls.gov/cps/cpsaat11.pdf>.
- 104 Ibid.
- 105 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 106 Nisha Chikhale, "New data on the changing U.S. occupational structure," *Equitablog*, December 5, 2017, available at <http://equitablog.org/equitablog/value-added/new-data-on-the-changing-u-s-occupational-structure/>.

- 107 Enghin Atalay and others, "The evolving U.S. occupational structure." Working Paper (Washington Center for Equitable Growth, 2017), available at <http://cdn.equitablegrowth.org/wp-content/uploads/2017/12/24120001/12052017-WP-evolving-occupational-structure.pdf>.
- 108 Jennifer L. Glass and others, "What's so special about STEM? A comparison of women's retention in STEM and professional occupations," *Social forces* 92 (2) (2013): 723–756.
- 109 Ibid.
- 110 National Science Foundation, "ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)" (2017), available at [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5383](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383).
- 111 National Institutes of Health, "NIH Family-Friendly Initiatives" (2017), available at [https://grants.nih.gov/grants/family\\_friendly.htm](https://grants.nih.gov/grants/family_friendly.htm).
- 112 U.S. Office of Management and Budget, *An American Budget: Budget of the U.S. Government, Fiscal Year 2019*.
- 113 Ibid.
- 114 Sarah Ayres and Ethan Gurwitz, "Apprenticeship Expansion in England: Lessons for the United States" (Washington: Center for American Progress, 2014), available at <https://cdn.americanprogress.org/wp-content/uploads/2014/06/Ayres-UKapprenticeship-brief2.pdf>; Ben Olinisky and Sarah Ayres, "Training for Success: A Policy to Expand Apprenticeships in the United States" (Washington: Center for American Progress, 2013), available at [https://cdn.americanprogress.org/wp-content/uploads/2013/11/apprenticeship\\_report-INTRO.pdf](https://cdn.americanprogress.org/wp-content/uploads/2013/11/apprenticeship_report-INTRO.pdf).
- 115 "Apprenticeship: Quick Facts," available at <https://www.dol.gov/featured/apprenticeship/quick-facts> (last accessed March 29, 2018).
- 116 U.S. Census Bureau, *Selected Characteristics of People 15 Years Old and Over by Total Money Income in 2015, Work Experience in 2015, Race, Hispanic Origin, and Sex* (Department of Commerce, 2016).
- 117 Angela Hanks, "Apprenticeship Programs Are Leaving Out Women and People of Color. Here's How to Fix That," Talk Poverty Blog, August 30, 2016, available at <https://talkpoverty.org/2016/08/30/apprenticeship-programs-leaving-women-people-color-heres-fix/>.
- 118 Ibid.
- 119 U.S. Department of Labor, "U.S. Department of Labor Announces \$1.9 Million in Grants to Support Women in Nontraditional Occupations," Press release, June 14, 2016, available at <https://www.dol.gov/newsroom/releases/eta/eta20160614-0>.
- 120 Angela Hanks, "The Administration and Congress Should Not Undermine Registered Apprenticeships" (Washington: Center for American Progress, 2018), available at <https://www.americanprogress.org/issues/education-postsecondary/reports/2018/01/11/444829/administration-congress-not-undermine-registered-apprenticeships/>.
- 121 U.S. Office of Management and Budget, *Major Savings and Reforms: Budget of the U.S. Government, Fiscal Year 2018* (Government Printing Office, 2017), available at <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/msar.pdf>.
- 122 Executive Order no. 13,801, *Federal Register* 82 28229 (2017), available at <https://www.federalregister.gov/documents/2017/06/20/2017-13012/expanding-apprenticeships-in-america>.
- 123 Hanks, "The Administration and Congress Should Not Undermine Registered Apprenticeships."
- 124 Caroline Fredrickson, "Majority of Workers Who Will Benefit from Updated Overtime Rules are Women" (Washington: Economic Policy Institute, 2015), available at <http://www.epi.org/blog/majority-of-workers-who-will-benefit-from-updated-overtime-rules-are-women/>.
- 125 Council of Economic Advisors, *The State of the Gender Wage Gap* (Government Printing Office, 2016), available at [https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160614\\_gender\\_pay\\_gap\\_issue\\_brief\\_cea.pdf](https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160614_gender_pay_gap_issue_brief_cea.pdf).
- 126 U.S. Chamber of Commerce, "U.S. Chamber Files Lawsuit Challenging Obama Administration's Overtime Rule," Press release, September 20, 2016, available at <https://www.uschamber.com/press-release/us-chamber-files-lawsuit-challenging-obama-administration-s-overtime-rule>.
- 127 U.S. Department of Labor, *Important information regarding recent overtime litigation in the U.S. District Court of Eastern District of Texas* (2017), available at <https://www.dol.gov/whd/overtime/final2016/litigation.htm>.
- 128 Committee on Education and the Workforce, "Labor Secretary Acosta Testifies Before House Committee," Press release, November 17, 2017, available at <https://edworkforce.house.gov/news/documentsingle.aspx?DocumentID=402137>.
- 129 Lisa Nagele-Piazza, "California Employers Face Patchwork of New Minimum Wages in 2018" (Virginia: Society for Human Resource Management, 2017), available at <https://www.shrm.org/resourcesandtools/legal-and-compliance/state-and-local-updates/pages/california-new-minimum-wage-2018.aspx>.
- 130 John Schmitt and Alexandra Mitukiewicz, "Politics Matter: Changes in Unionization Rates in Rich Countries, 1960-2010" (Washington: Center for Economic Policy Research, 2011), available at <http://cepr.net/documents/publications/unions-oecd-2011-11.pdf>.
- 131 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 132 U.S. Bureau of Labor Statistics, *Union Members — 2016* (Department of Labor, 2017), available at <https://www.bls.gov/news.release/pdf/union2.pdf>.
- 133 Marta M. Elvira and Ishak Saporta, "How does collective bargaining affect the gender pay gap?," *Work and Occupations* 28 (4) (2011): 469–490.
- 134 Bruce Western and Jake Rosenfeld, "Unions, norms, and the rise in US wage inequality," *American Sociological Review* 76 (4) (2011): 513–537.
- 135 Josh Bivens and others, "How today's unions help working people: Giving workers the power to improve their jobs and unrig the economy" (Washington: Economic Policy Institute, 2017), available at <http://www.epi.org/publication/how-todays-unions-help-working-people-giving-workers-the-power-to-improve-their-jobs-and-unrig-the-economy/#epi-toc-10>.
- 136 Ibid.
- 137 Ibid.

- 138 Western and Rosenfeld, "Unions, norms, and the rise in US wage inequality."
- 139 Elvira and Saporta, "How does collective bargaining affect the gender pay gap?"
- 140 Western and Rosenfeld, "Unions, norms, and the rise in US wage inequality."
- 141 Frank Manzo IV and Robert Bruno, "The Impact of 'Right-to-Work' Laws on Labor Market Outcomes in Three Midwest States: Evidence from Indiana, Michigan, and Wisconsin (2010–2016)" (Urbana-Champaign, IL: Project for Middle Class Renewal, 2017), available at <https://ler.illinois.edu/wp-content/uploads/2017/03/RTW-in-the-Midwest-2010-2016.pdf>.
- 142 Ibid.
- 143 *National Labor Relations Act*, Public Law 198, 74 Cong. 1 sess. (July 5, 1935).
- 144 Bivens and others, "How today's unions help working people: Giving workers the power to improve their jobs and unrig the economy."
- 145 *Workplace Action for Growing Economy Act*, H. Rept. 4548, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 146 *National Labor Relations Act*.
- 147 Richard D. Kahlenberg and Moshe Z. Marvit, "Architects of Democracy: Labor Organizing as a Civil Right." *Stan. JCR & CL* 9 (2013): 213–244.
- 148 Juliet B. Schor and Connor J. Fitzmaurice, "Collaborating and Connecting: The emergence of the sharing economy." In Lucia A. Reisch, and John Thøgersen, eds., *Handbook of Research on Sustainable Consumption* (Northampton, MA: Edward Elgar Publishing, 2014); Karla Walter and Kate Bahn, "Raising Pay and Providing Benefits for Workers in a Disruptive Economy" (Washington: Center for American Progress, 2017), available at <https://www.americanprogress.org/issues/economy/reports/2017/10/13/440483/raising-pay-providing-benefits-workers-disruptive-economy/>.
- 149 Elka Torpey and Andrew Hogan, "Working in a gig economy" (Washington: U.S. Bureau of Labor Statistics, 2016), available at <https://www.bls.gov/careeroutlook/2016/article/what-is-the-gig-economy.htm>.
- 150 James Manyika and others, "Independent work: Choice, necessity, and the gig economy" (San Francisco: McKinsey Global Institute, 2016), available at <http://www.mckinsey.com/global-themes/employment-and-growth/independent-work-choice-necessity-and-the-gig-economy>.
- 151 Judy Greenwald, "National Labor Relations Board strikes pro-employer stance," *Business Insurance*, December 12, 2017, available at <http://www.businessinsurance.com/article/20171212/NEWS06/912317864/National-Labor-Relations-Board-strikes-pro-employer-stance>; Daniel Wiessner, "U.S. labor board adopts business-friendly 'micro union' test," *Reuters*, December 16, 2017, available at <https://www.reuters.com/article/us-usa-labor/us-labor-board-adopts-business-friendly-micro-union-test-idUSKBN1EA0PC>.
- 152 Karla Walter and Alex Rowell, "President Trump's Policies Are Hurting American Workers" (Washington: Center for American Progress, 2018), available at <https://www.americanprogressaction.org/issues/economy/reports/2018/01/26/168366/president-trumps-policies-hurting-american-workers/>.
- 153 Celine McNicholas and Janelle Jones, "Black women will be most affected by Janus" (Washington: Economic Policy Institute, 2018), available at <https://www.epi.org/publication/black-women-will-be-most-affected-by-janus/>.
- 154 Noam Schieber, "Trump Appointee Is Trying to Squelch Us, Labor Board Staff Says," *The New York Times*, January 25, 2018, available at <https://www.nytimes.com/2018/01/25/business/economy/labor-board.html>.
- 155 Legal Services NYC, "New York Taxi Workers Alliance, Uber Drivers Win Employee Status," Press release, October 13, 2016, available at <http://www.legalservicesnyc.org/news-and-events/press-room/1055-new-york-taxi-workers-alliance-uber-drivers-win-employee-status>.
- 156 Jackson Lewis PC, "NYC Fast Food Deductions Law Stayed Pending Resolution of Constitutional Challenge by Restaurant Groups," *Lexology*, January 25, 2018, available at <https://www.lexology.com/library/detail.aspx?g=57f169b1-2ed1-4b50-90bd-e9240ba92996>.
- 157 Seattle City Council, "Council Unanimously Adopts First-of-its-Kind Legislation to Give Drivers a Voice on the Job," Press release, December 14, 2015, available at <https://www.seattle.gov/council/issues/giving-drivers-a-voice>.
- 158 Joel Connelly, "Judge upholds Seattle's collective-bargaining law for Uber, Lyft drivers," *Seattle PI*, August 27, 2017, available at <http://www.seattlepi.com/local/politics/article/Connolly-Judges-upholds-Uber-Lyft-collective-11962965.php>.
- 159 Tammy Mutasa, "Seattle domestic workers fighting for new rights and labor protections," *KomoNews.com*, December 8, 2017, available at <http://komonews.com/news/local/seattle-domestic-workers-fighting-for-new-rights-and-labor-protections>.
- 160 Claudia Goldin, Lawrence F. Katz, and Ilyana Kuziemko, "The homecoming of American college women: The reversal of the college gender gap," *The Journal of Economic Perspectives* 20 (4) (2006): 133–156; Francine D. Blau, Marianne A. Ferber, and Anne W. Winkler, *The Economics of Women, Men, and Work*, 7th ed. (Upper Saddle River, NJ: Prentice Hall/Pearson, 2014); Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 161 U.S. Department of Justice, *Overview of Title IX of the Education Amendments of 1972, 20 U.S.C. A§ 1681 ET. SEQ.* (2015), available at <https://www.justice.gov/crt/overview-title-ix-education-amendments-1972-20-usc-1681-et-seq>.
- 162 Martha J. Bailey, Brad Hershbein, and Amalia R. Miller, "The opt-in revolution? Contraception and the gender gap in wages," *American Economic Journal: Applied Economics* 4 (3) (2012): 225–254.
- 163 Claudia Goldin, "The Quiet Revolution That Transformed Women's Employment, Education, and Family," *The American Economic Review* 96 (2) (2006): 1–21.
- 164 Christianne Corbett and Catherine Hill, "Graduating to a Pay Gap: The Earnings of Women and Men One Year after College Graduation" (Washington: American Association of University Women, 2012).
- 165 Lisa Dickson, "Race and Gender Differences in College Major Choice," *The Annals of the American Academy of Political and Social Science* 627 (1) (2010): 108–124.
- 166 Basit Zafar, "College major choice and the gender gap," *Journal of Human Resources* 48 (3) (2013): 545–595.

- 167 Wayne A. Grove, Andrew Hussey, and Michael Jetter, "The gender pay gap beyond human capital heterogeneity in noncognitive skills and in labor market tastes," *Journal of Human Resources* 46 (4) (2011): 827–874.
- 168 Elise Gould, "High-scoring, low-income students no more likely to complete college than low-scoring, rich students," Working Economics Blog, March 9, 2012, available at <http://www.epi.org/blog/college-graduation-scores-income-levels/>.
- 169 Terry Hartle and Chris Nellum, "Where Have All the Low-Income Students Gone?" (Washington: American Council on Education, 2015), available at <http://www.higheredtoday.org/2015/11/25/where-have-all-the-low-income-students-gone/>.
- 170 National Center for Education Statistics, *Number and percentage distribution of spring 2002 high school sophomores, by highest level of education completed, and socioeconomic status and selected student characteristics while in high school: 2013* (2016), available at [https://nces.ed.gov/programs/digest/d16/tables/dt16\\_104.91.asp](https://nces.ed.gov/programs/digest/d16/tables/dt16_104.91.asp).
- 171 National Center for Education Statistics, *Demographic and Enrollment Characteristics of Nontraditional Undergraduates: 2011–12* (2015), available at <https://nces.ed.gov/pubs2015/2015025.pdf>.
- 172 Institute for Women's Policy Research, "4.8 Million College Students are Raising Children" (2014), available at <https://www.luminafoundation.org/files/resources/college-students-raising-children.pdf>.
- 173 Ibid.
- 174 Ibid.
- 175 *Promoting Real Opportunity, Success, and Prosperity through Education Reform Act*, H. Rept. 4508, 115 Congress (Government Printing Office, 2017).
- 176 Elizabeth Noll, Lindsey Reichlin, and Barbara Gault, "College Students with Children: National and Regional Profiles" (Washington: Institute for Women's Policy Research, 2017), available at <https://iwpr.org/wp-content/uploads/2017/02/C451-5.pdf>.
- 177 "Tennessee Reconnect One-Pager," available at <https://www.tn.gov/content/tn/nexttennessee/tennessee-reconnect/tennessee-reconnect-one-pager0.html> (last accessed March 29, 2018); "Oregon Promise Frequently Asked Questions," available at <https://oregonstudentaid.gov/oregon-promise-faq.aspx> (last accessed March 29, 2018); "Rhode Island Promise at CCRl FAQs," available at <https://www.ccri.edu/about/whycrri/pdfs/2018-promise-faqs.pdf> (last accessed March 29, 2018); "Free City Frequently Asked Questions," available at <https://www.ccsf.edu/ccsf/en/student-services/freecity/faq> (last accessed March 29, 2018).
- 178 "Tuition-Free Degree Program: The Excelsior Scholarship," available at <https://www.ny.gov/programs/tuition-free-degree-program-excelsior-scholarship> (last accessed March 29, 2018).
- 179 Eleanor Eckerson and others, "Child Care for Parents in College: A State-by-State Assessment" (Washington: Institute for Women's Policy Research, 2016), available at <http://www.chronicle.com/blogs/ticker/files/2016/09/Child-Care.pdf>.
- 180 Ibid.
- 181 Stella Fayer, Alan Lacey, and Audrey Watson, "STEM Occupations: Past, Present, And Future" (Washington: U.S. Bureau of Labor Statistics, 2017), available at <https://www.bls.gov/spotlight/2017/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future/pdf/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future.pdf>.
- 182 Interagency Policy Group on Increasing Diversity in the STEM Workforce by Reducing the Impact of Bias, Office of Science and Technology Policy and Office of Personnel Management, "Reducing the Impact of Bias in the STEM Workforce: Strengthening Excellence and Innovation" (2016), available at [https://www.nsf.gov/od/broadeningparticipation/ostp-opm\\_bias\\_mitigation\\_digest.pdf](https://www.nsf.gov/od/broadeningparticipation/ostp-opm_bias_mitigation_digest.pdf).
- 183 National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, "Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future" (Washington: The National Academies Press, 2007), available at <https://doi.org/10.17226/11463>.
- 184 National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, "Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering" (Washington: The National Academies Press, 2007).
- 185 Executive Office of the President of the United States, *Presidential Memorandum for the Secretary of Education* (Government Printing Office, 2014), available at <https://www.whitehouse.gov/presidential-actions/presidential-memorandum-secretary-education/>.
- 186 *Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act*, Public Law 7, 115 Cong. 1 sess. (February 28, 2017).
- 187 *Women and Minorities in STEM Booster Act of 2017*, H. Rept. 2709, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 188 *Code Like a Girl Act*, H. Rept. 3316, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 189 Valerie Wilson and William M. Rodgers III, "Black-white wage gaps expand with rising wage inequality" (Washington: Economic Policy Institute, 2016), available at <https://www.epi.org/files/pdf/101972.pdf>.
- 190 Ibid.
- 191 Eileen Patten, "Racial, gender wage gaps persist in U.S. despite some progress" (Washington: Pew Research Center, 2016), available at <http://www.pewresearch.org/fact-tank/2016/07/01/racial-gender-wage-gaps-persist-in-u-s-despite-some-progress/>.
- 192 U.S. Census Bureau, *Percent of People 25 Years and Over Who Have Completed High School or College, by Race, Hispanic Origin and Sex: Selected Years 1940 to 2016* (Department of Commerce, 2017).
- 193 Ibid; Patten, "Racial, gender wage gaps persist in U.S. despite some progress."
- 194 Wilson and Rogers, "Black-white wage gaps expand with rising wage inequality."
- 195 U.S. Bureau of Labor Statistics, *Employment status of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic or Latino ethnicity* (Department of Labor, 2018), available at <https://www.bls.gov/cps/cpsaat07.pdf>.
- 196 Alyssa Davis, "Young Black High School Grads Face Astonishing Underemployment," Working Economics Blog, June 8, 2015, available at <http://www.epi.org/>.

- [blog/young-black-high-school-grads-face-astonishing-underemployment/](http://blog.young-black-high-school-grads-face-astonishing-underemployment/).
- 197 Devah Pager and Hana Shepherd, "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets," *Annual Review of Sociology* 34 (2008): 181–209.
- 198 Devah Pager, Bart Bonikowski, and Bruce Western, "Discrimination in a low-wage labor market: A field experiment," *American Sociological Review* 74 (5) (2009): 777–799; Devah Pager, "The mark of a criminal record," *American Journal of Sociology* 108 (5) (2003): 937–975.
- 199 U.S. Equal Employment Opportunity Commission, *Section 15: Race and Color Discrimination* (Government Printing Office, 2006), available at <https://www.eeoc.gov/policy/docs/race-color.pdf>.
- 200 U.S. Equal Employment Opportunity Commission, "EEOC to Collect Summary Pay Data," Press release, September 29, 2016, available at <https://www.eeoc.gov/eeoc/newsroom/release/9-29-16.cfm>.
- 201 Office of Information and Regulatory Affairs, *EEO-1 Form; Review and Stay* (Office of Management and Budget, 2017), available at [https://www.reginfo.gov/public/jsp/Utilities/Review\\_and\\_Stay\\_Memo\\_for\\_EEOC.pdf](https://www.reginfo.gov/public/jsp/Utilities/Review_and_Stay_Memo_for_EEOC.pdf).
- 202 National Conference of State Legislatures, "State Equal Pay Laws" (2016), available at <http://www.ncsl.org/research/labor-and-employment/equal-pay-laws.aspx>.
- 203 National Women's Law Center, "The Wage Gap By State for Women Overall 2016" (2017), available at <https://nwlc-ciw49tixgw5lbab.stackpathdns.com/wp-content/uploads/2017/09/Wage-Gap-State-By-State-2017.pdf>; U.S. Department of Labor, *Changes in Basic Minimum Wages in Non-Farm Employment Under State Law: Selected Years 1968 to 2017* (2018), available at <https://www.dol.gov/whd/state/stateMinWageHis.htm>.
- 204 Julie Vogtman, "The Raise the Wage Act: Boosting Women's Paychecks and Advancing Equal Pay" (Washington: National Women's Law Center, 2017), available at <https://nwlc.org/resources/fair-pay-women-requires-fair-minimum-wage/>.
- 205 Ibid.
- 206 Arindrajit Dube, "Minimum wages and the distribution of family incomes," Working Paper (Washington Center for Equitable Growth, 2017), available at <http://cdn.equitablegrowth.org/wp-content/uploads/2017/03/27134555/032817-WP-minimum-wages-and-family-incomes.pdf>.
- 207 National Economic Council and others, "The Impact of Raising the Minimum Wage on Women" (Government Printing Office, 2014), available at <https://obamawhitehouse.archives.gov/sites/default/files/docs/20140325minimumwageandwomenreportfinal.pdf>.
- 208 Michelle Ye Hee Lee, "A guide to all of Donald Trump's flip-flops on the minimum wage," *The Washington Post*, August 3, 2016, available at [https://www.washingtonpost.com/news/fact-checker/wp/2016/08/03/a-guide-to-all-of-donald-trumps-flip-flops-on-the-minimum-wage/?utm\\_term=.a34229f08dbb](https://www.washingtonpost.com/news/fact-checker/wp/2016/08/03/a-guide-to-all-of-donald-trumps-flip-flops-on-the-minimum-wage/?utm_term=.a34229f08dbb).
- 209 U.S. Department of Labor, *Consolidated Minimum Wage Table* (2018), available at <https://www.dol.gov/whd/minwage/mw-consolidated.htm>.
- 210 Economic Policy Institute, "Minimum Wage Tracker" (2018), available at <https://www.epi.org/minimum-wage-tracker/>.
- 211 Rachel West, "The Gender Wage Gap Is Wider in States with a Low Minimum Wage" (Washington: Center for American Progress, 2016), available at <https://talkpov.org/2016/09/23/gender-wage-gap-wider-states-low-minimum-wage/>.
- 212 Blau and Kahn, "The Gender Pay Gap: Have Women Gone as Far as They Can?"; Wayne A. Grove, Andrew Hussey, and Michael Jetter, "The gender pay gap beyond human capital heterogeneity in noncognitive skills and in labor market tastes," *Journal of Human Resources* 46 (4) (2011): 827–874.
- 213 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 214 Goldin, Katz, and Kuziemko, "The Homecoming of American College Women: The Reversal of the College Gender Gap."
- 215 Muriel Niederle and Lise Vesterlund, "Explaining the gender gap in math test scores: The role of competition," *The Journal of Economic Perspectives* 24 (2) (2010): 129–144.
- 216 Ibid.
- 217 Irene F. Goodman, Christine M. Cunningham, and Cathy Lachapelle, "The Women's Experience in College Engineering" (Cambridge, MA: Goodman Research Group, Inc., 2002), available at [http://www.grginc.com/WECE\\_FINAL\\_REPORT.pdf](http://www.grginc.com/WECE_FINAL_REPORT.pdf).
- 218 Hegewisch and others, "Separate and not equal? Gender segregation in the labor market and the gender wage gap."
- 219 Mary Crawford and Margo MacLeod, "Gender in the college classroom: An assessment of the 'chilly climate' for women," *Sex Roles* 23 (3) (1990): 101–122; Stephen J. Ceci, Wendy M. Williams, and Susan M. Barnett, "Women's underrepresentation in science: sociocultural and biological considerations," *Psychological Bulletin* 135 (2) (2009): 218–261; Martha Cecilia Bottia and others, "Growing the roots of STEM majors: Female math and science high school faculty and the participation of students in STEM," *Economics of Education Review* 45 (2015): 14–27.
- 220 Marianne Bertrand, Claudia Goldin, and Lawrence F. Katz, "Dynamics of the gender gap for young professionals in the financial and corporate sectors," *American Economic Journal: Applied Economics* 2 (3) (2010): 228–255.
- 221 Kathleen J. Hancock and Matthew Baum, "Women and academic publishing: Preliminary results from a survey of the ISA membership," *The International Studies Association Annual Convention, New Orleans, LA* (2010); Sarah Winslow, "Gender inequality and time allocations among academic faculty," *Gender & Society* 24 (6) (2010): 769–793; Nicholas H. Wolfinger, Mary Ann Mason, and Marc Goulden, "Problems in the pipeline: Gender, marriage, and fertility in the ivory tower," *The Journal of Higher Education* 79 (4) (2008): 388–405.
- 222 Heather Antecol, Kelly Bedard, and Jenna Stearns, "Equal but Inequitable: Who Benefits from Gender-Neutral Tenure Clock Stopping Policies?" Working Paper 9904 (IZA XX SPELL OUT XX, 2016).
- 223 Trond Petersen, Vemund Snartland, and Eva M. Meyerson Milgrom, "Are female workers less productive than male workers?," *Research in Social Stratification and Mobility* 25 (1) (2007): 13–37.
- 224 Timothy A. Judge and Beth A. Livingston, "Is the Gap More Than Gender? A Longitudinal Analysis of Gender, Gender Role Orientation, and Earnings," *Journal of Applied Psychology* 93 (5) (2008): 994–1012.

- 225 Linda Babcock and Sara Laschever, *Women Don't Ask: Negotiation and the Gender Divide* (Princeton, NJ: Princeton University Press, 2009).
- 226 Andreas Leibbrandt and John A. List, "Do women avoid salary negotiations? Evidence from a large-scale natural field experiment," *Management Science* 61 (9) (2014): 2016–2024.
- 227 Hannah Riley Bowles, Linda Babcock, and Lei Lai, "Social incentives for gender differences in the propensity to initiate negotiations: Sometimes it does hurt to ask," *Organizational Behavior and human decision Processes* 103 (1) (2007): 84–103.
- 228 Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 229 Christianne Corbett and Catherine Hill, "Graduating to a Pay Gap: The Earnings of Women and Men One Year after College Graduation" (Washington: American Association of University Women, 2012).
- 230 *Fair Pay Act of 2017*, H. Rept. 2095, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 231 Ibid.
- 232 *Paycheck Fairness Act*, H. Rept. 1869, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 233 *Workplace Advancement Act*, S. 345, 115 Cong. 1 sess. (Government Printing Office, 2017).
- 234 Mitchell Hartman, "The old salary history question could be on its way out for good," *Marketplace*, October 25, 2017, available at <https://www.marketplace.org/2017/10/25/world/new-laws-ban-employers-using-salary-history-hiring>.
- 235 Zoe Cullen and Bobak Pakzad-Hurson, "Equilibrium effects of pay transparency." Working Paper (Harvard Business School, 2017).
- 236 Kaitlin Holmes and Danielle Corley, "International Approaches to Closing the Gender Wage Gap" (Washington: Center for American Progress, 2017), available at <https://www.americanprogress.org/issues/women/reports/2017/04/04/429825/international-approaches-closing-gender-wage-gap/>.
- 237 Liz Alderman, "Equal Pay for Men and Women? Iceland Wants Employers to Prove It," *The New York Times*, March 28, 2017, available at [https://www.nytimes.com/2017/03/28/business/economy/iceland-women-equal-pay.html?\\_r=1](https://www.nytimes.com/2017/03/28/business/economy/iceland-women-equal-pay.html?_r=1); <http://www.businessinsider.com/how-nordic-countries-avoid-gender-wage-gap-2017-4?r=UK&IR=T>.
- 238 *Pay Equity Act*, Chapter E-12.001 (Editeur officiel du Québec, 2016), available at <http://www.ces.gouv.qc.ca/documents/publications/anglais.pdf>
- 239 Giannina Vaccaro, "How to Reduce the Unexplained Gender Wage Gap? Evidence from a Regression Discontinuity Design" (2017), available at [http://conference.iza.org/conference\\_files/Gender\\_2018/vaccaro\\_g23998.pdf](http://conference.iza.org/conference_files/Gender_2018/vaccaro_g23998.pdf).
- 240 Anna North, "House Republicans are trying to block an Obama-era program to track the gender pay gap," *Vox*, September 14, 2017, available at <https://www.vox.com/policy-and-politics/2017/9/14/16307190/gender-pay-gap-equal-pay-republicans>.
- 241 National Conference of State Legislatures, "State Equal Pay Laws."
- 242 American Association of University Women, "Equal Pay Laws by State" (2017), available at [https://www.aauw.org/aauw\\_check/pdf\\_download/show\\_pdf.php?file=Equal-Pay-Laws-by-State](https://www.aauw.org/aauw_check/pdf_download/show_pdf.php?file=Equal-Pay-Laws-by-State).
- 243 "Gender wage gap," available at <https://data.oecd.org/earnwage/gender-wage-gap.htm> (last accessed March 29, 2018).
- 244 Francine D. Blau and Lawrence M. Kahn, "Wage Structure and Gender Earnings Differentials: An International Comparison," *Economica* 63 (Supplement) (1996): 29–62; Blau and Kahn, "The gender wage gap: Extent, trends, and explanations."
- 245 *The Equal Pay Act of 1963*, Public Law 38, 88 Cong. 1 sess. (May 23, 1963).
- 246 Michael Selmi, "Why are Employment Discrimination Cases So Hard to Win?," *Louisiana Law Review* 61 (3) (2001): 555–575; Kaitlin Holmes and others, "Rhetoric vs. Reality: Equal Pay" (Washington: Center for American Progress, 2016), available at <https://www.americanprogress.org/issues/women/reports/2016/11/07/292175/rhetoric-vs-reality-equal-pay/#fn-292175-32>.
- 247 *Title VII of the Civil Rights Act of 1964*, Public Law 352, 88 Cong. 2 sess. (July 2, 1964).
- 248 U.S. Department of Education, *Title IX and Sex Discrimination* (2015), available at [https://www2.ed.gov/about/offices/list/ocr/docs/tix\\_dis.html](https://www2.ed.gov/about/offices/list/ocr/docs/tix_dis.html).
- 249 *Lilly Ledbetter Fair Pay Act of 2009*, Public Law 2, 111 Cong. 1 sess. (January 29, 2009).
- 250 *Ledbetter v. Goodyear Tire & Rubber Co., Inc.*, 550 U.S. 05–1074 (2007), available at <https://www.supremecourt.gov/opinions/06pdf/05-1074>.

# Equitable Growth

*The Washington Center for Equitable Growth is a non-profit research and grantmaking organization dedicated to advancing evidence-backed ideas and policies that promote **strong, stable, and broad-based** economic growth.*

Washington Center  
*for* Equitable Growth