

State of Working America Wages 2019

A story of slow, uneven, and unequal wage growth over the last 40 years

Report • By [Elise Gould](#) • February 20, 2020

What is the state of U.S. wages?

- **Slow wage growth persists:** Consistent positive wage growth has occurred in only 10 of the last 40 years.
- **Inequality continues:** The highest earners (95th percentile) continue to pull away from middle- and low-wage workers.
- **Policy matters:** Wage growth at the bottom was strongest in states with minimum wage increases in 2019.
- **Black–white wage gaps persist:** In 2019, black wages exceeded their 2000 and 2007 levels across the wage distribution for the first time in this recovery. Even so, black–white wage gaps are significantly wider now than in 2000.
- **Gender gaps defy educational attainment:** Women with an advanced degree are paid, on average, less than men with a college degree.
- **College graduates are losing ground:** Wages for the bottom 50% of college graduates are lower today than they were in 2000.

Rising wage inequality and slow and uneven hourly wage growth for the vast majority of workers have been defining features of the U.S. labor market for the last four decades, despite steady (if too slow) productivity growth. In only 10 of the last 40 years did most workers see any consistent positive wage growth: in the tight labor market of the late 1990s and in the last five years (2014–2019), when the unemployment rate hit its lowest point in 50 years. Despite these gains, wage inequality continues to climb and workers at the middle and bottom of the wage scale are just making up lost ground and continue to struggle to make ends meet rather than get ahead. The median hourly wage—the wage at which half the workforce is paid more and half the workforce is paid less—stands at \$19.33 per hour. For a full-time, full-year worker, this would translate into about \$40,000 per year.

This report begins with a look back at 40 years of wage data, highlighting the continued divergence of productivity and pay and the unequal and uneven wage growth for most workers. This report then takes a deeper look at the most up-to-date hourly wage trends, through 2019, across the wage distribution and across education categories, highlighting important differences by race, ethnicity, and gender. By looking at real (i.e., inflation-adjusted) hourly wages by percentile, we can compare what is happening over time for the lowest-wage workers (those at the 10th and 20th percentiles) and for middle-wage workers (those at or near the 50th percentile) with wage trends for the highest-wage workers (those at the 90th and 95th percentiles).

The data show not only rising inequality through the 2000s, but also the persistence—and in some cases worsening—of wage gaps by gender and race. What also stands out in this

last year of data is that, while wages are growing for most workers, wage growth continues to be slower than would be expected in an economy with historically low unemployment.

Finally, we dispel some rather pervasive but uninformed myths about why wage growth has been so slow for most workers over the last 40 years. Slow wage growth cannot be explained away by positing education shortages, by including benefits and looking at total compensation, or by changing the price deflator (changing the way wages are adjusted for inflation). To the contrary, the potential for wage growth has been squandered on the very few at the top, leaving the vast majority of the U.S. workforce without economic power and the means to achieve a decent standard of living.

Slow and unequal wage growth is the result of a series of policy decisions that have reduced the leverage of most workers to achieve faster wage growth. At the conclusion of this report, we discuss an array of solutions to reverse these trends.

Summary of key findings

Below is a summary of the key findings of this report. These findings are outlined in greater detail in subsequent sections of the report.

Slow wage growth and rising inequality is the norm. Over the last 40 years, wages for the vast majority of the U.S. workforce have grown slower than their potential and much slower than for those at the top.

- Without the wage growth spurred by exceptionally low unemployment in the late 1990s and the last five years, wages for most workers would be lower today (in real terms) than they were 40 years ago.
- Even with recent wage growth, the median wage—the wage at the center of the wage distribution—is only \$19.33 an hour, which translates into about \$40,000 for a full-time, full-year worker.

Wage inequality. From 2000 to 2019, wage growth was strongest for the highest-wage workers, continuing the trend in rising wage inequality since 1979.

- Since 2007, the labor market peak before the Great Recession, the strongest wage growth has continued to be within the top 10% of the wage distribution.
- From 2018 to 2019, the fastest growth continued at the top (4.5% at the 95th percentile), while median wages grew 1.0% over the year and wages at the bottom fell (-0.7% at the 10th percentile).

Wage inequality by gender. While wage inequality has generally been on the rise for both men and women, wage inequality is higher and growing more among men than among women.

- In recent years, it has become increasingly difficult to accurately assess 95th-

percentile hourly wages for men. This is because the CPS does not provide data for weekly earnings above \$2,884.61 (i.e., earnings are “top-coded”) and an increasing share of men have earnings above this amount. (See “What is top-coding and how does it affect data reliability?” below.) We use an imputation procedure (described in Gould 2019) to estimate men’s wage growth at the 95th percentile.

- We find that men at the 95th percentile saw the largest wage gains since 2000 (37.1%), almost twice the gains at the 90th percentile (19.9%), while the median wage rose only 3.4% over the entire 19-year period. Low-wage men fared better than those at the middle, rising 11.9% and 10.2% at the 10th and 20th percentiles, respectively. Between 2018 and 2019, low-wage male workers saw the largest increases in earnings.
- Since 2000, wage inequality has grown slower among women compared with men. Women have experienced more equal wage growth, ranging from 10.1% at the 40th percentile to 30.0% at the 95th percentile. Between 2018 and 2019, the median woman’s wage grew 3.5% while the 95th-percentile wage grew 3.1% and the 10th-percentile wage grew 2.0%.

Gender wage gap. The “gender wage gap” refers to the historically persistent difference between what men and women are paid in the workplace. While significant gender wage gaps remained across the wage distribution, the gender wage gap at the median continued to shrink over the last year, with a typical woman paid 85 cents on the typical man’s dollar in 2019 (or, facing a 15% wage gap).

- The gender wage gap at the 10th percentile remained the smallest across the wage distribution, at 9.2%, though it is about where it was in 2000.
- As inequality among men has continued to increase, it is not surprising that the gender wage gap at the top grew significantly and that 95th-percentile women were paid 29.2% less in 2019 than 95th-percentile men.
- The regression-adjusted average gender wage gap narrowed slightly from 2000 to 2019, to 22.6%. This measure accounts for differences in educational attainment, age, and other potentially relevant characteristics for wages, and reports the gender wage gap remaining after these statistical controls are used.

Wage growth in states with minimum wage increases. From 2018 to 2019, wages of the lowest-wage workers grew more in states that increased their minimum wage than in those that did not.

- On average, in the 27 states *without* minimum wage increases in 2019, the 10th-percentile wage rose 0.9%; in states *with* minimum wage increases in 2019 (including the District of Columbia), the average 10th-percentile wage rose by 4.1%.
- The differential is larger when looking across recent years with many minimum wage increases: Between 2013 and 2019, when 26 states and D.C. experienced at least one minimum wage increase, the 10th-percentile wage grew much faster in those states (and in D.C.) than in states without any increase (17.6% vs. 9.3%).
- In both comparison periods, men and women at their respective 10th percentiles saw

greater wage growth in states with minimum wage changes versus those without.

Wage growth by race and ethnicity. At every decile, wage growth since 2000 was faster for white and Hispanic workers than for black workers.

- In this analysis, workers are grouped into three mutually exclusive categories: Hispanic, black non-Hispanic, and white non-Hispanic. Sample sizes make it difficult to conduct reliable data analysis for any other race or ethnic group.
- After suffering declines in the aftermath of the Great Recession, in 2019, for the first time, wages at all deciles of the black wage distribution exceeded their 2000 and 2007 levels.
- Because wages of 95th-percentile white workers exceed the top-coding threshold, their wages have to be imputed (as described in Gould 2019). Regardless of measurement, between 2018 and 2019, the strongest wage growth among white workers was at the top and bottom of the wage distribution.
- Over the entire period from 2000 to 2019, Hispanic workers experienced more broadly based wage growth, with strong growth at the top as well as at the median and at the bottom. Over the last year, Hispanic workers' wage growth was strongest among moderate-wage workers while the 10th percentile lost ground.

Black–white and Hispanic–white wage gaps. Wage gaps by race and ethnicity describe how much less African American and Hispanic workers are paid relative to white workers. Throughout the wage distribution, black–white wage gaps were larger in 2019 than in 2000; conversely, Hispanic workers have been slowly closing the gap with white workers in the bottom 70% of the wage distribution.

- After widening for most years since 2000, the regression-adjusted black–white wage gap (controlling for education, age, gender, and region) has narrowed over the last year.
- While the Hispanic–white wage gap has narrowed slightly over the last 19 years (12.3% in 2000 compared with 10.8% in 2019), the black–white gap was significantly larger in 2019 (14.9%) than it was in 2000 (10.2%). In 2000, the regression-adjusted Hispanic–white wage gap was larger than the regression-adjusted black–white wage gap. By 2019, the reverse was true.

Wage growth by education. From 2000 to 2019, the strongest wage growth occurred among those with advanced degrees, those with college degrees, and those with less than a high school diploma.

- In this report, education attainment is reported in five mutually exclusive categories: less than high school, high school diploma, some college (two-year degree or part of a two- or four-year degree), college (four-year) degree, and advanced degree.
- For the first time in this recovery, workers with some college in 2019 just exceeded the 2007 “some college” wage level.
- Over the last year, the strongest wage growth occurred among those with some

college and those with college degrees.

- The wages of those with a college degree rose faster than the wages of those with a high school diploma over the last year, widening the gap between college and high school wages, after it had widened from 2016 to 2018. As a result, the college wage premium—the regression-adjusted log-wage difference between the wages of college-educated and high-school-educated workers—rose to 49.5% in 2019, though it remained below where it was in 2016 (50.6%).
- Between 2000 and 2019, the college wage premium rose slightly, from 47.0% to 49.5% over that whole period. The growth in the college wage premium was nowhere near fast enough to explain the total rise in wage inequality over that time.

Wage growth by education and gender. Since 2000, wage growth for those with a college or advanced degree has been faster for men than for women, while wage growth for those with some college, a high school diploma, or less than high school has been faster for women than for men.

- In general, the women’s wage distribution by educational attainment is more compressed; that is, the wage differences between workers at different education levels are not quite as large for women as they are for men.
- For the first time in this recovery, wages of men with some college have finally reached their 2000 levels.
- While there has been a slow narrowing of gender wage gaps since 2000 for those with less than high school, a high school diploma, or some college, gender wage gaps are wider than in 2000 among those with college or advanced degrees.
- At every education level, women are paid consistently less than their male counterparts, and the average wage for a man with a college degree is higher than the average wage for a woman with an advanced degree.

Wage growth by education and race and ethnicity. From 2000 to 2019, wage growth for white and black workers was faster for those with a college or advanced degree than for those with lower levels of educational attainment.

- Average wages grew faster among white and Hispanic workers than among black workers for all education groups from 2000 to 2019.
- In 2019, black workers with some college still had lower wages than in 2000.
- From 2018 to 2019, Hispanic workers were the only group that had positive wage growth across all levels of educational attainment.
- Black–white wage gaps by education were larger in 2019 than in 2000 for all education groups, while Hispanic–white wage gaps were narrower for workers at any level of educational attainment except those with some college. At nearly every education level, Hispanic and black workers were paid consistently less than their white counterparts.

Some convenient but misguided explanations of slow wage growth. Assorted explanations have been put forth for why wage growth continues to be slow; some even claim that wage growth is *not* slow. In this report, we examine those arguments closely and find that:

- Slow wage growth cannot be explained away by education shortages because the rise in wage inequality has been far larger than the rise in returns to education, with inequality rising sharply within educational categories.
- Slow wage growth cannot be explained away by including health insurance costs because average health benefits didn't grow fast enough to crowd out wage growth, and because many low- and middle-wage workers do not have access to employer-sponsored health insurance, hence growth in its costs is irrelevant to their measured wage trends.
- Changing the price deflator used to adjust wages for inflation can boost measured wage growth. But wage growth would still lag far behind growth in economywide productivity, and changing price deflators does not affect measured inequality at all.

1979–2019: Slow wage growth and rising inequality has been the norm over the last 40 years

Wages for the vast majority have grown slower than their potential and much slower than for those at the top.

Since 1979, “real” (inflation-adjusted) hourly pay for the vast majority of American workers has diverged from economywide productivity, and this divergence is at the root of numerous American economic challenges. **Figure A** displays productivity and hourly compensation from 1947 to 2018. After tracking rather closely in the three decades following World War II, growing productivity and typical worker compensation diverged. From 1979 to 2018, productivity grew 69.6%, while hourly compensation of production and nonsupervisory workers grew just 11.6%. Productivity thus grew six times as fast as typical worker compensation.

A natural question that arises from these data is just where did the “excess” productivity go? A significant portion of it went to higher corporate profits and increased income accruing to capital and business owners (Bivens et al. 2014). But much of it went to those at the very top of the wage distribution (Mishel and Kassa 2019). As shown in **Figure B**, the top 1% of earners saw cumulative gains in annual wages of 157.8% between 1979 and 2018—far in excess of economywide productivity growth and over six times as fast as average growth for the bottom 90% (23.9%). Over the same period, top 0.1% earnings grew 340.7%.

While the Current Population Survey Outgoing Rotation Group (CPS)—the primary data set used in this report (EPI 2020a)—is not conducive to disaggregation within the top 5% of the earnings distribution (both because of top-coding and insufficient sample sizes), it is still instructive for measuring the growth in wage inequality over the last 40 years. **Figure C** illustrates that for all but the highest earners, hourly wage growth has been weak. Median hourly wages (wages at the exact middle of the wage distribution) rose 15.1% between 1979 and 2019, compared with an increase of 3.3% for the 10th-percentile worker (i.e., the worker who earns more than only 10% of workers and less than 90% of workers). Over the same period, the 95th-percentile worker saw wage growth of 63.2%.

What is top-coding and how does it affect data reliability?

The CPS is one of the best measures of hourly pay because it allows researchers to analyze differences across the wage distribution and by demographic characteristics. However, for confidentiality reasons, the CPS “top-codes” weekly earnings: All workers who report weekly earnings *above* \$2,884.61 (annual earnings for full-year workers above \$150,000) are recorded as having weekly earnings of *exactly* \$2,884.61, to preserve the anonymity of respondents. This top-code amount of \$2,884.61 hasn’t changed or been updated for inflation since 1998 and, as a result, a growing share of workers are assigned this weekly earnings value rather than having their actual wages reported. Because these workers’ actual wages are masked by the top code, it has become harder to uncover the extent of top-end wage levels and growth. (For further discussion of top-coding and its implications, see Ingraham 2019.)

Other data, such as data from the Social Security Administration, illustrates that wage growth is far more concentrated at the top than can be illustrated using the CPS, with growth at and within the top 1% exhibiting growth orders of magnitude faster than at the 95th percentile. In the most recent year of data, the top code is assigned to more than 5% of weekly earnings for male workers, white workers, and college-educated workers in the CPS; with no adjustment, this would compromise our 95th-percentile hourly wage estimates. For the purposes of this report, we use what we think is an acceptable proxy for wage growth at this percentile, as described in Gould 2019 (“Methodological considerations” section).

To put this growth in inequality in perspective, consider that the 10th-percentile wage grew from \$9.75 to \$10.07. Over this 40-year period, wages for this group increased only \$0.32 in real (inflation-adjusted) terms. The median wage grew from \$16.79 to \$19.33, an increase of \$2.54. At the top, the 95th-percentile wage grew from \$41.15 to \$67.14, an increase of \$25.99. What’s obvious from these comparisons is that there was a modest increase in the ratio of the middle wage to the lowest wage (the 50/10 wage ratio), but by far most of the increase in inequality occurred between the top and everyone else. During the same period, the 95/10 wage ratio—which describes 95th-percentile earnings relative to 10th-

percentile earnings—increased from 4.2 to 6.7, which means that top earners were paid 4.2 times as much as low-paid workers in 1979 and now top earners are paid 6.7 times as much as low-paid workers.

The gap between the top and the middle has also increased significantly. As of 2019, the 95th-percentile wage was 3.5 times as high as the median wage. Recall that the median wage—the wage at which half the workforce is paid more and half the workforce is paid less—in 2019 is \$19.33 per hour. For a full-time, full-year worker, this translates into about \$40,000 per year.

Except for the wage gains spurred by exceptionally low unemployment in the late 1990s and the last five years, wage growth would have been zero over the last four decades.

Figure A illustrates that typical worker compensation between 1947 and the mid-1970s was not only stronger, but also steadier, than in subsequent years. Since the late 1970s, growth has been slow and uneven, occurring only in fits and starts. **Figure D** zooms in on average real earnings of the bottom 90%—shown previously as the bottom line in Figure B. There were long periods of stagnant wage growth since 1979, shown in red as well as illustrated by annualized percent changes in the accompanying bar graph. Only in the tightest of labor markets did average wages for the bottom 90% rise in any meaningful way.

Figure E provides a slightly more extreme version of this story, analyzing the median wage from the CPS, shown previously in Figure C. There was consistent positive wage growth in only 10 of the last 40 years. If it hadn't been for a period of strong across-the-board wage growth in the late 1990s and the last five years, median wages would have fallen outright.

2000–2019: Hourly wages have continued to grow slowly and unequally since 2000

Wage growth since the turn of the century has continued to follow this trend: slower growth for most compared with faster growth for those at the top. **Table 1** shows hourly wages by wage decile (and at the 95th percentile) and includes data from 2000 (the previous business cycle peak), 2007 (the most recent business cycle peak), and the two most recent years of data (2018 and 2019).

While the CPS remains one of the best data sets to analyze hourly wage growth across and within demographic groups, some caution should be exercised in interpreting data, because of top-coding and volatility issues. First, top-coding of weekly earnings is catching an increasing number and share of workers as inequality continues to climb, making it increasingly difficult to obtain reliable measures of 95th-percentile wages, particularly for

male workers and white workers. Therefore, we make an adjustment when examining recent wage levels and trends for these workers. Second, because the CPS exhibits a fair amount of year-to-year volatility, one-year changes in wages by decile or by demographic group in the CPS—while providing new and valuable information—should be taken with a grain of salt. For a more in-depth examination of these considerations, see Gould 2019. For a full discussion of EPI’s use of the CPS-ORG data, see EPI’s *Methodology for Measuring Wages and Benefits* (EPI 2019).

In the full business cycle from 2000 to 2007, growth was relatively slow overall and relatively unequal; the gains at the 90th and 95th percentiles were higher than at the middle or bottom of the wage distribution. After growing at about the same rate from 2000 to 2007, wages for the bottom grew significantly faster than wages for the middle from 2007 to 2019, slightly decreasing the 50/10 wage ratio, or the ratio of wages at the middle to wages at the bottom. However, because of the large and disproportionate gains at the top, both the 95/50 ratio (the ratio of 95th-percentile wages to median wages) and the 95/10 ratio (the ratio of 95th-percentile wages to 10th-percentile wages) grew substantially from 2007 to 2019.

With the caveat that, as discussed above, we need to be careful not to assign too much meaning to one-year changes given concerns about data volatility, we note the following trends over the past year: The one-year change in the median wage from 2018 to 2019 was 1.0%, compared with 1.5% at the 20th percentile and a loss of 0.7% at the 10th percentile. The strongest growth in the overall wage distribution occurred at the 95th percentile, at 4.5%.

On the whole, the trends between 2018 and 2019 suggest a continuation of growing wage inequality, with the top in particular pulling away from the middle and bottom. The loss for low-wage workers is somewhat surprising given that the labor market continues to tighten, and tighter labor markets have historically provided disproportionate benefit to wage growth at the bottom. However, the composition of the low-wage workforce may play a role as more previously sidelined workers (re)enter the labor force and find jobs. At this point in the business cycle, these (re)entering workers are less likely to be attached to the labor force in general and wield little bargaining power to garner higher wages; this group might include, for example, workers with lower levels of educational attainment. Further, the bottom 10% of the overall U.S. workforce is increasingly found in states with a minimum wage no higher than the federal minimum of \$7.25 per hour, meaning they were less likely to be affected by state-level minimum wage increases across the country (EPI 2020b).¹ For more on the relationship between state-level minimum wages and wage growth for low-wage workers, see the section “Wage growth at the bottom was faster in states that increased their minimum wage in 2019” later in this report.

Figure F illustrates the trends in wages for selected deciles (and the 95th percentile), showing the cumulative percent change in real hourly wages from 2000 to 2019. The overall story of inequality is clear. The lines demonstrate that those with the highest wages have had the fastest wage growth in recent years. From 2000 to 2019, the 95th-percentile wage grew nearly four times as fast as wages at the median (30.7% vs. 8.0%). By 2019, the 95/10 ratio had grown to 6.7 from 6.0 in 2007 and 5.6 in 2000 (see Table 1). This means

that on an hourly basis the 95th-percentile wage earner was paid 6.7 times what the 10th-percentile wage earner was paid (\$67.14 per hour vs. \$10.07 per hour). Similar trends are found in the 95/50 wage ratio, with those at the top pulling away from those in the middle. In 2019, the 95th-percentile wage earner was paid 3.5 times as much as the median worker (\$67.14 vs. \$19.33), compared with 3.0 times as much in 2007 and 2.9 times as much in 2000.

The gender wage gap continues to shrink but remains significant; wage inequality is higher and growing more among men than among women.

Analyzing wages at different points in the wage distribution over time can mask different outcomes for men compared with women as well as changes in the gender composition of the workforce. **Table 2** replicates the analysis of wage deciles for men and women separately, with a comparison of gender wage disparities over 2000–2019. **Figures G** and **H** accompany this table, illustrating the cumulative percent change over 2000–2019 in real hourly wages of men and women at selected wage percentiles.

It is important to keep in mind that the top-coding issue in the CPS disproportionately impacts analysis of men’s wages more than analysis of women’s wages because men’s wages are higher and, at the high-end of the wage distribution, wage growth has been much faster for men than for women over the last 20 years. Because more than 5% of men’s weekly earnings were top-coded in the CPS in 2016, 2017, 2018, and 2019, growth in the 95th-percentile men’s wage is estimated using a slightly lower point in the male wage distribution. Depending on the share that is top-coded, we alternatively apply the growth rate of the 93rd or 94th percentile for each of those years to the 95th percentile in 2015.²

Even using the potentially slightly slower growth rate in recent years at the 93rd and 94th percentiles as a proxy, long-term trends suggest that low- and middle-wage men have fared comparatively poorly and that wage ratios between the top and the middle (the 95/50 ratio) and the top and the bottom (the 95/10 ratio) have increased more for men than for women. Men’s wages at the 95th percentile grew 37.1% from 2000 to 2019, almost twice as fast as at the 90th percentile (19.9%), while at the median, men’s wages barely rose, increasing only 3.4% over the entire 19-year period. Wage growth for lower-wage working men (at the 10th and 20th percentiles) was considerably stronger than for those at or near the middle of the wage distribution, increasing 11.9% and 10.2%, respectively (EPI 2020c).

After seeing their wages fall between 2017 and 2018 (Gould 2019), men at the middle and bottom of the wage distribution saw their wages rise in 2019: a 2.6% increase at the 50th percentile and a striking 5.7% increase at the 10th percentile, along with a 4.2% increase at the 20th percentile. Table 2 shows that our imputed 95th-percentile men’s wage grew 2.1% between 2018 and 2019, on par with its growth since 2007.

Women also experienced a growth in wage inequality from 2000 to 2019, with the 95th percentile continuing to pull away from the middle and bottom of the wage distribution.

Wages at the 90th and 95th percentiles grew about twice as fast as for middle- and low-wage earners over the 19-year period. However, wage inequality among women in 2019 was not as high as it was among men: A 95th-percentile woman was paid 5.6 times as much as a 10th-percentile woman, while the 95/10 ratio for men was 7.2. While inequality has grown modestly among women, the growth in women's wages is more broadly shared across the wage distribution than the growth in men's wages. Across wage deciles, women's wages grew between 10.1% (at the 40th percentile) and 30.0% (at the 95th percentile), while men's wage growth spanned 3.3% (at the 30th percentile) to 37.1% (at the 95th percentile) between 2000 and 2019.

Median wages for women grew 3.5% between 2018 and 2019 compared with 2.0% at the bottom (10th percentile) and 3.1% at the top (95th percentile). (Again, we do not recommend drawing conclusions about economic trends based on a single year of data; long-term trends give a more reliable picture of what's going on in the economy.) The largest growth over the year was found at the 20th percentile, where wages grew 6.0%. It is intriguing that faster wage growth for men was at the 10th percentile (with a wage of \$10.93 in 2019) while the fastest wage growth for women was at the 20th percentile (with a wage of \$11.91 in 2019). A discussion of the role of not only tight labor markets, but also state-level minimum wages for faster wage growth at the bottom of the wage distribution, follows this section.

The "gender wage gap" refers to historically persistent differences between what men and women are paid in the workplace. While significant gender wage gaps remain across the wage distribution, the gender wage gap at the median continued to shrink, with the typical woman earning 85 cents for every dollar a man earned in 2019 (that is, women faced a 15% wage gap). Unfortunately, the narrowing of the gender wage gap at the median between 2000 and 2019 was due in part to particularly slow wage growth in the median men's wage, which rose only 3.4% over the 19-year period (or 0.2% annually), rather than tremendously fast growth for women (which rose 0.7% on an annual basis—well below economywide productivity growth). If we can stem the tide of rising inequality and claw back the disproportionate gains going to those at the top of the overall wage distribution—which led to wage growth that was about 10 times as fast at the top as at the middle for men (see Figure G)—it would be economically feasible to see both men's and women's median wages rise while simultaneously closing the gender wage gap (Davis and Gould 2015). The gender wage gap at the bottom of the wage distribution, while considerably narrower than at the top, has reversed recent years' gains, and is now back to near where it was in 2000, with women's 10th-percentile wage 9.2% less than men's. The largest gender wage gap occurs among the highest-paid workers, with higher-earning women facing a 29.2% pay penalty.

The regression-adjusted average gender wage gap (controlling for education, age, race, and region) showed a small narrowing between 2000 and 2019, from 23.9% to 22.6% (**Appendix Table 1**), while much greater progress was made between 1979 and 2000; the regression-adjusted gender wage gap was 37.7% in 1979 (EPI 2020c).

Wage growth at the bottom was faster in states that increased their minimum wage in 2019.

In 2019, the minimum wage was increased in 16 states and the District of Columbia through legislation or referendum and in eight states because the minimum wage is indexed to inflation in those states. One state, New Jersey, is double-counted in this tally, as it had both a legislated and an indexed increase in 2019. Most of the minimum wage increases occurred at the start of the year, though some occurred later in the year. For this analysis, we rely on average changes in the minimum wage from 2018 to 2019; therefore, we also include any minimum wage changes that happened during the second half of 2018 without an actual change in 2019, which would imply an increase in the average minimum wage workers faced in 2019 versus 2018; this occurred only in Maryland, where the minimum wage increased from \$9.25 to \$10.10 in July 2018. Connecticut has the latest minimum wage change in the two-year period, occurring in October 2019, and is still counted among the minimum wage changers for this analysis.

Figure I shows in green the states with minimum wage increases that occurred through legislation or referendum in 2019; states in blue had automatic increases resulting from indexing the minimum wage to inflation. Workers in states that increased their minimum wage between 2018 and 2019 account for about 55% of the U.S. workforce. Comparing the average minimum wage in each state across 2018 with the average across 2019, the amounts of the nominal minimum wage increases, legislated or indexed, ranged from \$0.05 (0.5%) in Alaska to \$1.00 (9.1%–10.0%) in California, Massachusetts, and Maine.

When we compare 10th-percentile wage growth among states that are grouped by whether they had any minimum wage increase or not, the comparison yields highly suggestive results. As shown in **Figure J**, when looking at 10th-percentile wages, growth in states without minimum wage increases was much slower (0.9%) than in states with any kind of minimum wage increase (4.1%).³ This result holds true for both men and women at the 10th percentile. The 10th-percentile men's wage grew 3.6% in states with minimum wage increases, compared with 0.7% growth in states without any minimum wage increases, while women's 10th-percentile wages grew 2.8% in states with minimum wage increases and 1.4% in states without.⁴

It is not surprising that these differences are smaller than what has been seen in earlier years because as the economy gets closer to full employment,⁵ we would expect tighter labor markets to boost the 10th-percentile wage across all states regardless of changes in the minimum wage.⁶ Furthermore, 2019 changes in state minimum wages came on the heels of other recent changes to minimum wages in many of the same states in recent years. In fact, when we compare states that have had any minimum wage change since 2013—26 states plus D.C.—with states that did not have a minimum wage change during that time, the pattern is even more pronounced.

As shown in **Figure K**, wage growth at the 10th percentile in states with at least one minimum wage increase from 2013 to 2019 was almost 90% faster than in states without any minimum wage increases (17.6% vs. 9.3%). As expected, given women's lower wages in

general, this result is even stronger for women (16.1% vs. 7.6%), though men also experienced much faster 10th-percentile wage growth in states with minimum wage increases than in those without (16.0% vs. 9.3%).

From 2000 to 2019, within-group wage inequality grew for white, black, and Hispanic workers.

Table 3 examines wage deciles (and the 95th-percentile wage) for white non-Hispanic, black non-Hispanic, and Hispanic workers from 2000 to 2019. From 2000 to 2019, the strongest growth among white, black, and Hispanic workers occurred at the top of the wage distribution, a sign that wage inequality is growing within each of these groups as well as among workers overall. At every decile, wage growth since 2000 has been faster for white and Hispanic workers than for black workers. After suffering declines in the aftermath of the Great Recession, 2019 is the first time wages at all deciles of the black wage distribution have exceeded their 2000 and 2007 levels.

White workers. We estimate that the strongest wage growth among white workers from 2000 to 2019 was at the 95th percentile. To estimate wage growth for the past year only, from 2018 to 2019, we impute the growth rate for the 95th percentile using the 94th-percentile growth rate from 2018 to 2019. We do this to account for the fact that 5.5% of white workers had weekly earnings at or above the top code. Using our imputation method, we find that wage growth for white workers was much faster over the last year among the highest and lowest wage earners, with a notable 2.9% wage increase at the 10th percentile. In addition to top-coding issues, smaller sample sizes within demographic groups mean wage changes tend to be volatile from year to year, so these changes should be taken with a grain of salt. Since 2000, however, wages have grown three times as fast for white workers at the 95th percentile as for white workers at the middle or bottom of the wage distribution.

Hispanic workers. Over the entire period from 2000 to 2019, Hispanic workers experienced more broadly based wage growth, with wages increasing across their wage distribution: There was strong growth at the top (25.0%) as well as at the median (18.2%) and the bottom (15.7%). Over the last year (2018 to 2019), Hispanic workers' wage growth was strongest among moderate-wage workers—in the 20th to 40th percentiles—while the 10th percentile lost ground.

Black workers. Between 2018 and 2019, the vast majority of black workers had stronger wage growth than in any other year since 2000; however, black wages at the top have not seen improvement since 2018, while 95th-percentile wages for Hispanic and white workers have risen 2.9% and 2.5%, respectively, since 2018. (Again, when looking at all of these numbers, we need to keep in mind that the CPS data is subject to a certain amount of volatility from year to year; for data on black wages, that volatility is likely to be even more pronounced because of the smaller data sample represented by the black population.) Before 2019, what was particularly striking about black wages was slow wage growth since 2000, nearly across the board. In 2019, the tide turned and all deciles have finally exceeded their 2000 and 2007 levels. Even so, white and Hispanic workers had

much faster growth across the board since 2000 than black workers, while black workers have just been making up for lost ground as opposed to actually getting ahead.

From 2000 to 2019, the overall black–white wage gap grew, while the overall Hispanic–white wage gap narrowed slightly.

The bottom section of Table 3 displays wage gaps by race/ethnicity. Wage gaps by race/ethnicity track how much less African American and Hispanic workers are paid relative to white workers; here, black and Hispanic wages are shown as a share of white wages at each decile of their respective wage distributions. Compared with white workers, black workers have been losing ground since 2000, with larger black–white wage gaps across the entire distribution.⁷ In 2000, black wages at the median were 79.2% of white wages. By 2019, they were only 75.6% of white wages, representing an increase in the wage gap from 20.8% to 24.4%. Conversely, Hispanic workers have been slowly closing the gap with white workers at the bottom 70% of the wage distribution. In 2000, median Hispanic wages were 69.7% of white wages and, by 2019, they were 74.6% of white wages, representing a narrowing of the gap from 30.3% to 25.4%. The 95th-percentile Hispanic–white wage gap still remains significantly wider than its 2000 level.

The regression-adjusted black–white and Hispanic–white wage gaps (controlling for education, age, gender, and region) both narrowed over the last year (Appendix Table 1). While the regression-adjusted Hispanic–white wage gap narrowed a bit, from 12.3% in 2000 to 10.8% in 2019, the regression-adjusted black–white gap was much larger in 2019 (14.9%) than it was in 2000 (10.2%). In 2000, the Hispanic–white wage gap was larger than the black–white wage gap. In 2019, the reverse was true.

Appendix Table 1 also shows the black–white and Hispanic–white wage gaps for men and women separately. It’s worth noting that these wage gaps are much wider for men than for women, reflecting, in part, the sizeable gender wage penalty experience by white women. Further, between 2000 and 2019, the regression-adjusted black–white wage gap widened significantly for both men (+4.4 percentage points) and women (+4.8 percentage points), while the regression-adjusted Hispanic–white wage gap narrowed for men (–2.3 percentage points) and remained about the same for women (–0.1 percentage points).

Wage growth has generally been faster among the more educated, particularly among men, since 2000.

Table 4 presents the most recent data on average hourly wages by education for all workers and by gender, and **Figure L** displays the cumulative percent change in real average hourly wages by education. (The discussion throughout identifies each group as mutually exclusive such that those identified as having a college degree have no more than a bachelor’s degree.)

The U.S. workforce is split roughly into thirds by educational attainment (EPI 2020c). One-third (34.1%) of U.S. workers have a high school diploma or did not complete high school. A

little less than one-third (27.7%) of workers have some college, meaning they may have an associate degree or have completed part of a two- or four-year college degree. The remaining 38.1% have a bachelor's or advanced degree. It is important to keep in mind when analyzing the labor market or discussing economic policy that 61.9% of the workforce do *not* have a four-year college degree. If the economy is going to deliver decent wages for most U.S. workers, it needs to deliver for the six in 10 workers who do not have a four-year college degree.

From 2000 to 2019, the strongest wage growth occurred among those with advanced degrees (12.2%), those with college degrees (8.8%), and those with less than a high school diploma (9.8%). Given that those with less than a high school diploma are often the lowest-wage workers in general, it is likely that some of their recent gains can be attributed to state-level increases in the minimum wage. Also, these workers represent a small and shrinking share of the overall workforce, only 8.0% of workers in 2019 (EPI 2020c). The average wage for workers with some college has finally exceeded its 2007 level before the Great Recession began and is now 1.4% higher than it was in 2000, with wages for this group rising just shy of 0.1% per year over the last 19 years.

Over the last year, average wages of those with a college degree and those with some college rose the fastest, 2.0% and 1.3% respectively. After narrowing between 2016 and 2018, the gap between wages of those with a college degree and those with a high school diploma widened (EPI 2020c). However, this *unadjusted* college/high school wage gap remains narrower than in 2016. Similarly, the college wage premium—the regression-adjusted log-wage difference between the wages of college-educated and high school-educated workers—rose slightly from 48.4% to 49.5% between 2018 and 2019, but remains lower than in 2016 (50.6%) (EPI 2020c).

Over the entire period from 2000 to 2019, wage growth among those with a college degree rose faster than among those with a high school diploma (8.8% vs. 4.0%). Because of the faster gains for those with more credentials, the regression-adjusted college wage premium grew from 47.0% to 49.5% between 2000 and 2019. For a more thorough discussion of the college wage premium and wage inequality, see the section “Slow wage growth cannot be explained away by education shortages” later in this report.

Figures M and N display the cumulative percent change in real hourly wages by education for men and women, respectively. Since 2000, wage growth for those with a college or advanced degree was faster for men than for women, while wage growth for those with some college, a high school diploma, or less than high school was faster for women than for men. In general, the women's wage distribution by educational attainment is more compressed; that is, the wage differences between workers at different levels of education are not quite as large for women as they are for men.

For both men and women, the largest gains since 2000 were among those with an advanced degree as well as those with a college degree or less than high school. Wages of both men and women with some college have grown the slowest among all levels of educational attainment. For the first time in this recovery, wages of men with some college have finally reached their 2000 levels.

While there has been a slow narrowing of gender wage gaps for those with less than high school, a high school diploma, and those with some college since 2000, gender wage gaps are wider among those with college or advanced degrees. As **Figure O** illustrates, women are paid consistently less than their male counterparts at every education level.

Educational attainment has grown faster for women than for men between 2000 and 2019, and now women are nearly 6 percentage points more likely than men to have a college or advanced degree (EPI 2020c). Unfortunately, increasing educational attainment has not insulated women from large gender wage gaps: The average wage for a man with a college degree was higher in 2019 than the average wage for a woman with an *advanced* degree (by 3.5%).

From 2000 to 2019, wage growth for white and black workers was faster for those with a college or advanced degree than for those with lower levels of educational attainment.

Table 5 presents the most recent data on average hourly wages by education for white non-Hispanic, black non-Hispanic, and Hispanic workers. From 2000 to 2019, average wages grew faster among white and Hispanic workers than among black workers for all education groups (which is not surprising given that the same was true at all deciles of the wage distribution). Black workers with some college had lower wages in 2019 than in 2000.

Over the last year, Hispanic workers were the only group that had positive wage growth across all levels of educational attainment. (Again, we must keep in mind that year-to-year changes are subject to volatility, particularly for smaller population cuts.) Between 2018 and 2019, Hispanic workers with the highest levels of educational attainment experienced the strongest wage growth. Black workers with less than high school experienced the strongest growth, while black workers with a college degree experienced wage losses. White workers with a college degree saw faster wage growth than any other education group, while those with a high school diploma or less than high school experienced losses.

Black–white wage gaps by education were larger in 2019 than in 2000 for all education groups, while Hispanic–white wage gaps were narrower for workers at any level of educational attainment except those with some college. At nearly every education level, black and Hispanic workers were paid less than their white counterparts in 2019, while Hispanic workers were consistently paid more than black workers (**Figure P**).

Some convenient but misguided explanations of slow wage growth

Slow wage growth cannot be explained away by education shortages.

Some argue that wage inequality is a simple consequence of growing employer demand for—and a limited supply of—college-educated workers. This demand is often thought to be driven by advances in technology and corresponding technology-driven increases in required credentials. According to this explanation, because there is a shortage of college-educated workers, the wage gap between those with and without college degrees is widening as employers are forced to pay higher wages in the competition for college-degreed workers while those without college degrees are increasingly falling behind.

Despite its intuitive appeal, this story about recent wage trends being driven more and more by a higher demand for college-educated workers does *not* fit the facts well, especially since the mid-1990s (Schmitt, Shierholz, and Mishel 2013). The evidence suggests that the demand for college graduates has grown far less in the period since the mid-1990s than it did before then. This is difficult to square with contentions that automation or changes in the types of skills employers require have been more rapid in the 2000s than in earlier decades. Rather, automation has been slower in the recent period than in earlier decades, as seen in the pace of productivity, capital, information equipment, and software investment—and in the speed of changes in occupational employment patterns (Mishel and Bivens 2017).

Further, our research shows that the increase in the pay gap between high earners and most workers has been far larger than what can be explained by rising returns to education. The typical U.S. worker's experience and education have increased significantly over the last 40 years, as seen in **Figure Q**, while median wage growth has been persistently slow and uneven over that time (recall Figure E). Figure Q plots the growing share of workers who have at least a college degree; it also plots the average age of workers in the middle fifth of the wage distribution from 1979 to 2019. Age is a proxy for experience, which, along with education, should imply higher productivity. While age is not a perfect proxy for experience, the increase in average age by about 5.5 years implies an increase in the experience—and the likely productivity—of the typical worker. And the near doubling of educational attainment should—given most interpretations of the relationship between education and productivity—lead to much faster wage growth than the typical worker has actually experienced.

Further, the growing inequality of note is that between the top (or very top) and everyone else. The pulling away of the very top cannot be explained by differences in educational attainment, but rather is attributable to the escalation of executive and financial-sector pay, among other factors (Mishel and Wolfe 2019).

This becomes more clear when we juxtapose the college wage premium with the 95/50 wage ratio. **Figure R** compares the change in the college wage premium over 1979–2000 and 2000–2019 with the change in the log 95/50 wage ratio. The college wage premium is the percent by which average hourly wages of four-year college graduates exceed those of otherwise equivalent high school graduates, controlling for gender, race and ethnicity, age, and geographic division. The 95/50 wage ratio is a representation of the level of inequality within the hourly wage distribution, comparing how much the 95th-percentile worker is paid relative to the 50th-percentile worker. Both are measured in log changes and shown as annual changes.

The regression-adjusted college wage premium grew rather quickly between 1979 and 2000 and then rose at a *much slower* rate in the 2000s, about an eighth as much. It had already slowed considerably by the mid-1990s (Bivens et al. 2014). In contrast, the 95/50 wage ratio grew somewhat faster in the more recent period. When we compare the relative size of the changes in each from 2000 to 2019, it is clear that the very modest gains in the college wage premium in recent years have not been large enough to plausibly drive the continued steady growth of the 95/50 wage ratio. In fact, the log 95/50 wage ratio grew more than seven times as fast as the college premium over this period.

Between 1979 and 2000, the log 95/50 wage ratio and the regression-adjusted college wage premium grew at roughly the same pace. The idea that increased employer demand for education is a prime driver of inequality *appeared* to be a more plausible story then. But it is clear that in the latter period, from 2000 to 2019, gains in the college wage premium have been very modest and far less than the continued steady growth of the 95/50 wage ratio. Therefore, it is highly *implausible* that the growth of unmet employer needs for college graduates has driven wage inequality over the last 19 years. Given this, the correspondence in the earlier period also shouldn't be over-interpreted as differences in education levels driving the 95/50 wage ratio.

The more salient story between 2000 and 2019 is *not* one of a growing differential of wages between college and high school graduates, but one of growing wage inequality between the top (and the tippy top) and the vast majority of workers. Wage inequality is driven by changes *within* education groups (among workers with the same education) and not *between* education groups. From 2000 to 2019, the overall 95th-percentile wage grew nearly four times as fast as wages at the median (30.7% vs. 8.0%). Among college graduates only, there has also been a significant pulling away at the very top of the wage distribution, with many college-degreed workers being left behind.

Figure S displays the change in college wages from 2000 to 2019 for the average wage as well as at selected deciles of the college wage distribution. As shown previously in Figure L, average wages for college graduates grew 8.8% between 2000 and 2019. Here, it's clear that this average masks important differences at different points on the college wage distribution. The highest percentile we show here is the 90th, because the 95th wage percentile for college graduates is fraught with top-coding issues to a greater degree than for white and male workers, making it even more difficult to obtain reliable measures of high-end wages and wage growth (as discussed in more detail in Gould 2019). Even so, the 90th-percentile wage grew nearly twice as fast as the average (15.1%

vs. 8.8%) while the 50th-percentile (median) wage was actually lower in 2019 than in 2000 (-0.4%); Half of all college-degreed workers have not experienced any wage growth at all since 2000.

Between 2000 and 2019, the median high school wage grew slowly (1.7%), while the 95th-percentile high school wage grew much faster (7.5%) (EPI 2020a). The (raw) gap between median college wages and median high school wages is no wider in 2019 than in 2000. In fact, the gap actually narrowed over this period. Increases in inequality over the last 19 years clearly cannot be explained away by claims that employers face a growing shortage of college graduates and that, correspondingly, wage inequality is some unfortunate side effect of the positive gains from technological change that we neither can nor would want to alter. There are plenty of good reasons to provide widespread access to college education, but expanding college enrollment and graduation is not an answer to escalating wage inequality.

Slow wage growth cannot be explained away by including benefits or looking at total compensation.

Some have argued that to best measure pay, one should use total compensation and not simply wages. This argument is based on the theory that benefits—health benefits, in particular—have crowded out wage growth in recent years. But this argument is not borne out in the data.

Recall Figure A, which shows the divergence between productivity and pay over the last 40 years. The pay measure used in that figure includes benefits. **Figure T** separates out wages and measured compensation in that iconic figure, starting in 1979. The line labeled “hourly compensation,” which represents wages plus benefits, rose only slightly faster than wage growth on its own (14.9% vs. 14.0%) and therefore doesn’t do a whole lot to explain the gap between the potential for wage growth and actual wage growth. The other lines on the chart demonstrate that most of the divergence between productivity and pay over the last 40 years is due to growing inequality—both inequality in how wage income is distributed among workers and how a growing share of income accrues to (already richer) owners of capital rather than to workers.

Inequality in workers’ hourly pay can be measured by examining the divergence between average pay and median pay. This divergence has unambiguously risen and constitutes the single largest factor accounting for the overall gap between median hourly pay and economywide productivity growth. The loss in labor’s share of income represents the overall shift in how much of the income in the economy is received by workers in wages and benefits. As labor’s share falls, this means that a growing share of productivity gains are going to owners of capital. Both growing compensation inequality and changes in labor’s share of income represent growing income inequality over this period, and their combined influence explains the large majority of the overall gap between pay and productivity.⁸

Further, many forms of compensation are not found equally across the wage distribution. Therefore average benefits—like average wages—tend to overstate typical worker

compensation or wage growth. This is certainly true with regard to employer-sponsored health insurance (ESI). **Figure U** shows the incidence of ESI since 1979.⁹ Not only has the incidence of ESI obtained through one's own job fallen precipitously across the board, but the share of workers with ESI obtained through their own job is far less at the bottom of the wage distribution than at the top. In fact, workers in the top fifth are three times as likely to have ESI as workers in the bottom fifth. And only 59% of middle-wage workers have health insurance on the job. Health insurance costs certainly can't be blamed for crowding out wage growth for the millions of workers who don't *have* health insurance coverage at work.

Furthermore, research has shown that workers in firms with more low-wage workers have health insurance plans with cheaper premiums overall, but these workers actually contribute more dollars to their premiums because they are required to pay a higher *share* of the total cost of coverage when compared with workers in firms with fewer lower-wage workers (Claxton, Rae, et al. 2018). Not only are coverage rates lower in firms with more low-wage workers (33%) versus those in firms with fewer low-wage workers (64%), but, over the last several years, more and more workers are in plans with deductibles and those deductibles have increased (Claxton, Rae, et al. 2018). Because workers have seen slow wage growth—wage growth that is slower than health care cost growth—their ability to pay for premiums as well as out-of-pocket costs has been hampered (Claxton, Levitt, et al. 2018). And many health plan enrollees cannot rely on other resources to pay for increases in cost-sharing payments (Rae, Claxton, and Levitt 2017).

While health insurance costs are certainly squeezing workers, there is little evidence that changes in employer-sponsored health insurance premiums (or any other benefit cost) can explain more than a small portion of trends in workers' wages.

Slow and unequal wage growth is not a statistical quirk that can be explained away by changing the price deflator.

In Figure E, we demonstrate that median wage growth was slow and uneven between 1979 and 2019. But on average over that time period median wages grew faster than zero percent per year, raising the question of just what benchmark we should use to define "slow" or "fast" wage growth. In Figure A, we show that wage growth for typical workers grew far slower than its potential—defined as economywide productivity growth—and, in Figures B and C, we show that much of that potential for wage growth went to the top or the very top of the wage distribution.

However, some analysts take issue with the argument that wage growth has been slow for most workers (see CEA 2018 for one example). In particular, they posit that wage growth is often measured using the wrong price deflator.

The price deflator is used to measure wages in constant dollars so that growth in wages can be assessed against growth in inflation or changes in the ability of wages to meet economic needs or standard of living. Two commonly used deflators are the CPI (Consumer Price Index) and the PCE (personal consumption expenditures) price index. Our findings of low-wage growth are based on using the CPI. The Census Bureau also uses the

CPI for measuring real changes in incomes and earnings as it relates to changes in individuals' and families' standard of living. However, detractors argue that the CPI “overstates price increases and understates real wage growth” relative to the PCE price index (CEA 2018, 9).

We explore this question by comparing wage growth using the two deflators. Following the example shown in Bernstein 2018, we look first at the cumulative change in the real median hourly wage over the last 40 years (**Figure V**). The lighter blue line in Figure V plots wage growth based on the CPI, while the darker line calculates real wages using the PCE deflator. The fits and starts of typical wage growth are evident in both lines. By the mid-1990s, wages hadn't grown past their 1979 wage levels using either deflator. Wages grew faster in the late 1990s as well as in the last five years (2014–2019), with notable flatness again between those periods of faster growth. While it is true that, over the entire period, real wage growth is notably faster using the PCE, typical wage growth only accumulates to 28.8%, or just under 0.7% annually—still slow relative to economywide productivity growth.

Another way to look at the question of slow wage growth for typical workers is to compare growth at different points of the wage distribution, to find out whether changing the deflator tells a different story about inequality. **Figure W** shows wage growth adjusted using the PCE deflator; Figure C from our analysis shows wage growth adjusted using the CPI deflator. While growth for all groups is somewhat faster using the PCE, it does not at all change the fact that growth is much faster at the top than at the middle and the bottom of the wage distribution. Between 1979 and 2019, growth at the 95th percentile using the PCE was almost three times as fast as growth at the median and over five times as fast as growth at the 10th percentile. The choice of deflator simply does not change the overall story of unequal and uneven wage growth over the last 40 years.

Conclusions

Wage growth over the last 40 years has been slow, uneven, and unequal. These phenomena are the result of a series of policies that have reduced the leverage of most workers to achieve faster wage growth. Such policies include tolerating (or even encouraging) excessive unemployment; failing to routinely raise the federal minimum wage to protect workers' purchasing power; writing the rules of globalization to let employers use them as a tool for wage suppression; the enforced withering of labor standards like the overtime threshold governing how many workers are entitled to higher pay for longer hours; and sharp cuts in marginal tax rates, deregulation, and loose corporate governance oversight, which led to explosions in executive and financial-sector pay (Bivens and Zipperer 2018; Bivens 2013; Cooper, Gould, and Zipperer 2019; McNicholas, Sanders, and Shierholz 2017; Mishel and Wolfe 2019).

Declining union membership has also played a major role in slow and unequal wage growth. This erosion was not driven by workers' declining interest in unions but rather by concerted employer opposition along with state and federal policy that has made it near impossible for workers to form unions in the face of unwilling employers (Rosenfeld,

Denice, and Laird 2016; McNicholas et al. 2019).

To stem inequality and see healthy wage growth for the vast majority of workers, we need to use all the tools in our toolbox to reverse these policy trends.

Macroeconomic policy matters. Rising wages over the last few years have happened during a period of falling unemployment, with unemployment rates dropping to historical lows. This is no coincidence. If the unemployment rate is allowed to continue to fall, eventually low unemployment should boost low- and middle-wage workers' leverage enough to see steady and large wage gains. Full employment is one way that workers gain enough bargaining power to increase their wages; employers have to pay more to attract and retain the workers they need when workers are scarce. The lever for higher wages that comes from full employment is most important for workers at the bottom of the wage distribution, as well as for workers that have historically faced discrimination in the labor market. For a given fall in the unemployment rate, wage growth rises more for these workers, and in the absence of stronger labor standards, it is often only in the tightest of labor markets that these workers see stronger wage growth (Bivens and Zipperer 2018; Wilson 2015).

However, there is no sign that we've reached the limits of how much we can sustainably boost wage growth with lower unemployment—wage growth remains weaker than we should expect in a fully healthy economy. This means that confident proclamations that we've achieved full employment should not be made and that the Federal Reserve should continue to allow the economy to grow (see Bivens 2020).

Labor policy matters. Beyond seeking to keep labor markets tight, policymakers could take other steps to foster strong broad-based wage growth, such as raising the federal minimum wage; expanding eligibility for overtime pay; addressing gender, racial, and ethnic pay disparities; and protecting and strengthening workers' rights to bargain collectively for higher wages and benefits. Analysis of the relationship between 10th-percentile wage growth and state-level minimum wages suggests that policy matters. For more policies that will raise wages, see EPI's First Day Fairness Agenda (McNicholas, Sanders, and Shierholz 2018).

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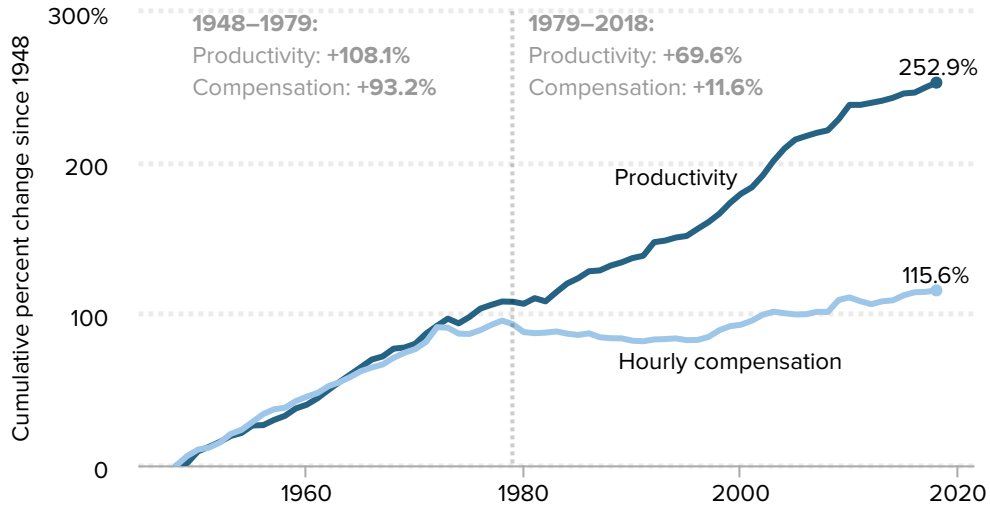
About the author

Elise Gould joined the Economic Policy Institute in 2003. Her research areas include wages, poverty, inequality, economic mobility, and health care. She is a co-author of *The State of Working America, 12th Edition*. Gould authored a chapter on health in *The State of Working America 2008/09*; co-authored a book on health insurance coverage in retirement; has published in venues such as *The Chronicle of Higher Education*, *Challenge Magazine*, and *Tax Notes*; and has written for academic journals including *Health Economics*, *Health Affairs*, *Journal of Aging and Social Policy*, *Risk Management & Insurance Review*, *Environmental Health Perspectives*, and *International Journal of Health Services*. Gould has been quoted by a variety of news sources, including Bloomberg, NPR, *The Washington Post*, *The New York Times*, and *The Wall Street Journal*, and her opinions have appeared on the op-ed pages of *USA Today* and *The Detroit News*. She has testified before the U.S. House Committee on Ways and Means, Maryland Senate Finance and House Economic Matters committees, the New York City Council, and the District of Columbia Council. Gould received her Ph.D. in Economics from the University of Wisconsin at Madison.

Figure A

The gap between productivity and a typical worker's compensation has increased dramatically since 1979

Productivity growth and hourly compensation growth, 1948–2018



Notes: Data are for compensation (wages and benefits) of production/nonsupervisory workers in the private sector and for net productivity of the total economy. “Net productivity” is the growth of output of goods and services less depreciation per hour worked.

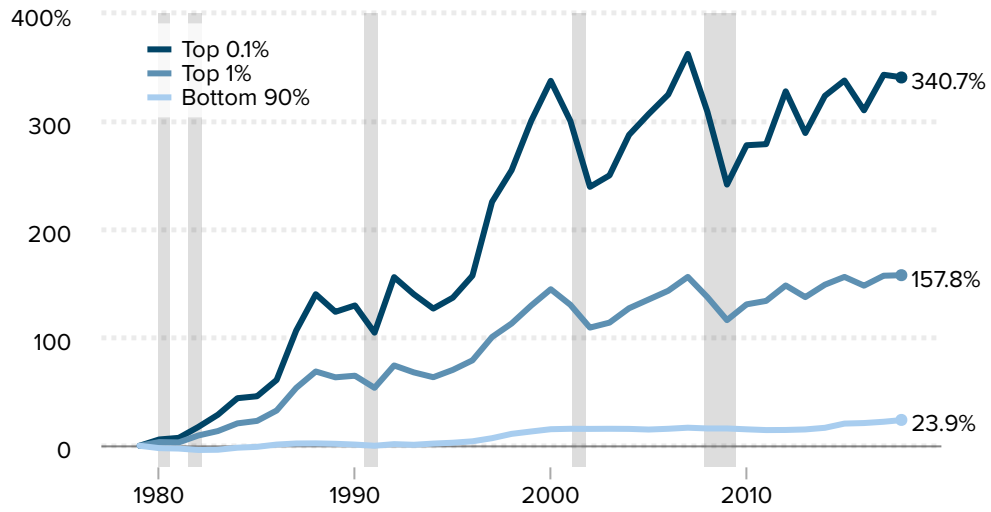
Sources: EPI analysis of unpublished Total Economy Productivity data from the Bureau of Labor Statistics (BLS) Labor Productivity and Costs program and EPI analysis of wage data from BLS Current Employment Statistics, BLS Employment Cost Trends, BLS Consumer Price Index, and Bureau of Economic Analysis National Income and Product Accounts

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Figure B

Top 0.1% earnings grew 15 times as fast as 90% earnings

Cumulative percent change in real annual earnings, by earnings group, 1979–2018



Note: Shaded areas denote recessions.

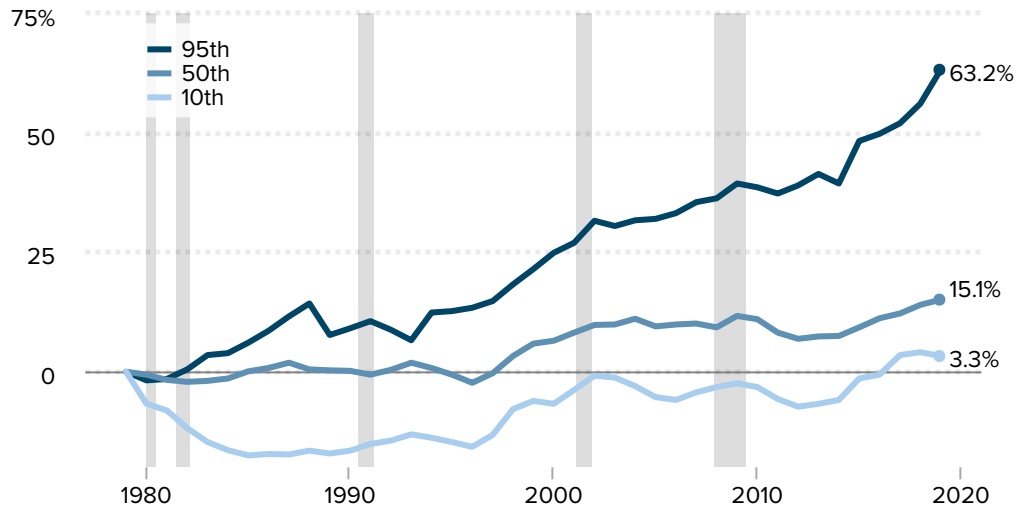
Source: EPI analysis of Kopczuk, Saez, and Song, *Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937* (2010), Table A3, and Social Security Administration wage statistics

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Figure C

The 95th percentile continues to pull away from middle- and low-wage workers

Cumulative change in real hourly wages of workers, by wage percentile, 1979–2019



Notes: Shaded areas denote recessions. The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

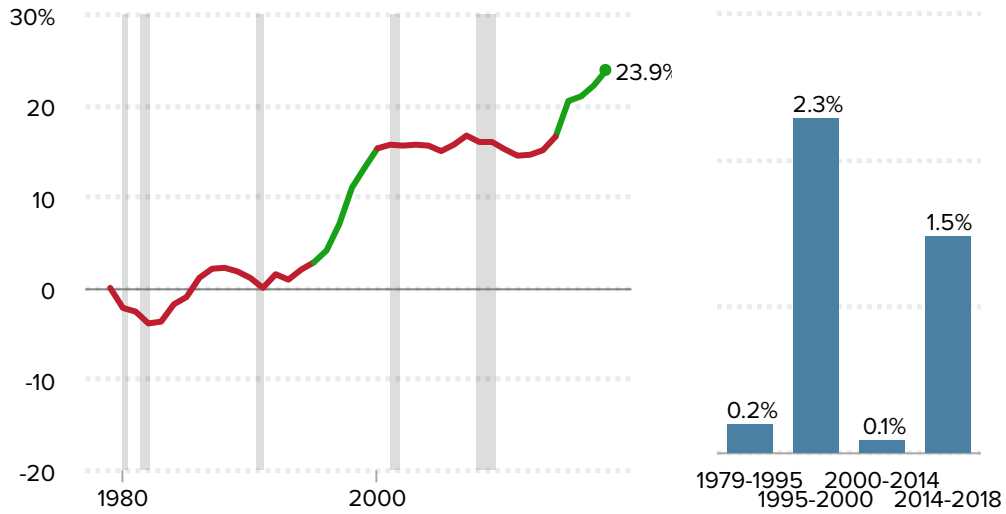
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure D

Real annual earnings of the bottom 90% saw consistent gains only when the labor market was the tightest

Cumulative change in real annual earnings of the bottom 90%, 1979–2018, and annualized change over specified periods



Note: Shaded areas denote recessions.

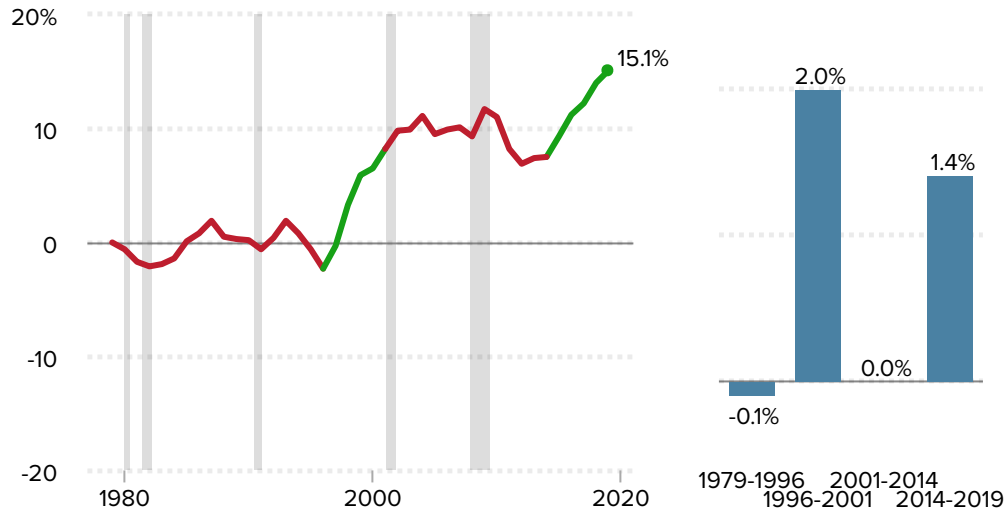
Source: EPI analysis of Kopczuk, Saez, and Song, *Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937* (2010), Table A3, and Social Security Administration wage statistics

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Figure E

Consistent positive wage growth has occurred in only 10 of the last 40 years

Cumulative change in real median wages, 1979–2019, and annualized change over specified periods



Notes: Shaded areas denote recessions. The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Table 1

Hourly wages of all workers, by wage percentile, selected years, 2000–2019 (2019\$)

Year/range	Wage by percentile										Wage ratio		
	10th	20th	30th	40th	50th	60th	70th	80th	90th	95th	50th/ 10th	95th/ 50th	95th/ 10th
2000	\$9.09	\$11.13	\$13.25	\$15.05	\$17.89	\$21.01	\$25.18	\$30.51	\$40.17	\$51.37	1.97	2.87	5.65
2007	\$9.33	\$11.24	\$13.26	\$15.57	\$18.48	\$21.68	\$25.92	\$32.08	\$43.18	\$55.75	1.98	3.02	5.97
2018	\$10.15	\$12.12	\$14.16	\$16.22	\$19.14	\$22.42	\$27.25	\$34.41	\$48.34	\$64.25	1.89	3.36	6.33
2019	\$10.07	\$12.31	\$14.64	\$16.71	\$19.33	\$22.95	\$27.94	\$34.98	\$48.08	\$67.14	1.92	3.47	6.66
Annualized percent changes											Wage ratio change		
2000–2019	0.5%	0.5%	0.5%	0.6%	0.4%	0.5%	0.5%	0.7%	1.0%	1.4%	0.0	0.6	1.0
2000–2007	0.4%	0.1%	0.0%	0.5%	0.5%	0.4%	0.4%	0.7%	1.0%	1.2%	0.0	0.1	0.3
2007–2019	0.6%	0.8%	0.8%	0.6%	0.4%	0.5%	0.6%	0.7%	0.9%	1.6%	-0.1	0.5	0.7
2018–2019	-0.7%	1.5%	3.4%	3.0%	1.0%	2.4%	2.5%	1.7%	-0.5%	4.5%	0.0	0.1	0.3

Note: The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

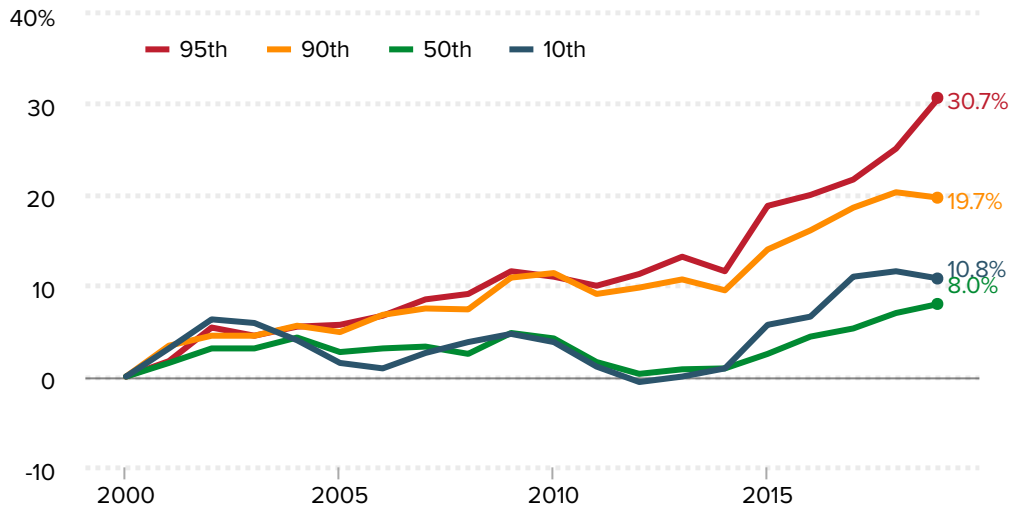
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure F

High-wage earners have continued to pull away from everyone else since 2000

Cumulative percent change in real hourly wages, by wage percentile, 2000–2019



Note: The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Table 2

Hourly wages of men and women, by wage percentile, selected years, 2000–2019 (2019\$)

	Wage by percentile										Wage ratio		
	10th	20th	30th	40th	50th	60th	70th	80th	90th	95th	50th/ 10th	95th/ 50th	95th/ 10th
Men													
2000	\$9.77	\$12.01	\$14.78	\$17.23	\$20.30	\$23.80	\$28.43	\$34.22	\$45.27	\$57.36	2.08	2.83	5.87
2007	\$9.88	\$12.31	\$14.76	\$17.37	\$20.33	\$23.94	\$28.54	\$35.53	\$47.62	\$61.73	2.06	3.04	6.25
2018	\$10.34	\$12.70	\$15.25	\$17.73	\$20.47	\$24.56	\$29.98	\$38.15	\$53.03	\$77.01	1.98	3.76	7.44
2019	\$10.93	\$13.23	\$15.27	\$18.01	\$21.00	\$25.02	\$30.16	\$38.55	\$54.28	\$78.64	1.92	3.74	7.19
Annualized percent changes											Wage ratio change		
2000–2019	0.6%	0.5%	0.2%	0.2%	0.2%	0.3%	0.3%	0.6%	1.0%	1.7%	-0.16	0.92	1.32
2000–2007	0.2%	0.4%	0.0%	0.1%	0.0%	0.1%	0.1%	0.5%	0.7%	1.1%	-0.02	0.21	0.38
2007–2019	0.8%	0.6%	0.3%	0.3%	0.3%	0.4%	0.5%	0.7%	1.1%	2.0%	-0.14	0.71	0.95
2018–2019	5.7%	4.2%	0.2%	1.5%	2.6%	1.9%	0.6%	1.0%	2.4%	2.1%	-0.06	-0.02	-0.25
Women													
2000	\$8.84	\$10.41	\$11.96	\$13.72	\$15.75	\$18.30	\$21.73	\$26.52	\$34.67	\$42.85	1.78	2.72	4.85
2007	\$8.89	\$10.52	\$12.33	\$14.28	\$16.55	\$19.28	\$23.27	\$28.46	\$37.73	\$47.58	1.86	2.87	5.35
2018	\$9.73	\$11.24	\$13.02	\$15.17	\$17.24	\$20.33	\$24.46	\$30.56	\$42.00	\$54.03	1.77	3.13	5.55
2019	\$9.92	\$11.91	\$13.47	\$15.11	\$17.84	\$20.54	\$24.96	\$31.24	\$42.95	\$55.71	1.80	3.12	5.61
Annualized percent changes											Wage ratio change		
2000–2019	0.6%	0.7%	0.6%	0.5%	0.7%	0.6%	0.7%	0.9%	1.1%	1.4%	0.02	0.40	0.76
2000–2007	0.1%	0.2%	0.4%	0.6%	0.7%	0.7%	1.0%	1.0%	1.2%	1.5%	0.08	0.15	0.50
2007–2019	0.9%	1.0%	0.7%	0.5%	0.6%	0.5%	0.6%	0.8%	1.1%	1.3%	-0.06	0.25	0.26
2018–2019	2.0%	6.0%	3.5%	-0.3%	3.5%	1.0%	2.0%	2.2%	2.3%	3.1%	0.03	-0.01	0.06
Wage disparities (women's wages as a share of men's)													
2000	90.4%	86.7%	80.9%	79.6%	77.6%	76.9%	76.4%	77.5%	76.6%	74.7%			
2007	90.0%	85.5%	83.5%	82.3%	81.4%	80.5%	81.6%	80.1%	79.2%	77.1%			
2018	94.1%	88.5%	85.4%	85.5%	84.2%	82.8%	81.6%	80.1%	79.2%	70.2%			
2019	90.8%	90.0%	88.2%	83.9%	85.0%	82.1%	82.7%	81.0%	79.1%	70.8%			

Note: The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

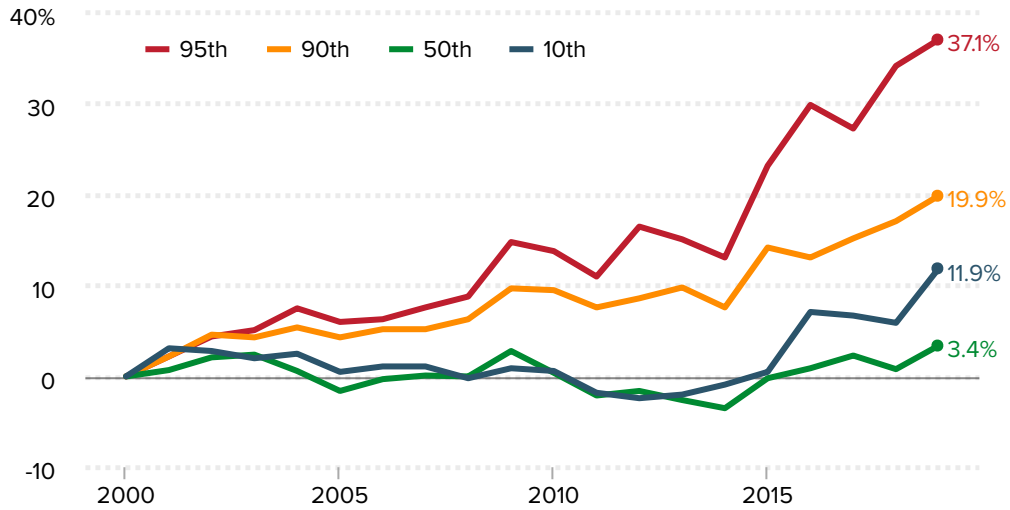
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure G

Disproportionate wage growth since 2000 for those at the top has contributed to widening inequality among men in the workforce

Cumulative percent change in real hourly wages of men, by wage percentile, 2000–2019



Notes: The xth-percentile wage is the wage at which x% of wage earners earn less and (100–x)% earn more. The 95th-percentile men’s wage is imputed using the growth rates of the 93rd and 94th percentiles from recent years as needed, since the weekly earnings top code continues to capture a large and growing share of the men’s wage distribution, making it difficult to accurately measure top-level wages. For more information on this issue, see Gould’s *State of Working America Wages 2018* (2019).

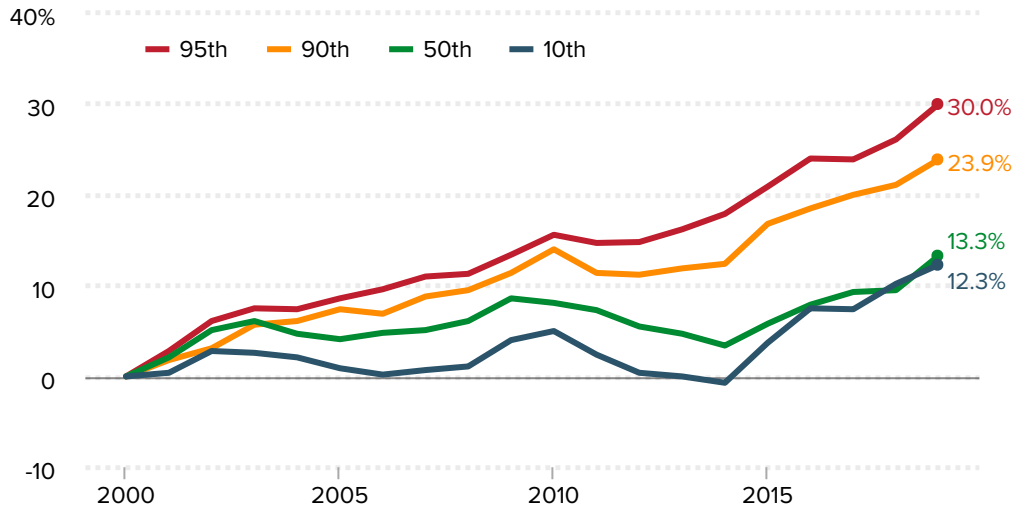
Source: Author’s analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure H

Women's wages are more compressed than men's wages, but inequality among women has increased since 2000

Cumulative percent change in real hourly wages of women, by wage percentile, 2000–2019



Note: The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more.

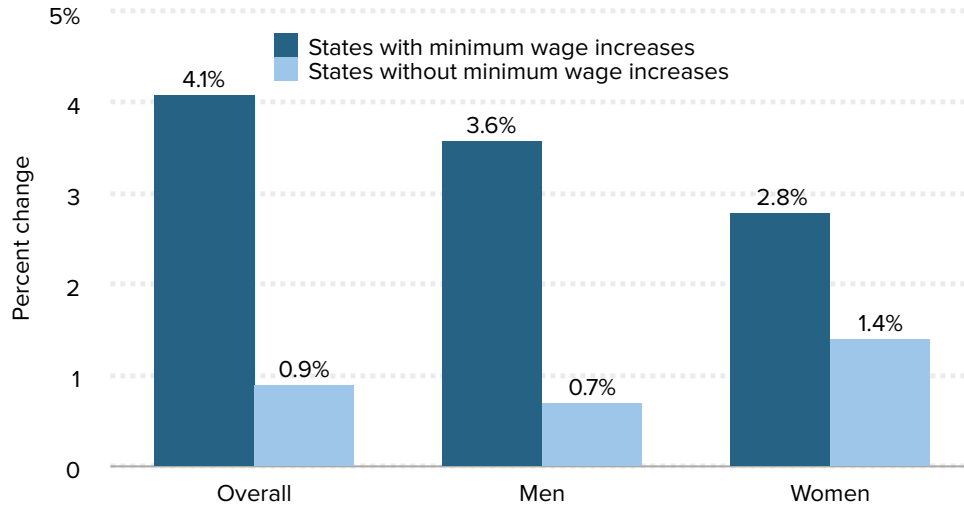
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure J

Wage growth at the bottom was strongest in states with minimum wage increases in 2019

10th-percentile wage growth, by presence of 2019 state minimum wage increase and by gender, 2018–2019



Notes: Minimum wage increases passed through either legislation or ballot measure took effect on January 1, 2019, in Arkansas, Arizona, California, Colorado, Delaware, Maine, Massachusetts, Michigan, Missouri, New York, Rhode Island, and Washington. Alaska, Florida, Minnesota, Montana, New Jersey, Ohio, South Dakota, and Vermont increased their minimum wages in 2019 because of indexing to inflation. New Jersey, Oregon, and Washington, D.C., legislated minimum wage increases that took effect on July 1, 2019. Note that Connecticut legislated a minimum wage increase that took effect on October 1, 2019. This sample considers all changes after January 2018 and before December 2019; therefore, Maryland is included even though the legislated minimum wage increase for Maryland took effect on July 1, 2018. Note that after indexing to inflation on January 1, 2019, New Jersey legislated a minimum wage increase on July 1, 2019; therefore, New Jersey appears twice in these lists.

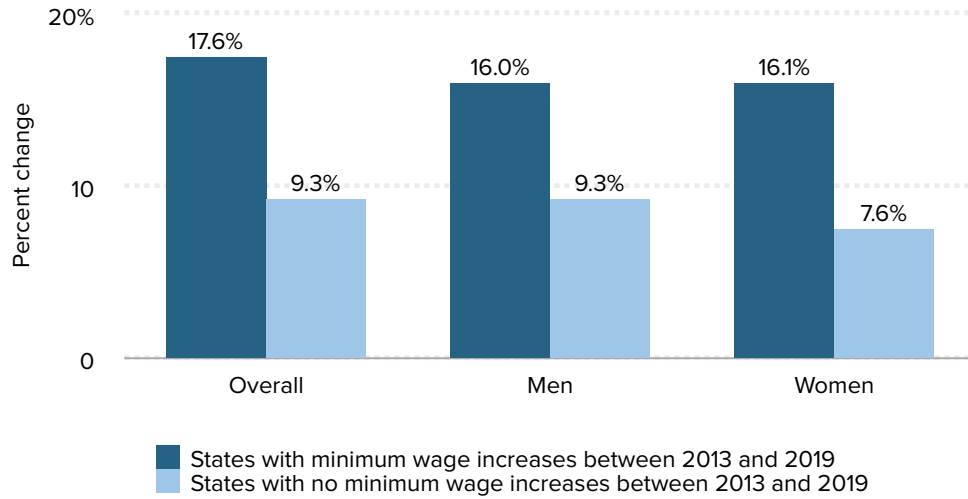
Sources: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>, and EPI analysis of state minimum wage laws. See EPI's [minimum wage tracker](#) for the most current state-level minimum wage information.

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Figure K

Wage growth at the bottom was strongest in states with minimum wage increases between 2013 and 2019

10th-percentile wage growth from 2013 to 2019, by presence of state minimum wage increase between 2013 and 2019 and by gender



Note: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Jersey, New York, Ohio, Oregon, Rhode Island, South Dakota, Vermont, and Washington increased their minimum wages at some point between 2013 and 2019.

Sources: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>, and EPI analysis of state minimum wage laws. See EPI's [minimum wage tracker](#) for the most current state-level minimum wage information.

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Table 3

Hourly wages by race/ethnicity and wage percentile, selected years, 2000–2019 (2019\$)

	Wage by percentile									
	10th	20th	30th	40th	50th	60th	70th	80th	90th	95th
White										
2000	\$9.52	\$11.83	\$14.11	\$16.43	\$19.28	\$22.46	\$26.88	\$32.68	\$42.75	\$53.73
2007	\$9.75	\$12.23	\$14.53	\$17.19	\$19.91	\$23.70	\$28.05	\$34.47	\$45.98	\$59.25
2018	\$10.26	\$12.70	\$15.27	\$17.98	\$20.94	\$25.02	\$30.06	\$37.37	\$50.95	\$71.61
2019	\$10.56	\$13.05	\$15.45	\$18.12	\$21.32	\$25.07	\$30.31	\$38.39	\$52.04	\$73.38
Annualized percent changes										
2000–2019	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.9%	1.0%	1.7%
2000–2007	0.3%	0.5%	0.4%	0.7%	0.5%	0.8%	0.6%	0.8%	1.0%	1.4%
2007–2019	0.7%	0.5%	0.5%	0.4%	0.6%	0.5%	0.6%	0.9%	1.0%	1.8%
2018–2019	2.9%	2.8%	1.2%	0.8%	1.8%	0.2%	0.8%	2.7%	2.1%	2.5%
Black										
2000	\$8.94	\$10.46	\$11.96	\$13.57	\$15.28	\$17.82	\$20.87	\$25.15	\$31.95	\$38.68
2007	\$8.90	\$10.57	\$12.26	\$13.70	\$15.46	\$17.98	\$21.01	\$25.09	\$34.04	\$42.50
2018	\$9.32	\$10.62	\$12.21	\$13.90	\$15.35	\$17.72	\$20.80	\$26.39	\$36.02	\$48.83
2019	\$9.61	\$11.10	\$12.93	\$14.88	\$16.12	\$18.56	\$21.76	\$26.92	\$36.03	\$47.94
Annualized percent changes										
2000–2019	0.4%	0.3%	0.4%	0.5%	0.3%	0.2%	0.2%	0.4%	0.6%	1.1%
2000–2007	-0.1%	0.1%	0.4%	0.1%	0.2%	0.1%	0.1%	0.0%	0.9%	1.4%
2007–2019	0.6%	0.4%	0.4%	0.7%	0.3%	0.3%	0.3%	0.6%	0.5%	1.0%
2018–2019	3.1%	4.5%	5.9%	7.0%	5.0%	4.7%	4.6%	2.0%	0.0%	-1.8%
Hispanic										
2000	\$8.59	\$9.60	\$10.61	\$11.94	\$13.44	\$15.03	\$17.90	\$21.85	\$28.82	\$37.07
2007	\$8.80	\$9.90	\$11.15	\$12.41	\$14.32	\$16.20	\$18.76	\$23.58	\$31.01	\$40.72
2018	\$9.97	\$11.15	\$12.25	\$13.76	\$15.31	\$17.40	\$20.34	\$25.07	\$34.26	\$45.04
2019	\$9.94	\$11.84	\$12.90	\$14.43	\$15.89	\$17.96	\$20.47	\$25.06	\$34.93	\$46.33
Annualized percent changes										
2000–2019	0.8%	1.1%	1.0%	1.0%	0.9%	0.9%	0.7%	0.7%	1.0%	1.2%
2000–2007	0.3%	0.5%	0.7%	0.6%	0.9%	1.1%	0.7%	1.1%	1.1%	1.4%
2007–2019	1.0%	1.5%	1.2%	1.3%	0.9%	0.9%	0.7%	0.5%	1.0%	1.1%
2018–2019	-0.3%	6.2%	5.3%	4.9%	3.8%	3.2%	0.7%	0.0%	1.9%	2.9%
Wage disparities										
Black as a share of white										
2000	93.8%	88.4%	84.8%	82.6%	79.2%	79.3%	77.6%	76.9%	74.7%	72.0%
2007	91.3%	86.4%	84.4%	79.7%	77.7%	75.8%	74.9%	72.8%	74.0%	71.7%
2018	90.8%	83.7%	80.0%	77.3%	73.3%	70.8%	69.2%	70.6%	70.7%	68.2%
2019	91.0%	85.0%	83.7%	82.1%	75.6%	74.0%	71.8%	70.1%	69.2%	65.3%
Hispanic as a share of white										
2000	90.2%	81.1%	75.2%	72.7%	69.7%	66.9%	66.6%	66.9%	67.4%	69.0%
2007	90.2%	81.0%	76.8%	72.2%	71.9%	68.4%	66.9%	68.4%	67.5%	68.7%
2018	97.2%	87.8%	80.2%	76.5%	73.1%	69.5%	67.6%	67.1%	67.2%	62.9%
2019	94.1%	90.7%	83.5%	79.6%	74.6%	71.6%	67.5%	65.3%	67.1%	63.1%

Notes: The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more. Race/ethnicity categories are mutually exclusive (i.e., white non-Hispanic, black non-Hispanic, and Hispanic any race). The 95th-percentile white wage is imputed using the growth rates of the 94th percentile from recent years, as needed, since the weekly earnings top code continues to capture a large and growing share of the white wage distribution, making it difficult to accurately measure top-level wages. For more information on this issue, see Gould's *State of Working America Wages 2018* (2019).

Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Table 4

Average hourly wages by gender and education, selected years, 2000–2019 (2019\$)

	Wage by education				
	Less than high school	High school	Some college	College	Advanced degree
All					
2000	\$12.82	\$18.18	\$20.69	\$31.84	\$40.18
2007	\$13.27	\$18.39	\$20.83	\$32.53	\$41.34
2018	\$13.93	\$18.79	\$20.70	\$33.96	\$44.59
2019	\$14.08	\$18.91	\$20.97	\$34.63	\$45.07
Annualized percent changes					
2000–2019	0.5%	0.2%	0.1%	0.4%	0.6%
2000–2007	0.5%	0.2%	0.1%	0.3%	0.4%
2007–2019	0.5%	0.2%	0.1%	0.5%	0.7%
2018–2019	1.1%	0.6%	1.3%	2.0%	1.1%
Men					
2000	\$14.09	\$20.52	\$23.40	\$36.19	\$44.98
2007	\$14.50	\$20.44	\$23.30	\$37.18	\$46.84
2018	\$15.47	\$20.72	\$23.25	\$39.29	\$52.18
2019	\$15.33	\$20.96	\$23.58	\$39.99	\$52.38
Annualized percent changes					
2000–2019	0.4%	0.1%	0.0%	0.5%	0.8%
2000–2007	0.4%	-0.1%	-0.1%	0.4%	0.6%
2007–2019	0.5%	0.2%	0.1%	0.6%	0.9%
2018–2019	-0.9%	1.1%	1.4%	1.8%	0.4%
Women					
2000	\$10.94	\$15.34	\$17.82	\$26.77	\$33.78
2007	\$11.32	\$15.67	\$18.24	\$27.43	\$34.91
2018	\$11.67	\$15.71	\$17.88	\$28.33	\$36.68
2019	\$12.20	\$16.15	\$18.44	\$29.55	\$38.64
Annualized percent changes					
2000–2019	0.6%	0.3%	0.2%	0.5%	0.7%
2000–2007	0.5%	0.3%	0.3%	0.3%	0.5%
2007–2019	0.6%	0.3%	0.1%	0.6%	0.8%
2018–2019	4.5%	2.8%	3.2%	4.3%	5.3%
Wage disparities (women's wages as a share of men's)					
2000	77.7%	76.1%	77.5%	75.3%	76.5%
2007	78.1%	78.0%	79.7%	75.1%	75.9%
2018	75.5%	77.9%	78.6%	73.4%	72.3%
2019	79.6%	77.1%	78.2%	73.9%	73.8%

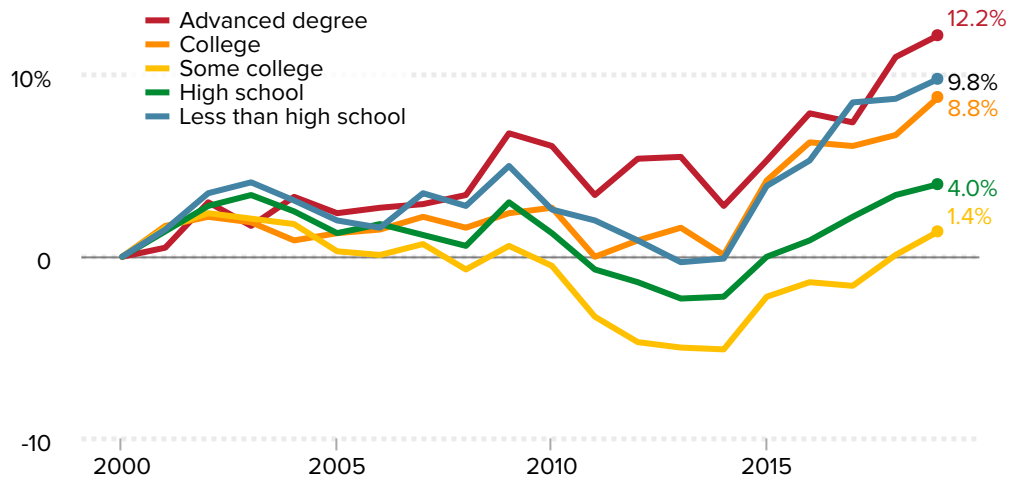
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure L

For workers with some college education, wages have finally surpassed their 2000 level

Cumulative percent change in real average hourly wages, by education, 2000–2019



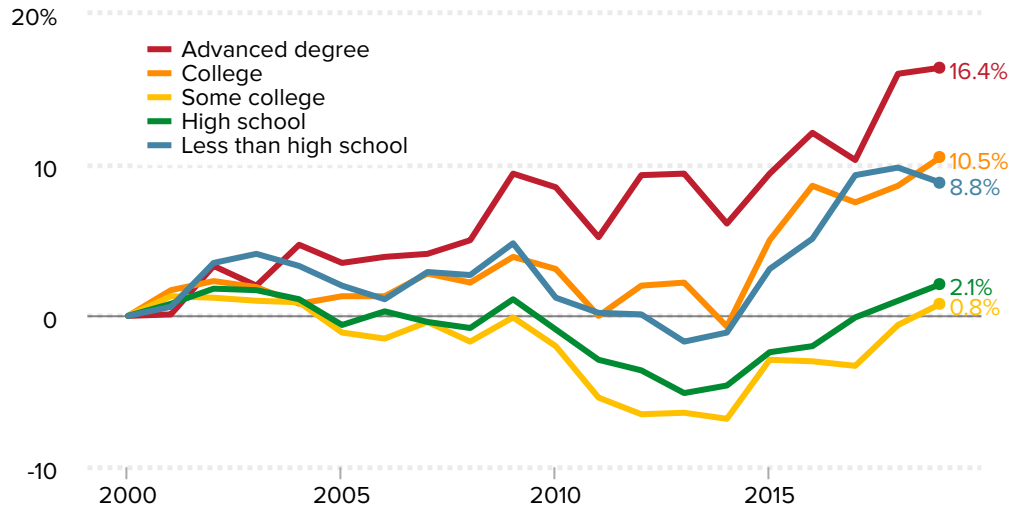
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure M

Wages grew more quickly for men with college or advanced degrees, and wages for men with some college finally reached their 2000 level

Cumulative percent change in real average hourly wages of men, by education, 2000–2019



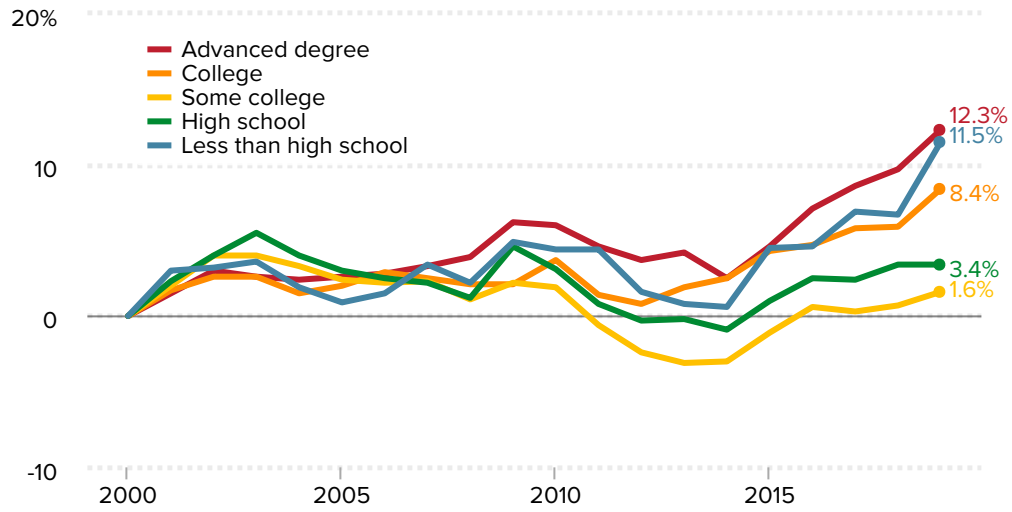
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure N

Average wages were higher in 2019 than in 2000 for women at all levels of educational attainment

Cumulative percent change in real average hourly wages of women, by education, 2000–2019



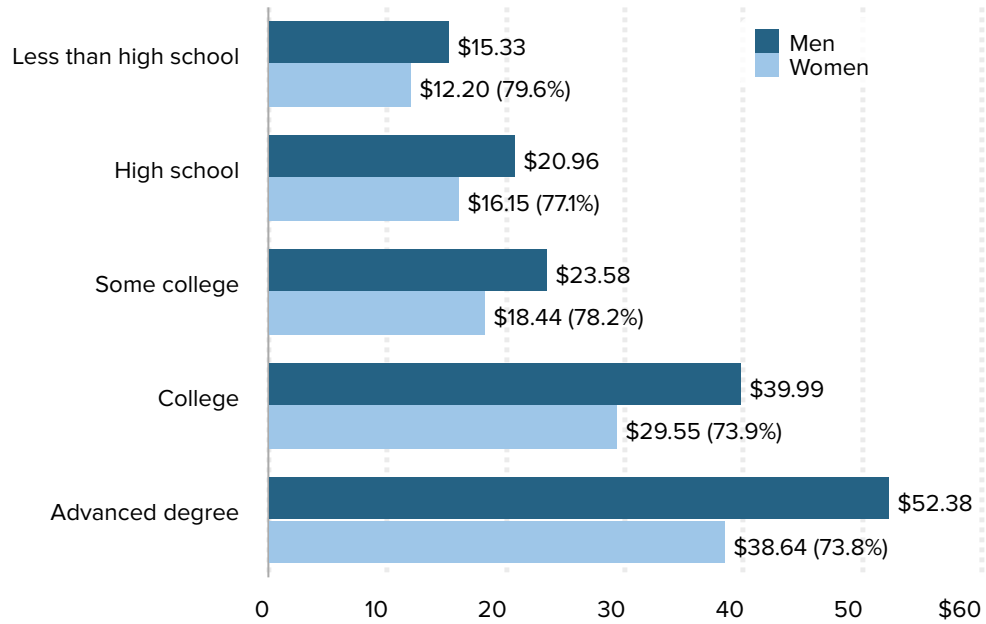
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure O

On average, men are paid more than women at every education level

Average hourly wages by gender and education, 2019



Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Table 5

Average hourly wages by race/ethnicity and education, selected years, 2000–2019 (2019\$)

	Wage by education				
	Less than high school	High school	Some college	College	Advanced degree
White					
2000	\$13.04	\$18.93	\$21.36	\$32.73	\$40.69
2007	\$13.42	\$19.31	\$21.58	\$33.48	\$42.03
2018	\$14.02	\$20.11	\$21.98	\$35.38	\$45.26
2019	\$13.88	\$20.04	\$22.26	\$35.90	\$45.29
Annualized percent changes					
2000–2019	0.3%	0.3%	0.2%	0.5%	0.6%
2000–2007	0.4%	0.3%	0.1%	0.3%	0.5%
2007–2019	0.3%	0.3%	0.3%	0.6%	0.6%
2018–2019	-1.0%	-0.3%	1.3%	1.5%	0.1%
Black					
2000	\$12.32	\$16.04	\$18.34	\$27.09	\$35.61
2007	\$12.44	\$15.95	\$18.49	\$27.04	\$35.00
2018	\$11.63	\$15.85	\$17.46	\$27.96	\$36.89
2019	\$12.40	\$16.37	\$17.86	\$27.81	\$37.33
Annualized percent changes					
2000–2019	0.0%	0.1%	-0.1%	0.1%	0.2%
2000–2007	0.1%	-0.1%	0.1%	0.0%	-0.2%
2007–2019	0.0%	0.2%	-0.3%	0.2%	0.5%
2018–2019	6.6%	3.3%	2.3%	-0.5%	1.2%
Hispanic					
2000	\$12.71	\$16.17	\$18.85	\$27.11	\$36.19
2007	\$13.37	\$16.78	\$19.16	\$28.88	\$39.10
2018	\$14.36	\$17.59	\$19.00	\$29.00	\$39.17
2019	\$14.60	\$17.88	\$19.23	\$30.35	\$40.80
Annualized percent changes					
2000–2019	0.7%	0.5%	0.1%	0.6%	0.6%
2000–2007	0.7%	0.5%	0.2%	0.9%	1.1%
2007–2019	0.7%	0.5%	0.0%	0.4%	0.4%
2018–2019	1.6%	1.7%	1.2%	4.6%	4.2%
Wage disparities					
Black as a share of white					
2000	94.5%	84.7%	85.9%	82.8%	87.5%
2007	92.7%	82.6%	85.7%	80.8%	83.3%
2018	82.9%	78.8%	79.5%	79.0%	81.5%
2019	89.3%	81.7%	80.2%	77.5%	82.4%
Hispanic as a share of white					
2000	97.5%	85.4%	88.3%	82.8%	89.0%
2007	99.6%	86.9%	88.8%	86.2%	93.0%
2018	102.4%	87.5%	86.4%	82.0%	86.5%
2019	105.1%	89.2%	86.4%	84.5%	90.1%

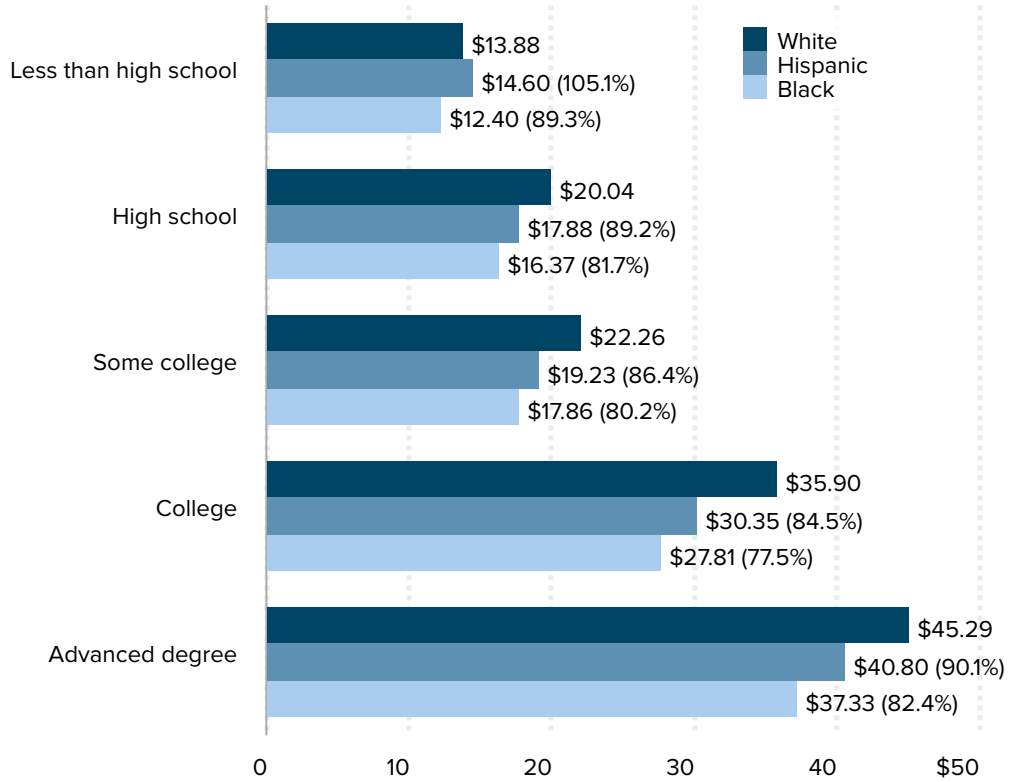
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure P

On average, white workers are paid more than black and Hispanic workers at nearly every education level

Average hourly wages, by race/ethnicity and education, 2019



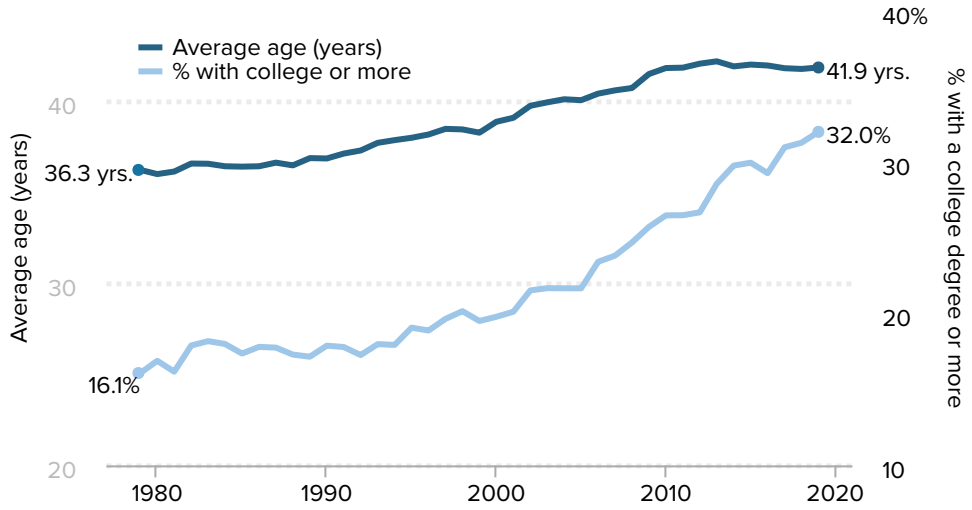
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure Q

Middle-wage workers have more experience and education than they did four decades ago

Average age and share of workers with a college degree or more in the middle fifth of the wage distribution, 1979–2019



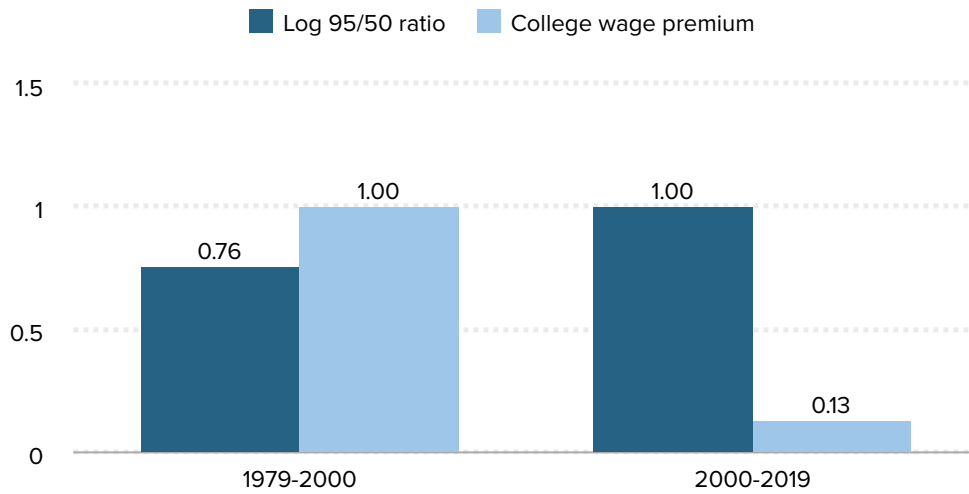
Source: EPI analysis of Current Population Survey Outgoing Rotation Group microdata from the U.S. Census Bureau

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Figure R

The college wage premium cannot explain growing wage inequality since 2000

Average annual percentage-point changes in wage gaps, 1979–2000 and 2000–2019



Notes: The college wage premium is the percent by which hourly wages of four-year college graduates exceed those of otherwise equivalent high school graduates. This regression-based gap is based on average wages and controls for gender, race and ethnicity, education, age, and geographic division; the log of the hourly wage is the dependent variable. The 95/50 wage ratio is a representation of the level of inequality within the hourly wage distribution. It is logged for comparability with the college wage premium.

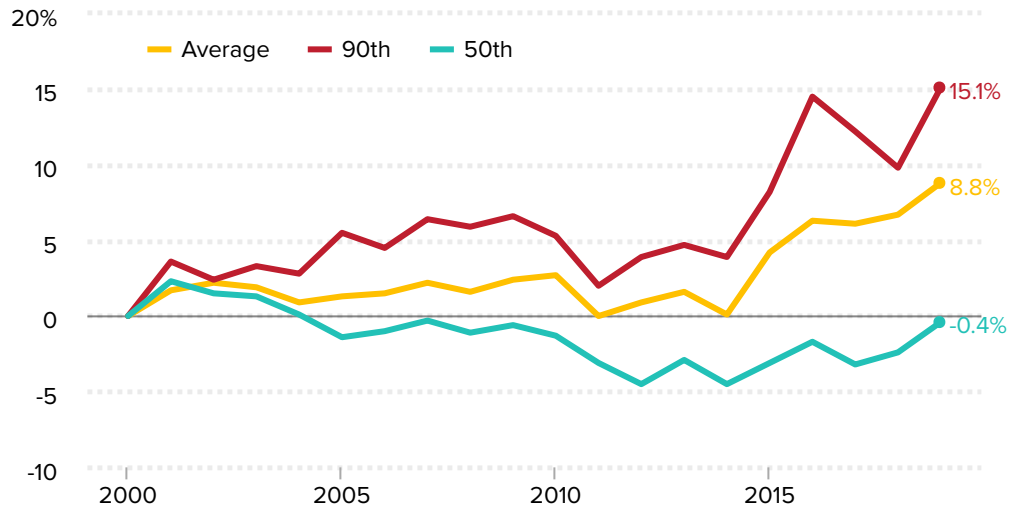
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure S

Wages of the bottom 50% of college graduates are lower today than they were in 2000

Cumulative percent change in real hourly wages of workers with a college degree for the average, median, and 90th-percentile wages, 2000–2019



Note: Education groups are mutually exclusive, so “college” here refers to those with only a four-year college degree.

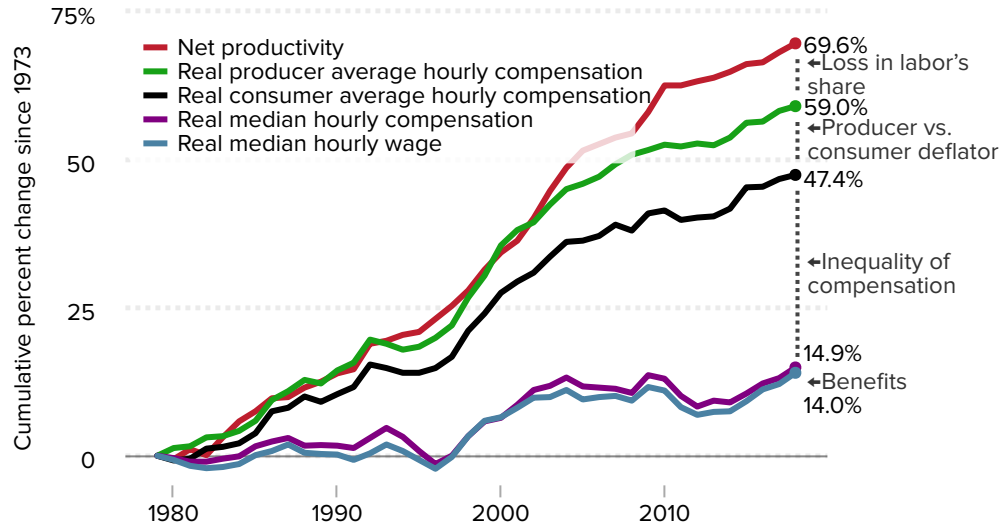
Source: Author’s analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure T

Growing inequality dominates the story of slow wage growth

Growth of productivity, real average compensation (consumer and producer), real median compensation, and real median hourly wage, 1979–2018



Notes: Data are for all workers. Net productivity is the growth of output of goods and services minus depreciation, per hour worked. "Compensation" refers to total compensation, including wages and benefits.

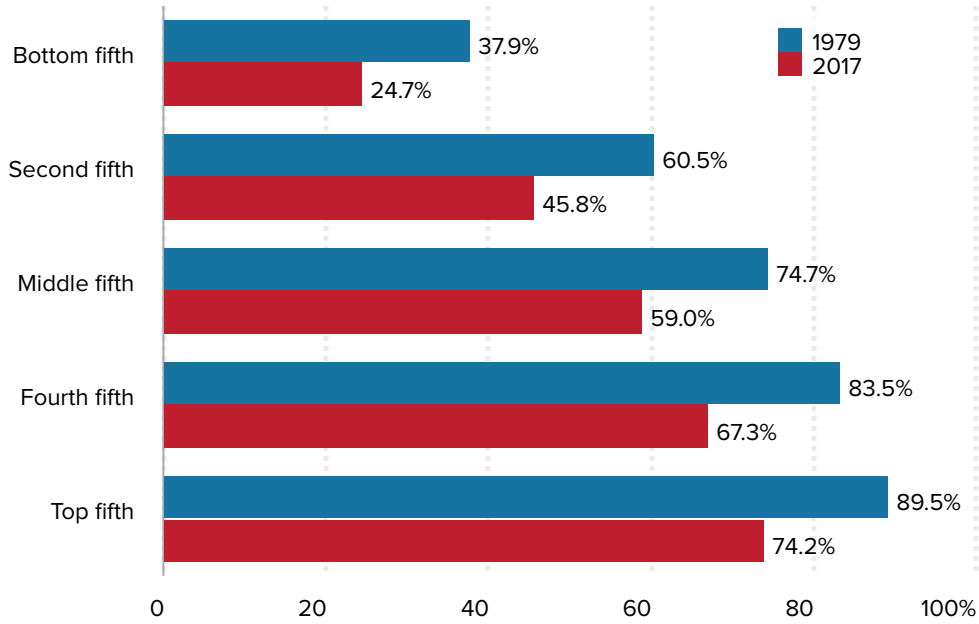
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>; unpublished Total Economy Productivity data from the Bureau of Labor Statistics (BLS) Labor Productivity and Costs program; and Bureau of Economic Analysis National Income and Product Accounts. For more detailed information, see the appendix of Bivens and Mishel, *Understanding the Historic Divergence Between Productivity and a Typical Worker's Pay* (2015).

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Figure U

High-wage workers are more likely to have employer-sponsored health insurance than low- and middle-wage workers, and all groups have experienced significant declines in coverage since 1979

Employer-sponsored health insurance coverage rates, by wage fifth, 1979 and 2017



Notes: Health insurance coverage data are for private-sector wage and salary workers ages 18–64 who worked at least 20 hours per week and 26 weeks per year. Coverage is defined as workers who received health insurance from their own job for which their employer paid at least some of the premium.

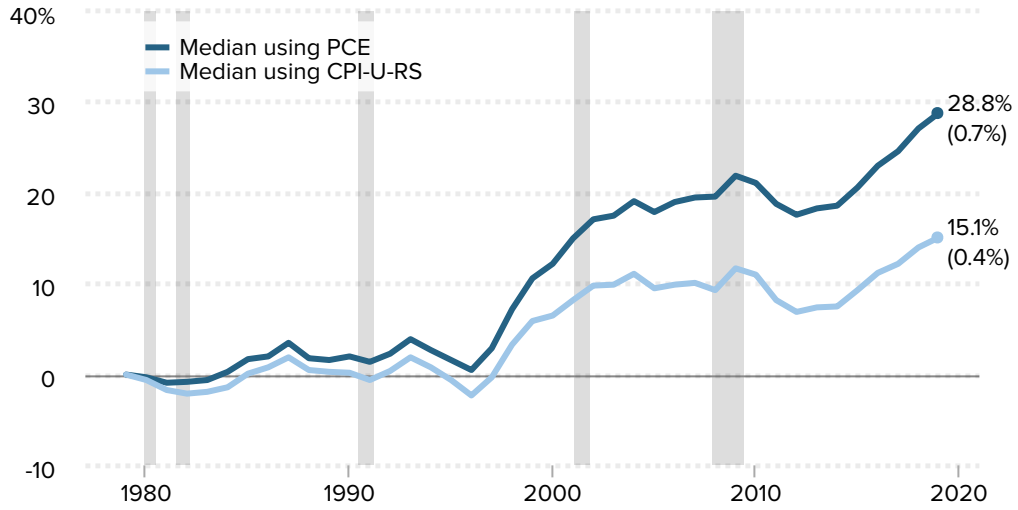
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Figure V

Wage growth is slow regardless of which deflator is used

Cumulative change in real median hourly wages of all workers, by deflator, 1979–2019



Notes: Shaded areas denote recessions. The annualized percent change since 1979 is in parentheses. The deflators used are the Consumer Price Index for all Urban Consumers, research series using current methods (CPI-U-RS), and the personal consumption expenditures (PCE) price index.

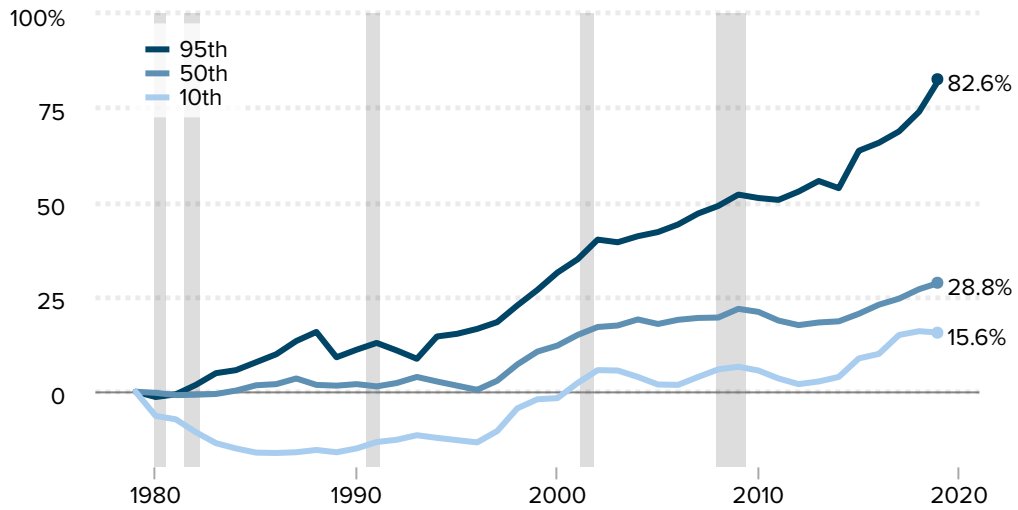
Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>, and Bureau of Economic Analysis *National Income and Product Accounts* (Table 2.3.4)

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Figure W

Using a different deflator doesn't change the fact that most of the growth is at the top

Cumulative change in real hourly wages of all workers, by wage percentile, adjusted using PCE deflator, 1979–2019



Notes: Shaded areas denote recessions. The xth-percentile wage is the wage at which x% of wage earners earn less and (100-x)% earn more. Wages are adjusted using the personal consumption expenditures (PCE) price index.

Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>, and Bureau of Economic Analysis *National Income and Product Accounts* (Table 2.3.4)

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Regression-adjusted gender and racial/ethnic wage gaps, 2000 and 2019

	Wage gaps by gender and race		
	2000	2019	Change
Gender wage gap	23.9%	22.6%	-1.3 ppt.
Black–white wage gap			
Overall	10.2%	14.9%	4.8 ppt.
Men	17.8%	22.2%	4.4 ppt.
Women	3.4%	8.2%	4.8 ppt.
Hispanic–white wage gap			
Overall	12.3%	10.8%	-1.5 ppt.
Men	15.6%	13.3%	-2.3 ppt.
Women	8.0%	7.9%	-0.1 ppt.

Source: Author's analysis of EPI Current Population Survey Extracts, Version 1.0 (2020), <https://microdata.epi.org>

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Endnotes

1. While the share of the overall workforce living in states that rely on the federal minimum wage has been stable over time (37.6% since 2014), the share of the low-wage workforce that resides in those states has increased from a low in this recovery of 41.0% in 2012 to 46.3% in 2019.
2. We decide on the appropriate percentile to use in the imputation of growth rates for the 95th percentile using data on the share of weekly earnings for the group that is top-coded as well as the share in neighboring wage bins that receive the top code. Since top-coding of weekly earnings does not map exactly onto top hourly wages, we settled on a percentile difference when the top-coded share was below 10% in that hourly wage bin. For more on our imputation procedure, see Gould 2019 and the “[Methodology: Wage variables](#)” web page at EPI 2020a.
3. Including Connecticut as a changer in this analysis—even though the increase did not occur until October 2019—only serves to mute the effect. Notably, the 10th-percentile wage in Connecticut actually fell between 2018 and 2019; including Connecticut among the state-changers reduces the gap in the 10th-percentile change between those states with and without minimum wage changes in those two years; including Connecticut among the non-changers yields a growth in the 10th percentile in minimum-wage-changing states of 4.2% versus 0.9% among those without a change.
4. It is important to note that there appears to be no relationship between changes in the median wage and changes in the minimum wage. Between 2018 and 2019, the median wage in states with minimum wage changes increased 0.7% while it increased 2.1% in non-changing states. Median wage growth was faster in non-changing states for men (2.1% vs. 1.1%) and women (3.6% vs. 2.6%). These differences are much smaller and they also operate in the opposite direction from the differences at the 10th percentile. This belies any claims that strong wage growth at the 10th percentile is simply due to strong overall wage growth in those states and that 10th-percentile wages in those states would have risen with or without the minimum wage increases.
5. Full employment is defined as “the level of employment at which additional demand in the economy will not create more employment. All workers who seek a job have one, they are working for as many hours as they want to or can, and they are receiving a wage that is broadly consistent with their productivity” (Bernstein and Baker 2013).
6. See, for example, Gould 2017.
7. As always, it’s important to remember the historical and social contexts for differences in black and white labor market experiences and labor market outcomes (Razza 2019). Workers’ ability to claim higher wages rests on a host of social, political, and institutional factors outside of their control. Furthermore, occupational segregation plays a significant role in these gaps, for both black men (Hamilton, Austin, and Darity 2011) and black women (Banks 2019). Trends in black–white wage gaps found here are supported by other important research (Wilson and Rodgers 2016).
8. See Bivens and Mishel 2015 for a more thorough description of the decomposition of these factors.
9. Health insurance coverage data are for private-sector wage and salary workers ages 18–64 who worked at least 20 hours per week and 26 weeks per year. This sample is chosen to focus on those with regular employment. “Coverage” is defined as receiving health insurance from one’s own job for which one’s employer paid for at least some of the premium.

References

- Banks, Nina. 2019. *Black Women's Labor Market History Reveals Deep-Seated Race and Gender Discrimination*. Economic Policy Institute, February 2019.
- Bernstein, Jared. 2018. "Pushing Back Gently but Firmly on Michael Strain's Non-Stagnation Argument." *On the Economy* (blog), May 16, 2019.
- Bernstein, Jared, and Dean Baker. 2013. *Getting Back to Full Employment: A Better Bargain for Working People*. Washington, D.C.: Center for Economic and Policy Research, 2013.
- Bivens, Josh. 2013. *Using Standard Models to Benchmark the Costs of Globalization for American Workers Without a College Degree*. Economic Policy Institute, March 2013.
- Bivens, Josh. 2020. "The Signal the Unemployment Rate Provides Can Change a Lot over Time." *EPI Macroeconomics Newsletter*, January 31, 2020.
- Bivens, Josh, Elise Gould, Lawrence Mishel, and Heidi Shierholz. 2014. *Raising America's Pay: Why It's Our Central Economic Policy Challenge*. Economic Policy Institute Briefing Paper no. 378, June 2014.
- Bivens, Josh, and Lawrence Mishel. 2015. *Understanding the Historic Divergence Between Productivity and a Typical Worker's Pay: Why It Matters and Why It's Real*. Economic Policy Institute, September 2015.
- Bivens, Josh, and Ben Zipperer. 2018. *The Importance of Locking In Full Employment for the Long Haul*. Economic Policy Institute, August 2018.
- Bureau of Economic Analysis (BEA). Various years. "National Income and Product Accounts (NIPA), Table 2.3.4" (Excel file). *National Income and Product Accounts*. Accessed January 2020.
- Claxton, Gary, Larry Levitt, Matthew Rae, and Bradley Sawyer. 2018. *Increases in Cost-Sharing Payments Continue to Outpace Wage Growth*. Peterson–KFF Health System Tracker, June 2018.
- Claxton, Gary, Matthew Rae, Michelle Long, Anthony Damico, and Heidi Whitmore. 2018. "Health Benefits in 2018: Modest Growth in Premiums, Higher Worker Contributions at Firms with More Low-Wage Workers." *Health Affairs* 37, no. 11 (October): 1892–1900. <https://doi.org/10.1377/hlthaff.2018.1001>.
- Cooper, David, Elise Gould, and Ben Zipperer. 2019. *Low-Wage Workers Are Suffering from a Decline in the Real Value of the Federal Minimum Wage*. Economic Policy Institute, last updated August 2019.
- Council of Economic Advisers (CEA). 2018. *How Much Are Workers Getting Paid? A Primer on Wage Measurement*. September 2018.
- Davis, Alyssa, and Elise Gould. 2015. *Closing the Pay Gap and Beyond: A Comprehensive Strategy for Improving Economic Security for Women and Families*. Economic Policy Institute, November 2015.
- Economic Policy Institute (EPI). 2019. *Methodology for Measuring Wages and Benefits*. Last updated February 2019.

- Economic Policy Institute (EPI). 2020a. Current Population Survey Extracts, Version 1.0, <https://microdata.epi.org>.
- Economic Policy Institute (EPI). 2020b. *Minimum Wage Tracker*. Last updated January 3, 2020.
- Economic Policy Institute (EPI). 2020c. *State of Working America Data Library*. Last updated February 2020.
- Gould, Elise. 2017. *The State of American Wages 2016: Lower Unemployment Finally Helps Working People Make Up Some Lost Ground on Wages*. Economic Policy Institute, March 2017.
- Gould, Elise. 2019. *State of Working America Wages 2018: Wage Inequality Marches on—and Is Even Threatening Data Reliability*. Economic Policy Institute, February 2019.
- Hamilton, Darrick, Algernon Austin, and William Darity Jr. 2011. *Whiter Jobs, Higher Wages: Occupational Segregation and Lower Wages of Black Men*. Economic Policy Institute, February 2011.
- Ingraham, Christopher. 2019. “Income Inequality Is Rising So Fast Our Data Can’t Keep Up.” *Washington Post*, February 21, 2019.
- Kopczuk, Wojciech, Emmanuel Saez, and Jae Song. 2010. “Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937.” *Quarterly Journal of Economics* 125, no. 1: 91–128.
- McNicholas, Celine, Margaret Poydock, Julia Wolfe, Ben Zipperer, Gordon Lafer, and Lola Loustaunau. 2019. *Unlawful: U.S. Employers Are Charged with Violating Federal Law in 41.5% of All Union Election Campaigns*. Economic Policy Institute, December 2019.
- McNicholas, Celine, Samantha Sanders, and Heidi Shierholz. 2017. *What’s at Stake in the States if the 2016 Federal Raise to the Overtime Pay Threshold Is Not Preserved—and What States Can Do About It*. Economic Policy Institute, November 2017.
- McNicholas, Celine, Samantha Sanders, and Heidi Shierholz. 2018. *First Day Fairness: An Agenda to Build Worker Power and Ensure Job Quality*. Economic Policy Institute, August 2018.
- Mishel, Lawrence, and Josh Bivens. 2017. *The Zombie Robot Argument Lurches On: There Is No Evidence That Automation Leads to Joblessness or Inequality*. Economic Policy Institute, May 2017.
- Mishel, Lawrence, and Melat Kassa. 2019. “Top 1.0% of Earners See Wages Up 157.8% Since 1979.” *Working Economics Blog* (Economic Policy Institute), December 18, 2019.
- Mishel, Lawrence, and Julia Wolfe. 2019. *CEO Compensation Has Grown 940% Since 1978: Typical Worker Compensation Has Risen Only 12% During That Time*. Economic Policy Institute, August 2019.
- Rae, Matthew, Gary Claxton, and Larry Levitt. 2017. *Do Health Plan Enrollees Have Enough Money to Pay Cost Sharing?* Kaiser Family Foundation, November 2017.
- Razza, Connie M., 2018. *Social Exclusion: The Decisions and Dynamics That Drive Racism*. Demos, May 2018.
- Rosenfeld, Jake, Patrick Denice, and Jennifer Laird. 2016. *Union Decline Lowers Wages of Nonunion Workers: The Overlooked Reason Why Wages Are Stuck and Inequality Is Growing*. Economic Policy Institute, August 2016.
- Schmitt, John, Heidi Shierholz, and Lawrence Mishel. 2013. *Don’t Blame the Robots: Assessing the*

Job Polarization Explanation of Growing Wage Inequality. Economic Policy Institute—Center for Economic and Policy Research Working Paper, November 2013.

Social Security Administration (SSA). Various years. *Wage Statistics* [database]. Accessed November 2019.

Wilson, Valerie. 2015. *The Impact of Full Employment on African American Employment and Wages*. Economic Policy Institute, March 2015.

Wilson, Valerie, and William M. Rodgers III. 2016. *Black–White Wage Gaps Expand with Rising Wage Inequality*. Economic Policy Institute, September 2016.