

*Working paper series*

**From Decent to Lousy Jobs:  
New Evidence on the Decline in  
American Job Quality, 1979-2017**

David R. Howell

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**From Decent to Lousy Jobs:  
New Evidence on the Decline in American Job Quality, 1979-2017**

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Working Paper

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A defining feature of the post-1970s American economy has been unshared growth, strikingly illustrated by the absolute decline in average incomes for the bottom 50 percent of working-age adults. This regressive growth path should have important implications for the share and distribution of decent jobs. This paper uses Current Population Survey data to document changes in job quality for 1979-2017 with measures of decent-, low- and lousy-wage jobs for groups defined by age, gender, education, race and nativity. These indicators are defined by two wage threshold formulas chosen to reflect the wage a full-time worker requires for a basic-needs budget:  $2/3$  of the *mean* wage for full-time prime-age workers (\$17.50 in 2017), which marks the cutoff between decent- and low-wage jobs; and  $2/3$  of the median full-time wage (\$13.33), the boundary between lousy- and other low-wage jobs. These thresholds generate decent- and low-wage segments (55% and 45% of jobs in 2017), each with two wage contours. A wide variety of non-wage job quality indicators (e.g., benefits, time-off, work scheduling and physical conditions) are found to vary systematically across these four wage contours, from worst in the lousy-wage contour (29% of jobs) to best in the good-wage contour (33% of jobs).

In contrast to much of the recent literature, I find neither “declining-middle’ polarization nor a stable incidence of low- and lousy-wage jobs. Instead, there has been a long-term shift from decent to lousy jobs, particularly striking for young (18-34) workers. There are three sets of main findings. First, the share of *decent-wage* jobs for all workers fell from 60.4 to 54.8% between 1979 and 2017; for young workers without a college degree, this share fell from 46.6 to 22.9%; and for young workers with at least a college-degree, from 77.5 to 70.3%. Second, using the 1980s as the baseline, there has been a large and persistent post-1990 decoupling of the number of decent jobs from GDP growth. And third, the *lousy-job* rate for young non-college-degree men increased from 26.6 to 50.9% between 1979 and 2017; it also increased sharply for young women between 2001 and 2017, both for those without a college degree (from 55.1 to 66.4%) and with a degree (from 12 to 17.9%). The lousy-job gender and nativity gaps narrowed considerably, indicating large declines in native-born male advantage, but the racial lousy-job gap has widened for both men and women.

The concentration of young workers in lousy- and low-wage jobs in rapidly growing service sectors like retail trade and food, healthcare and educational services suggests that their plummeting decent-job rates cannot be adequately explained by supply-side failures to invest in education or by the job-destroying forces of globalization and computerization. More consistent with this paper’s job quality results are major shifts in institutions, policies and employer human resource strategies that have undermined worker bargaining power.

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## 1. Introduction

American economic growth since the late 1970s has been appropriated almost entirely by those in the top tenth of the distribution, and almost all of that by the top 1 percent, reversing the moderately egalitarian trend of the earlier post-war decades (1946-1980). While the economy grew by 77 percent between 1980 and 2014,<sup>1</sup> the bottom 50 percent of adults saw their market incomes increase by just 1 percent, while their net incomes - after tax/benefit - grew by only 21 percent.<sup>2</sup> The economy performed even more poorly for most of those who depend on the labor market for their incomes. Average real (inflation-adjusted) market incomes for the bottom half of working-age adults (ages 20-64) fell from \$18,049 in 1979 to \$16,136 in 2014, a level lower than it was in 1966 (\$16,388). As returns from work fell in absolute terms, so did the bottom half's share of national income, from 21.6 percent to 12.7 percent.<sup>3</sup> This shift in distributional outcomes has been long-term, steady, and strongly regressive - the lower the worker's position on the income ladder, the worse the outcomes.

Changes in living standards from labor earnings are determined by movements in both absolute and relative earnings: what matters for material and social wellbeing is not just what the paycheck can purchase in goods, services and security, but also how a working family's purchasing power compares to other members of the community (Card et al., 2012; OECD, 2014, Chapter 3). Wage incidence measures, such as the low-wage share of employment, have the special quality of capturing both absolute and relative pay. As the share of workers with low wages, this is a measure of inequality, but since it indicates those paid below a particular wage, it is also a measure of the absolute wellbeing generated from work for those below the threshold.

Since wage incidence measures reflect two essential dimensions of pay quality – absolute and relative – they should be natural candidates for tracking changes in the earnings dimension of job quality, and should have particular salience today as the labor market is widely recognized to be increasingly divided between good and bad jobs.<sup>4</sup> For example, this binary conception of job quality is at

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<sup>1</sup> Gross domestic product per head, Quarterly National Accounts from the Organization for Economic Cooperation and Development (OECD) in constant dollars (extracted from OECD.stat September 13, 2017).

<sup>2</sup> See Figure 1 below (Piketty, Saez and Zucman, 2018, Table II).

<sup>3</sup> Even the bottom 90% share fell sharply, from 66.9% to 53.9%. For the bottom 50%, see Piketty, Saez and Zucman, 2018: Appendix Tables II, Nov. update, Table TB7. Results for the bottom 90% and top 1% appear in Tables TB6 and TB10 respectively.

<sup>4</sup> This dual job quality perspective is illustrated by titles like “A Future of Lousy Jobs?” (Burtless, 1999), “Good Jobs versus Bad Jobs” (Acemoglu, 2001), “Lousy and Lovely Jobs: The Rising Polarization of Work in Britain” (Goos and Manning, 2007), “A Future of Good Jobs?” (Bartik and Houseman, 2008), “Good Jobs, Bad Jobs” (Kalleberg, 2011), “Where Are All the Good Jobs Going?” (Holzer et al., 2011), “Good Jobs America” (Osterman and Shulman, 2011), and “Are Bad Jobs Inevitable” (Warhurst et al., 2012).

the heart of the recent immensely influential literature on employment polarization, argued to have been the consequence of computer-driven skill-biased technological change. As Autor (2010, 2) has put it, “Employment growth is polarizing, with job opportunities concentrated in relatively high-skill, high-wage jobs and low-skill, low-wage jobs.” Yet, there has been virtually no use of wage incidence measures to define, track and explain post-1980 levels and trends in good, decent, and bad jobs. One important exception, the Low-Wage Project of the Russell Sage Foundation (RSF), a landmark in the job quality literature, devoted just a single table to this indicator in their summary volume (Mason and Salverda, 2010, Table 2.2), with little demographic detail and presented for a single year (2001). It is also notable that little attention has been paid to the way low-wage incidence thresholds are defined – for example, in the RSF case, by two-thirds of the median for *all* workers. By contrast, the OECD uses two-thirds of the median for full-time workers. Such differences in definition can have important implications for trends in inequality and well-being.

Wage incidence indicators have conventionally been defined with the median as the reference wage, which explains their relative stability in the post-1979 period of exploding inequality - and perhaps therefore also the general lack of interest in them. According to the OECD, the share of American workers paid a low wage was 24.5% in 1998, 24.2% in 2006 and 24.9% in 2016,<sup>5</sup> and the RSF study concluded that low pay “was already high in the 1970s and has changed little since then” (Mason and Salverda 2010, p. 36). But there is nothing sacrosanct about using the median wage. If bottom-half incomes are falling or barely growing while top-half incomes and inequality increase, workers paid above the median will pull away from those below it. Under these conditions, the benchmark that best reflects a “lousy”, “low” or “decent” wage is arguably a wage *above* the median – say, the overall mean of the wage distribution, or the 70<sup>th</sup>, 80<sup>th</sup> or even the 90<sup>th</sup> percentile wage.<sup>6</sup> In a consumer-driven culture in which bottom-half households are relentlessly bombarded with upper-income products and lifestyles through the media and advertising, there is little reason to believe that median pay, which has grown far slower than national income (see figure 2 below) should necessarily be the benchmark. Nor is the *two-thirds* fraction anything more than an arbitrary convention.<sup>7</sup>

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<sup>5</sup> OECD, Employment Outlook, Statistical Annex, Table I for 1998 (OECD, 2010), and Table O for 2006 and 2016 (OECD, 2018).

<sup>6</sup> The ratio of the median to the average hourly wage fell from 83.5% to 73.4% between 1979 and 2018, and the ratio of the median to the 90<sup>th</sup> percentile wage fell from 50.4% to 39.6% (EPI Data Library: “Wages by percentile”: <https://www.epi.org/data/#?subject=wage-percentiles>).

<sup>7</sup> For example, two threshold formulas - the conventional 2/3 of the median full-time wage and 1/3 of the 90<sup>th</sup> percentile - would have produced similar low-wage shares of employment, but four decades later the latter would generate a far higher low-wage incidence, reflecting the growing gap between the 50<sup>th</sup> and 90<sup>th</sup> percentile. Thus,

Appropriate incidence formulas for normative indicators like these should reflect wage levels that by common community standards reflect what people mean by, for example, a “lousy”, “low”, “decent”, or “good” wage. Although defined almost entirely without justification in the literature, these wage thresholds could be explicitly tied to the standards of living made possible by full-time employment for a particular group of workers - say, those employed in production and nonsupervisory jobs (about 80 percent of total wage and salary employment). These thresholds could then be used to describe the American wage structure by defining both broad wage segments (decent-wage and low-wage) and the narrower wage contours that comprise them (e.g., the lousy-wage tier of the low-wage segment). At the same time, these standard-of-living thresholds could serve as the cutoffs for calculating the incidence of lousy-, low-, decent-, and good-wage jobs.

This is the main task here. Wage thresholds, determined by reference to standards of living made possible by full-time work, define lousy-, low- and decent-wage shares of employment and these job quality incidence indicators are calculated by gender, age, education, race and nativity for 1979-2017 with data for wage and salary workers from the Outgoing Rotation Groups of the Current Population Survey (CPS). Like the OECD’s (2014, p. 85) approach to the measurement of job quality, individuals are the unit of analysis: employment outcomes for “jobs” are those tallied by the CPS for each individual’s primary job.<sup>8</sup> Also following the OECD’s approach, the wage benchmark is always for full-time workers.<sup>9</sup>

For reasons of data availability and simplicity, job quality is defined in two ways: narrowly by *wage adequacy*, as measured by wage incidence indicators, and by *earnings adequacy*, by accounting for the adequacy of hours worked as measured by involuntarily part-time employment. While these wage and earnings incidence indicators are not defined directly with reference to other important non-earnings related dimensions of job quality, I show that a wide variety of non-wage indicators of job quality (benefits, working time, paid days off, and working conditions) vary systematically across the

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using the 90<sup>th</sup> percentile formula, the threshold would have increased by 40%, from \$10.84 in 1979 to \$15.20 in 2017, which compares to a 9.5% increase using the conventional formula (from \$11.12 to \$12.18).

<sup>8</sup> A worker’s “job” can be understood as the regular set of tasks he/she is hired to perform. These will vary by detailed industry, firm, establishment, and occupation, and within each of these cells, tasks differ by skill level, experience, age, gender, race and ethnicity. At the limit, there are as many “jobs” as there are workers. The concern here is with the quality of employment for the jobs of individual workers, not averaged for occupations or industries.

<sup>9</sup> Otherwise identical jobs are typically paid a lower wage for workers employed part-time, so an increasing part-time share of employment would have the effect of lowering the wage threshold. In addition, since this form of wage discrimination is now illegal in the European Union, using the full-time wage is important for cross-country comparisons.

four contours for 2015, from worst in the lousy-wage contour to best in the good-wage contour.<sup>10</sup> Based on this evidence, substantial long-term changes in wage and earnings quality, as measured by the incidence of, say, lousy- or decent-wage jobs, can be viewed as an approximation for overall changes in job quality.<sup>11</sup>

Two wage thresholds are defined with reference to the income needed from full-time work to cover basic-needs budgets for individuals and families. These are used for two related purposes: to define a two-segment, four-contour wage structure, and to define three job quality indicators: the incidence of lousy-, low- and decent-wage (and earnings) jobs. The first threshold is calculated as two-thirds of the *mean* wage for full-time prime-age workers (\$17.50 in 2017) and serves as the cutoff between low-wage and decent-wage jobs (and wage segments). This threshold level is nearly identical to the full-time wage required to rent a modest two-bedroom apartment in Arizona in 2017 (\$17.56) – the median state on this measure (NLIHC, 2017). Since the mean wage is the benchmark for this cutoff, low-wage and decent-wage share trends will, to a modest degree, reflect the pulling away top-half worker pay from the median. The advantage of using the mean is precisely that it raises the threshold modestly to reflect the higher relative wage growth above the median since the late 1970s.<sup>12</sup> The decent-wage cutoff was located at the 40<sup>th</sup> wage percentile in 1979 and has since converged towards the median, reaching about the 47<sup>th</sup> percentile by 2017.

A second threshold is defined by the conventional (OECD) low-wage formula: two-thirds of the full-time *median* wage (\$13.33 in 2017). This threshold divides the low-wage segment into two wage contours, the lowest of which is the “lousy-wage” (or “poverty-wage”) contour. The dollar value of this threshold (\$13.33) is close to both 1) the basic-needs budget necessary for a single full-time worker in

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<sup>10</sup> See Schmitt and Jones (2012) on the problems with getting meaningful annual monetary measures of health and benefits for the post-1979 period. Even if the data were available, the value of health and pension benefits will vary with the particular arrangement that applies to each worker. Such a project is well beyond the scope of this study. The non-wage benefits and working conditions indicators were developed from the 2015 Rand Survey of American Working Conditions (Maestas et al. 2017).

<sup>11</sup> This would not be the case if, for example, the incidence of lousy-wage jobs was growing but was offset in some meaningful sense by substantial improvements in benefits and working conditions (see Section 4.3 below).

<sup>12</sup> The usual critique of the use of the mean – that it will reflect the growth of very high wage workers (e.g., incomes of the top 1%) - is greatly mitigated by top-coding by the CPS, which has assigned all those reporting a weekly wage above \$2,884.61 exactly that income (2,884.61) since 1998, equivalent to about \$150,000 per year in 2018. This constraint applied to the top 4.2 percent of workers (growing from just the top .8 percent in 2000) (Gould, 2019). We assign to the individuals with this top-code weekly wage an estimate of the mean above the top-code, using a lognormal approximation applied separately by gender. We also exclude all those whose hourly wage is greater than \$200 (in 1989 dollars). For these reasons, the extremely rapid wage growth for workers in the very top wage percentiles do not affect our mean wage.



many moderate-wage metropolitan areas, and 2) the current (2017) income eligibility requirements for important federal means-tested poverty programs for a full-time worker. The lousy-wage threshold has closely tracked the 30<sup>th</sup> wage percentile since 1979.

Defined by these two standard-of-living wage thresholds, in 2017 the low-wage share of employment for all workers (ages 18-64) was 45 percent, the decent-wage share was 55 percent, and the lousy-wage share was 29 percent (Figure 7). Contrary to the broad stability in wage quality incidence indicators in previous studies, I find a pronounced decline in the earnings quality of jobs since the late 1970s, which has been most pronounced for young (18-34) workers, both male (since 1979) and female (after 2000). This finding holds even for the conventional median-based incidence measure - the lousy-wage share of employment - which reflects only changes in bottom-half inequality. The paper's main empirical results can be summarized as follows:

1) *Decent-wage jobs*. The decent-wage share for all workers fell from 60.4 percent in 1979 to 57.1 percent in 2000, and then to 54.8 percent in 2017; its mirror image, the low-wage job segment, increased from 39.6 to 45.2 percent between 1979 and 2017. The decline in the decent-job share took place even for young workers with a college degree: from 77.5 percent in 1979 to 70.3 percent in 2017 (**Table 1**).

2) *Lousy- and Low-wage jobs*. The lousy-wage share of employment rose from 25.8 percent in 1979 to 31 percent in 2014 and fell back to 28.8 percent by the end of 2017. The increase in the incidence of lousy-wage jobs was far larger for young workers: from 31.5 to 42.8 percent (**Figure 6A**). The low-wage share of employment rose from 39.6 to 45.2 percent for all workers, and from 46.9 to 61.6 percent for young workers (**Figure 6b**).<sup>13</sup>

3) *Polarization*: Combining the two middle contours to create a tripartite structure shows no evidence of “declining-middle” polarization (**Table 2**). The good-jobs contour fell slightly (33.5% in 1979 and 32.7% in 2017) for all workers, fell moderately for college-educated young workers (42.8% to 40.7%), and collapsed for young workers without a college degree (from 20.2% to 7.6%). The middle-tier contours also declined for each of these demographic groups. Only the lousy-job contour increased its employment share over these four decades, most dramatically for young workers without a college degree (from 35.8 to 56.5%), but also for college-educated workers (from 10.8% to 14.7%).

4) *Non-wage job quality*. Generated by the 2015 Rand Survey, non-wage job quality indicators tend to vary systematically across the four wage contours, from worst in contour 1 (lousy-wage jobs) to best in contour 4 (good-wage jobs). These include direct measures of job quality (insurance benefits,

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<sup>13</sup> These results are defined only by the wage thresholds; they do not reflect workers employed involuntarily part-time.

paid time off, hours and scheduling quality, and physical working conditions) as well as indirect measures (job search rates and union membership) (**Table 3**).

5) *Unshared growth*. There has been a progressive decoupling of changes in the number and incidence of decent jobs<sup>14</sup> from GDP growth since the 1980s. Had the relationship between gross domestic product (GDP) and the number of decent jobs in the 1980s expansion (1982q4 – 1990q1) been maintained, the number of decent jobs would have been 23.5 million higher in 2014.<sup>15</sup> Similarly measured shortfalls in decent-jobs are calculated for young workers with less than a college degree (10.9 million decent jobs) as well as for those with at least a college degree (2.1 million decent jobs) (**Figures 8A-C**).

6) *Lousy jobs by occupation and industry*. Lousy jobs<sup>16</sup> are heavily concentrated in a few large occupation groups, like food preparation, retail sales, personal care services and cleaning/maintenance services groups. Two sectors alone - Retail Trade and Food Services - accounted for one-third of all lousy jobs for workers ages 18-64, and employed more than two-fifths of all young (18-34) female workers and male workers in 2014. At least since 2003, lousy-job occupations have seen employment growth and falling median wages. For example, the median wage for the 4.1 million workers employed in *Personal Care & Service Occupations* fell by 7.6 percent as employment in this occupation group increased by 37 percent (**Tables 4 and 5**).

7) *Incidence of lousy jobs by demographic group*. Changes in the incidence of lousy jobs are documented by age, gender, education, race and nativity.

*By gender, age and education*. The share of all female workers employed in lousy jobs fell from just under 41.8 percent in 1979 to 35.1 percent at the end of 2017. In sharp contrast, the incidence of lousy jobs for male workers increased from 16.2 to 25.5 percent, resulting in a lousy-job gender gap that fell from 25.6 to 9.6 percentage points between 1979 and 2017 (**Figure 10A**). For young workers without a college degree, the lousy-job rate increased between 2001 and 2017 from 40.5 to 50.9 percent for men and from 55.1 to 66.4 percent for women; for young workers with a college degree, lousy-job rates also increased, from 8.8 to 13.7 percent for men and from 12 to 17.9 percent for women (**Figure 11**).

*By race and gender*. The non-white female incidence of lousy jobs has fluctuated around 45 percent, ranging from 49.2 percent in 1979 to 42.8 percent in 2017, while the white female lousy-job rate fell substantially, from 40.1 percent in 1979 to 27.4 percent in 2017, resulting in a rising female racial lousy-job gap of over 6 percentage points, from 9.1 to 15.4 points (**Figure 12A**). The male non-white lousy-jobs rate increased steadily from 27.4 percent in 1979 to almost 40 percent in the mid-1990s and has since fluctuated between 35 and 40 percent. In contrast, the white male lousy-jobs rate rose more moderately, from 14 percent to 17.9 percent, leading to a rise in the

<sup>14</sup> In “decent-jobs” workers are paid above the decent-wage threshold and do not work involuntarily part-time.

<sup>15</sup> Time constraints prevented updating these figures to 2017.

<sup>16</sup> In “Lousy-jobs” workers are paid below the lousy-wage threshold or work involuntarily part-time.

male racial lousy-jobs gap from 13.4 to 20 percentage points between 1979 and 1994, followed by a decline to 15.7 points in 2017, 1.7 points above its 1979 level (**Figure 12B**).

*By nativity.* The incidence of lousy jobs has consistently been higher for young foreign- than young native-born workers, but there has been substantial convergence for both male and female workers with less than a college degree (**Figures 15A-B**).

8) *Job quality and employment rates.* For both prime-age and young male and female workers, employment rates have fallen sharply since the late 1990s, closely tracking the decline in job quality as measured by each group's median wage and decent jobs rate (**Figures 16A-D**).

9) *Educational upgrading.* As job quality collapsed for young workers with less than a college degree, their educational attainment – measured by the share with some college – increased substantially, from 35.5 to 49.7 percent for all jobs, and from 33 to 46.4 percent for those employed in lousy-wage jobs (**Table 6**).

## 2. The Post-War American Economy: From Shared to Extractive Growth

American economic growth was strong and broadly shared in the early post-WWII decades. By the late 1970s, income and wealth inequality declined and real before- and after-tax incomes for workers and their families were dramatically higher than they had been in the late 1940s. Technological advances, especially in electric household appliances like washing machines, along with massive public investments in housing-related infrastructure – water, electricity, roads, and subsidized housing - were central to the transformation of living standards of the bottom 90 percent of households (Gordon, 2016). But so was the rise in real labor earnings as measured by federal statistical agencies. With only moderate regulation, capitalism could be relied upon to translate productivity growth into higher incomes for nearly everyone.<sup>17</sup>

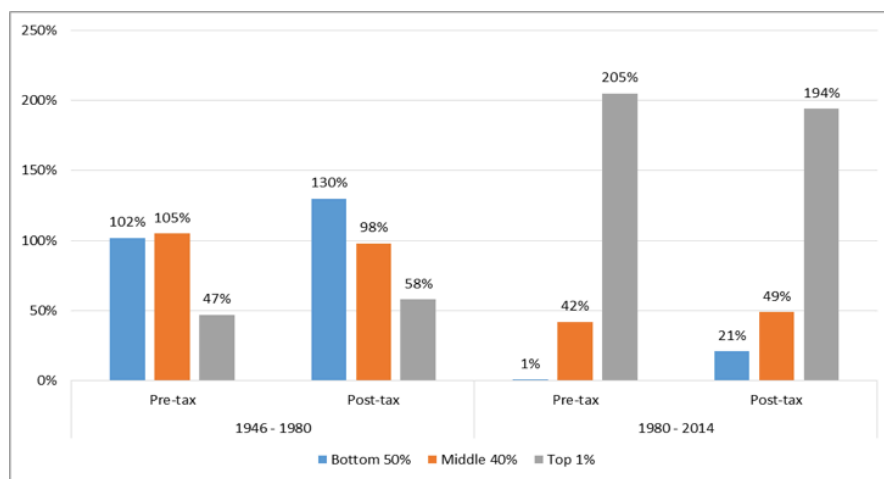
The left side of **Figure 1** shows that between 1946 and 1980, real growth in market incomes (pre-tax/benefit) more than doubled in the 34 years after 1947 for both the bottom 50 percent and the “middle 40 percent” (50<sup>th</sup>-90<sup>th</sup>) - 102 and 105 percent respectively – while increasing by much less for the top 1 percent (47%). The second set of bars shows post-tax and benefit incomes for 1946-1980 for these three income classes: average after-tax/benefit incomes grew faster (130%) than market incomes (102%) for the bottom 50 percent; the same was true for the top 1 percent (58 compared to 47%); but

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<sup>17</sup> Baumol, Litan and Schramm (2007, p. 15) write that since the Great Depression “... the priority given to economic growth was not controversial and ... was even on a par with motherhood and apple pie. Faster growth in the output of goods and services in an economy meant higher incomes for everyone (even though some people would, inevitably, earn more than others).”

for the middle-40, after-tax/benefit incomes rose slightly more slowly than market incomes (98% compared to 105%). These results support the view that there is no necessary ‘big tradeoff’ in modern capitalism: rapid growth is possible with greater income equality, and in at least this dimension, rapid growth (efficiency) and social justice could be complementary.<sup>18</sup> The essential features of the post-war economic model - Keynesian macroeconomic management, widespread collective bargaining, socially mandated minimum wages and benefits, and a strong publicly provided safety-net - had produced a dynamic capitalism characterized by shared growth (of course, some demographic groups shared much more than others).

**Figure 1: Pre- and Post-Tax/benefit Income Growth for the Bottom 50%, Middle 40% and Top 1% of Adults (20+), 1946-2014**



Source: Piketty, Saez and Zucman (2018, Table II).

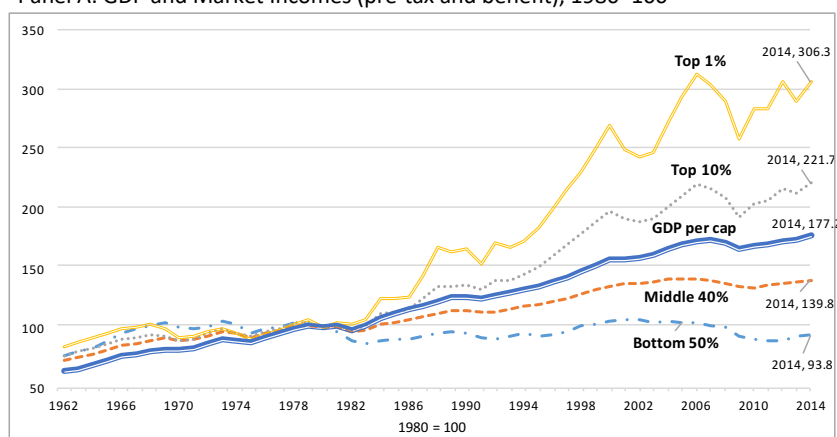
But around 1980 the U.S. took a sharp U-turn in distributional outcomes. The right-side of Figure 1 shows the consequences for income inequality: for the 34 years between 1980 and 2014, real market incomes grew by just 1 percent for the bottom half of the population, but by 42 percent for the middle-40 and by a stupendous 205 percent for the top-1. The right-side bars show that after taxes and benefits, the bottom-50 showed a modestly higher growth, 21 percent, but this compares to pre-1980 after-tax growth of 130 percent. A profound distributional regime shift took place between the decades before and after 1980.

<sup>18</sup> “Back in the 1960s, the so-called Golden Age for developed countries, the institutionalization of workers’ rights and the constitution of an extended welfare state proved to be compatible with a fast and rather and rather stable growth. At that time, dynamic efficiency and social justice were more frequently perceived as complementary rather than contradictory” (Boyer, 2006, p. 1).

Since most income is earned through employment, this massive shift in national income to the very top of the distribution was driven mainly by changes in labor market outcomes. For this reason, **Figure 2** narrows the focus to working-age adults (20-64). Available back to 1962, this data series is still long enough to show the sudden upward divergence of top incomes from the bottom 90% - both the bottom-50 and middle-40 - that begins during the 1980-82 recessions. **Panel A** shows that GDP increased by 77% between 1980 and 2014, but inflation-adjusted market income for the bottom 50% of working-age adults in 2014 was actually 6.2 percentage points *below* its level in 1980. Between 1962 and 1979, average bottom-50 income rose from \$13,207 to \$18,049, fell to \$17,568 in 2007, and was just \$16,136 in 2014 - below the 1966 level of \$16,388.<sup>19</sup> An economic growth regime built on stagnant or declining real pay of the bottom half of the workforce seems better described as extractive than as simply unshared. **Panel B** shows that changes in after-tax/benefit income were only slightly less extractive: the bottom-50 show an average increase in net income of 12.6 percent, compared to increases for the top-90 and top-1 of 110 and 187 percent respectively.

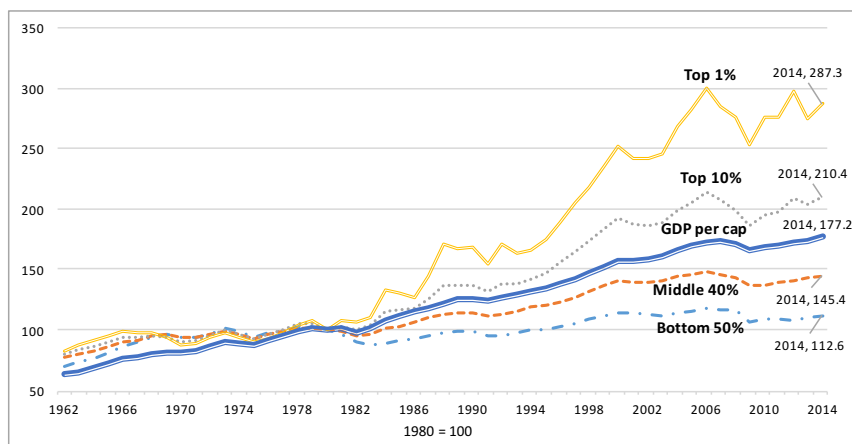
**Figure 2: The Growth of GDP and Incomes for the Bottom 50%, Middle 40%, Top 10% and Top 1% of Working Age (20-64) Individuals, 1962-2014**

Panel A: GDP and Market Incomes (pre-tax and benefit), 1980=100



Panel B: GDP and Net Incomes (post-tax and benefit), 1980=100

<sup>19</sup> Piketty et al., Appendix Tables II, Update Nov. 2017.



Source: GDP per head in constant dollars is taken from OECD.stat (extracted April 3, 2018); market and net incomes for working age individuals are from Piketty, Saez and Zucman, 2018 (Appendix II, update Nov. 2017: Tables II-B7, B8, B10, C7, C8 and C10).

A stark decoupling also appears between labor productivity and nonsupervisory worker compensation (not shown), with the divergence first appearing in the mid-1970s and then accelerating dramatically after the early 1980s (Mishel and Bivens, 2015). While labor productivity and labor compensation rose together between 1948 and 1973 (97% and 91%), their trajectories diverged sharply after 1973 (cumulative growth to 2016 of 74% for productivity but just 12% for labor compensation), nearly all of which took place after the early 1980s.<sup>20</sup>

### 3. The Measurement of Job Quality

Changes in job quality are measured here by wage and earnings adequacy. *Wage adequacy* is defined with wage thresholds chosen to reflect living standards made possible by full-time work. The decent-wage threshold distinguishes decent- from low-wage job segment; the lousy-wage threshold divides low-wage job segment into lousy-wage and upper-tier low-wage contours. *Earnings adequacy* is defined not just by the wage but also by the adequacy of work hours. This can be an important distinction because some workers with a decent wage may be unable to find jobs that offer as many hours as they would like.<sup>21</sup> The inadequacy of work hours is measured by whether workers report that

<sup>20</sup> According to Mishel and Bivens, about one-third of the gap since 1973 can be explained by the difference between the deflators used for productivity and compensation (prices increased faster for all goods (capital and consumer) than for just consumer goods). <http://www.epi.org/publication/understanding-the-historic-divergence-between-productivity-and-a-typical-workers-pay-why-it-matters-and-why-its-real/>

<sup>21</sup> For example, according to a recent survey, part-time jobs rose from 20% to 50% of Walmart's employment between 2005 and 2018, and 69% of part-timers wanted full-time positions. For nonwhite workers, the involuntary part-time rate was 80% (Organization United for Self-Respect, 2018).

they are employed involuntarily part-time. These workers work part-time but want and are able to work full-time (the official term for this category of workers is “part-time for economic reasons”). Wage and earnings adequacy are critical dimensions of job quality for most workers, and especially for hourly wage (or “frontline”) workers, but there are other key non-wage characteristics that most workers highly value, like health, pension, vacation and other time-off benefits, as well as work hour regularity and physical working conditions. There are no consistent long-term time series of these non-wage indicators, but I show in section 4.2 that their quality at one point in time (2015) varies with wage quality across the four-contour wage structure described in Section 3: the higher the wage contour, the more highly the value of nearly every non-wage job quality indicator.

The wage and earnings quality results are calculated from Merged Outgoing Rotation Group data from the U.S. Current Population Survey, accessed from the Center for Economic and Policy Research (CEPR).<sup>22</sup> The sample is limited to wage and salary workers with reported gross (pre-tax) hourly wages between \$.50 and \$200 in 1989 dollars, using the CPI-U-RS as the wage deflator. For salaried workers, the hourly wage is calculated by dividing usual weekly gross pay by usual weekly hours.

The remainder of this section consists of two parts. Section 3.1 explains the identification of wage quality thresholds that distinguish decent-wage from low-wage jobs, good-wage from other decent-wage jobs, and lousy-wage jobs from other low-wage jobs. Section 3.2 describes the earnings adequacy indicator, which takes into account workers employed involuntarily part-time, and presents trends in the incidence of lousy- and low-wage jobs – and of lousy- and low-earnings jobs – for several demographic groups between 1979 and 2017.

### *3.1 Wage Quality Thresholds*

The standard approach to measuring the prevalence of low-wage (or, alternatively, good-wage) jobs is to calculate the share of workers paid below (or above) a particular wage threshold. It has also been conventional to define low-wage workers as those paid below two-thirds of the median wage – calculated either for all workers (e.g., see Mason and Salverda, 2010, p. 35; Lucifora and Salverda, 2009, 259-63) or for full-time workers only - the OECD’s approach (e.g., see OECD, 2018, Table O). But these conventions are typically employed with little or no explanation or justification. What should qualify as a *low wage*? This is important to address directly because which fraction is used (two-thirds?) and for which workers the formula is defined (e.g., the median for all workers, for all full-time workers, or for all

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<sup>22</sup> <http://ceprdata.org/cps-uniform-data-extracts/cps-outgoing-rotation-group/cps-org-data/>

prime-age full-time workers) can make a big difference for both levels and trends. These choices should result in wage thresholds that correspond to widely accepted notions of what qualifies as “lousy”, “low”, “decent”, and “good”.

For example, by measuring the incidence of low wages by reference to the median for all workers, the Russell-Sage Low-Wage project’s wage threshold was lower for the U.S. than it would have been if the OECD’s approach had been used (the *full-time* worker median wage), which matters a great deal for the cross-country patterns of low-wage incidence because part-time workers in similar jobs are typically paid less than full-time workers in the U.S. but not in many other rich countries. In addition, whether the median, the mean, or some particular percentile (e.g., the 75<sup>th</sup> or the 90<sup>th</sup>) is used can matter a great deal when wage inequality is changing, and in particular, changing differently in different parts of the distribution (say, above and below the median).

While little attention has been paid to the implications of how low-wages are defined in the literature, Mason and Salverda (2010, pp. 35-6) have asserted that the median is preferred to the mean because it “mitigates the effect of the few extremely high wages at the upper end of the distribution and possible measurement error at the lower end.” While this could be an important concern, in most household and labor force survey data the observations at the very top and bottom are excluded by the responsible government agency to ensure anonymity. As noted above, the Current Population Survey allocates the same weekly income to all those paid above a particular level (e.g., \$2,884.61 in 2019 dollars, the same nominal value since 1998), and this analysis is limited to individuals paid between 50 cents and \$200 (in 1989 dollars), so those with extremely high wages – the 1 percent (or even the top 4 percent in recent years) will have no effect on the mean.

On the other side, the advantage of using the mean as the reference wage is that it is reasonable to believe that what is commonly understood to be a lousy-, low-, or decent-wage in a time of rapidly growing inequality is influenced by the pulling away of the middle-40 (50-90<sup>th</sup> percentiles) from the median.<sup>23</sup> At the same time, if the wages that fall below the decent-wage threshold are defined as “low-wage” and we want to identify the bottom tier of low-wage jobs (here, the “lousy-wage contour”),<sup>24</sup> there may be good reason for using the *median* as the reference wage. But in this case it should be recognized that if inequality within the bottom half of the distribution has been fairly stable, as it has been since the late 1980s, the incidence of lousy-wage jobs would show the same stability.

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<sup>23</sup> As for the bottom end, there is no reason to believe that the use of the mean for the post-1979 U.S. results in any meaningful bias due to bottom-end mismeasurement.

<sup>24</sup> In Howell and Kalleberg (2019), this bottom-tier (defined as jobs paid below 2/3 of the median full-time wage) is called the “poverty-wage” threshold and “poverty-wage contour”.



Two wage thresholds are used to identify changes in the incidence of three wage quality job groups: lousy, low, and decent. A lousy-wage job is understood as one that can support only a single full-time worker at a very basic, near-poverty level. The International Labour Organization (ILO) has defined a “decent job” as “work that gives people the opportunity to earn enough to escape poverty, not just temporarily, but permanently.”<sup>25</sup> It should be underscored that “decent” is not synonymous with “good”, since the latter indicates “a high quality or standard” while the latter only signifies “satisfactory or adequate”.<sup>26</sup> A decent wage might reasonably be defined as the full-time wage that would produce enough income to provide for a basic budget for a single adult with one child, or as the full-time wage necessary to rent a modest two-bedroom apartment.

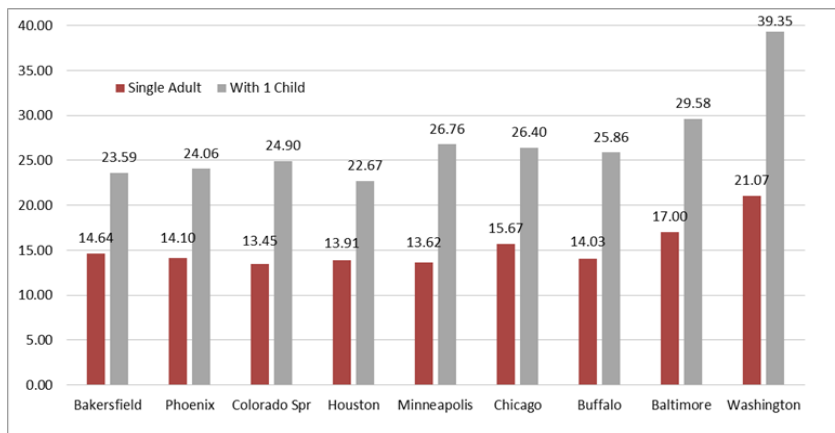
**Figure 3** shows the Economic Policy Institute’s estimate of the wage a full-time worker requires for a basic-needs budget in nine American cities (projected for 2016). With the exception of Washington D.C. and Baltimore, which are higher, the estimates fall in fairly narrow bands: \$13.62 to \$15.67 for a single adult, and \$22.67 to \$26.76 for a single adult with one child. If the estimates for a single adult in this figure are used to identify the cutoff for lousy-wage jobs, the national 2017 wage would fall in the tight range that includes six of these nine cities, from \$13.45 (Colorado Springs) to \$14.64 (Bakersfield). The range would be slightly higher for 2017, but at the same time somewhat lower because basic-needs budgets to account for nonmetropolitan areas. These estimates are moderately higher than the full-time wage cutoff for food stamp eligibility with a single child (\$12.40 assuming that full-time is 35 hours per week, 50 weeks per year) and Medicaid (\$12.80); but full-year work at 30 hours per week would make a family of two eligible for food stamps with a wage as high as \$14.46, and as high as \$14.94 for Medicaid.<sup>27</sup> This evidence suggests a *2017 lousy-wage threshold between wage of \$13 and \$14*.

**Figure 3: The Full-Time Hourly Wage Required for Basic-Needs Budget by Family Type for Selected Cities, 2016**

<sup>25</sup> ILO, KILM, Chapter 1 AEN (p. 4).

<sup>26</sup> See the Oxford English dictionary (<https://en.oxforddictionaries.com/definition/decent>)

<sup>27</sup> The gross monthly eligibility income for food stamps for a household of two persons (e.g., a mother and child) was \$1,736 in 2017 (<http://www.savingtoinvest.com/food-stamp-snap-income-eligibility-levels-deductions-and-benefit-allotment-payments/>). Working 35 hours a week (140 hours per month), a worker could have been paid as much as \$12.40 and still be eligible for food stamps; at 30 hours, eligibility would have extended up to \$14.46. Medicaid eligibility in 2017 for a family of two was \$22,411 (<https://www.peoplekeep.com/blog/2017-federal-poverty-level-guidelines>), which for \$12.80 a full-time worker, defined as 1750 hours. At 1500 hours (30 hours per week, 50 weeks a year), the Medicaid eligible wage would be \$14.94. Full-time employment in many other rich countries is around 1500 hours per year.



Source: Tung et al. (2015), table 3.1 (projected for 2016 from EPI's Family Budget Calculator).

If a decent wage is one that allows for the decent support of a single child with a full-time job, the EPI basic-needs budget data suggest a much higher full-time wage cutoff, one that ranges from \$23 to \$26 per hour. But this range would put the wage at about the 70<sup>th</sup> percentile (Figure 5), which seems high, and should be lower for nonmetropolitan areas. Another perspective on the appropriate decent-wage threshold is offered by The National Low Income Housing Coalition (NLIHC), which publishes annual estimates of housing affordability. The NLIHC estimates the full-time wage necessary to rent a modest two-bedroom apartment under the assumption that housing rents amount to no more than 30 percent of annual income (NLIHC, 2017). The 2017 national average for the required full-time wage was \$21.21. At the state level, the top five wage-requirement states for decent housing were Hawaii (\$35.20), District of Columbia (\$33.58), California (\$30.92), Maryland (\$28.27) and New York (\$28.08); the middle three states were Nevada (\$18.01), Arizona (\$17.56), and Utah (\$17.02); the lowest were South Dakota (\$14.02), Kentucky (\$13.95) and Arkansas (\$13.72). In the median state, Arizona (\$17.56), the two highest wage-requirement counties were Flagstaff (\$19.94) and Phoenix-Mesa-Scottsdale (\$18.15). In the lowest wage-requirement state, Arkansas, the highest wage-requirement county was Crittenden (\$16.06). These results suggest a *2017 national decent-wage cutoff between \$16 and \$19*, a range that includes the median wage-requirement state (Arizona, \$17.56), the 12 states ranked 31<sup>st</sup> (Wisconsin, \$16.11) to 20<sup>th</sup> (Pennsylvania, \$18.68), the overall nonmetropolitan average wage-requirement wage for California (\$18.75), as well as the national 2017 median wage for all workers (\$18.28).

The next step is to identify a formula that sets the decent-wage and lousy-wage cutoffs within these \$16-\$19 and \$13-14 ranges. **Figure 4** shows the wages generated by five threshold alternative formulas. These vary across three dimensions: 1) *work status* - all employed workers or full-time

workers; 2) *the benchmark wage statistic* - the median or the mean; and 3) *the age of workers*: all workers (18-64) or prime-age (25-54) workers. For both simplicity and consistency with the conventional incidence definitions (for example those used by the OECD and the Russell Sage Foundation, all formulas use the two-thirds as the fraction.<sup>28</sup>

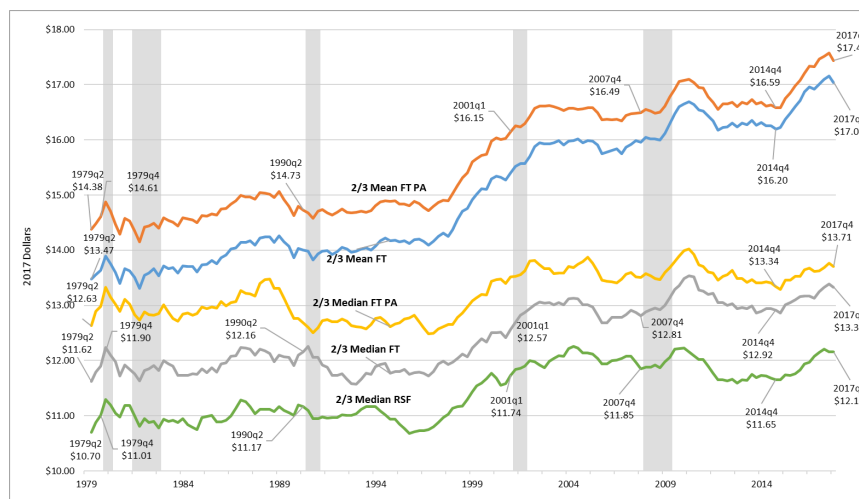
The definition that generates the lowest wage cutoff, and therefore the lowest incidence of low pay, is the one used by the Russell-Sage Foundation's (RSF) Low-Wage Work study (Gautie and Schmitt, 2010): *two-thirds of the median wage for all workers*. This produced a 4<sup>th</sup> quarter wage of \$12.16 for 2017. The second lowest cutoff is defined similarly but restricts the reference population of workers to those employed full-time - the OECD's approach - which generated a 2017q4 wage cutoff of \$13.33. The 3<sup>rd</sup> threshold formula also uses the median but restricts the reference population to prime-age full-time workers and produces a wage cutoff of \$13.71. It is worth noting that there is a visible convergence between these last two wage thresholds series defined for full-time workers (the 2<sup>nd</sup> and 3<sup>rd</sup> trend lines) which mainly took place in the late 1980s and again during and after the 2008-10 financial crisis, indicating a declining wage premium for prime-age workers in the bottom half of the wage distribution.

The top two wage cutoff formulas replace the median with the mean as the benchmark wage, one using full-time workers (\$17.04 in 2017q4) and the other (the top series) full-time prime-age workers (\$17.44 in 2017q4; \$17.50 for the four-quarter 2017 average) as the reference population. Figure 4 shows that the differences between the five cutoffs are stable between 1979 and 1989, after which the top two cutoffs pull away, reflecting the effects of increasing relative pay of high-wage workers on the overall mean: the top wage threshold is 34% higher than the lowest (the Russell-Sage threshold) in 1979, 38% higher in 2001, and 43% higher in 2017. The top two cutoff trend lines also show convergence, caused by a declining prime-age premium.

**Figure 4: Alternative Wage Thresholds, 2017**

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<sup>28</sup> In "Where Have all the Good Jobs Gone?" (Center for Economic and Policy Research, July 2012), John Schmitt and Janelle Jones take a different approach to dealing with this problem – instead of calculating the low-wage threshold for each point in time (say, for each year), they use 2/3 of the median for all workers (full-time and part-time) in the first year of their period (1979) as the reference point, so "low pay" is defined for each year after 1979 as a wage that falls below 2/3 of the 1979 median wage (adjusted for inflation).



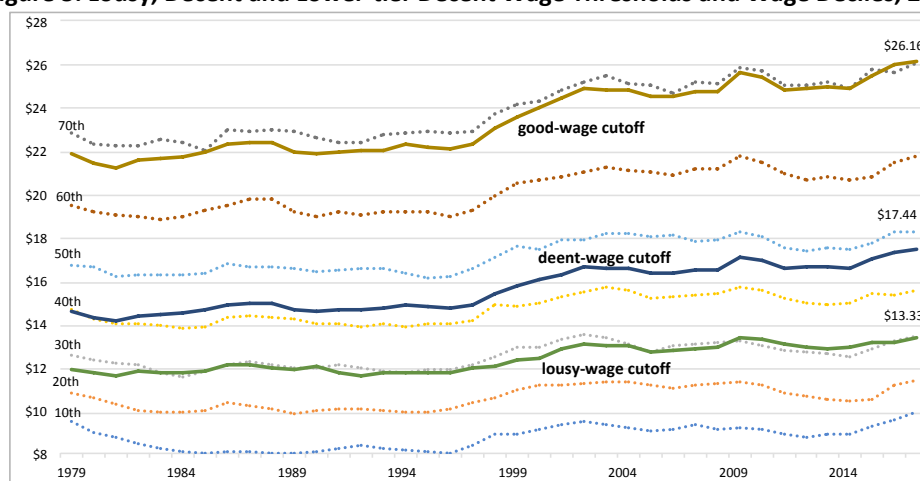
Source: author's calculations from the CPS-ORG (CEPR).

Two of these five wage cutoff formulas define three measures of job quality incidence. The top cutoff series shown in Figure 4, calculated as *two-thirds of the mean full-time wage for prime-age workers* (\$17.50) distinguishes decent- from low-wage jobs. It is high enough to cover a basic needs budget for a single worker in most cities, but is far below the full-time wage needed for a single parent to support one child (Figure 3). It is also nearly identical to the median state's full-time wage required to rent a modest two-bedroom apartment (Arizona: \$17.56). Decent-wage jobs are thus defined by reference to the overall *mean* wage and trends over time will therefore reflect changes in wages at the top the 50-95<sup>th</sup> wages.

A second threshold series, defined as *two-thirds of the median for full-time workers*, distinguishes lousy- from other low-wage jobs. At \$13.33 in 2017, it falls below what the evidence in figure 3 suggests is the wage level necessary for a minimally decent standard of living for single full-time workers, even in many nonmetropolitan areas in low-wage states. Because lousy-wage jobs are defined by reference to the *median* wage, changes in the incidence of lousy-wage jobs will reflect the degree of inequality in the bottom half of the wage distribution (which has not changed a great deal since the late 1980s). An advantage of using the median as the reference wage for lousy-wage jobs is that it is the conventional wage benchmark for calculating low-wage incidence, and offers an alternative metric to the low-wage and decent-wage indicators which rely on the mean. In addition, a cutoff distinguishing good-wage jobs from other decent-wage jobs is defined as 150 percent of the decent-wage threshold (\$26.25 for 2017) – a level in close proximity to the basic-needs budget levels shown in Figure 3 for a single parent with one child.

**Figure 5** shows the lousy-wage, low/decent-wage, and good-wage cutoffs<sup>29</sup> relative to the overall wage distribution for 2017, with dotted lines marking the 10th through the 70th wage decile wage. The decent-wage cutoff is near the 40th percentile in 1979 and rises fairly steadily to about the 47th percentile by 2017: to have a decent-wage by this definition, workers must now be paid nearly the median hourly wage. The lousy-wage cutoff tracks the 30th percentile over the course of the entire 1979-2017 period. The cutoff that distinguishes good jobs from other decent-wage jobs tracks just under the 70<sup>th</sup> percentile wage until around the 2008 crisis and then converges to it.

**Figure 5: Lousy, Decent and Lower-tier Decent Wage Thresholds and Wage Deciles, 2017**



Source: wage deciles are taken from The Economic Policy Institute (personal communication); the wage cutoffs are the author's calculations from the CPS-ORG (CEPR).

### 3.2 From Wages to Earnings: Accounting for Inadequate Hours

A decent hourly wage may not be sufficient to ensure decent earnings if full-time jobs are not available, so in addition to the incidence of lousy-, low-, and decent-wage jobs, I calculate the incidence of lousy-, low-, and decent-earnings jobs by accounting for inadequate hours, as measured by whether or not a worker is employed involuntary part-time (IPT).<sup>30</sup> While a crude indicator of inadequate hours,

<sup>29</sup> The lower-tier decent wage cutoff is defined as 150% of the decent-wage cutoff, and distinguishes the “good-wage” and “lower-tier decent-job” contours.

<sup>30</sup> The Bureau of Labor Statistics refers to involuntary part-time work as “part-time for economic reasons.”

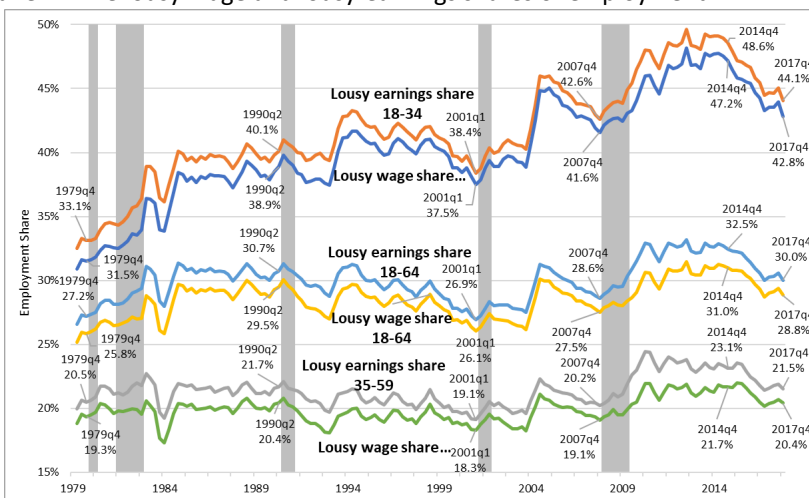
particularly for those who “choose” to work less than full-time because of domestic household responsibilities, it is a simple, easily available (for cross-country studies) metric and is far superior to measuring the adequacy of hours worked with part-time employment, since many workers genuinely prefer part-time to full-time work. *Lousy-earnings* jobs are defined as those paying below the lousy-wage threshold or those in which work is IPT. Similarly, *low-earnings* jobs are those that pay less than the decent-wage threshold or are IPT. *Decent earnings* jobs are those that pay above the decent-wage threshold and are not IPT.

Although this distinction between wages and earnings is important, it turns out that using IPT employment to distinguish wage quality from earnings quality makes little difference either for levels or changes over time. **Figure 6A** shows lousy-wage and lousy-earnings shares of employment for three age groups (18-34, 35-59 and 18-64) from 1979 to 2017. These figures confirm that the decline in the earnings quality of American jobs has been driven by changes in the inadequacy of wages, not desired hours – at least by this measure. The time series in the middle of each figure reports results for workers ages 18-64 and shows that the gap between the earnings and wage shares was 1.6 percentage points in 1979 (27.2% and 25.8%) and 1.2 points in 2017 (30.0% and 28.8%). Panel A also shows that the difference between the incidence of lousy-wages and lousy-earnings in 2017 was similar for both prime-age workers (1.1%) and young workers (1.3%). **Figure 6B** presents the same two series for those paid below the decent-wage threshold, which uses the mean, not the median, as the benchmark. The levels and trends in the gaps between the low-wage and low-earnings series are similar to those in Figure 6A.

Beyond the small differences found between the wage and earnings series, these figures highlight three facts about the incidence of low pay since 1979 (for brevity, I discuss only the wage series). First, Figure 6A shows that the share of all workers (18-64) with lousy wages rose from 25.8 percent in 1979 to 31 percent in 2014 and then fell to 28.8 percent in 2017. Second, this overall 3-point increase reflected a small increase for prime-age workers (1.1 points: 19.3 to 20.4%) and a huge increase for young workers (11.3 points: 31.5 to 42.8%). Third, Figure 6B shows that the low-wage share of employment increased much more than the lousy-wage share – reflecting at least in part the use of the mean rather than the median as the wage benchmark. The overall (18-64) incidence of low wages increased by 6.1 percentage points between 1979 and 2017 (from 39.1% to 45.2%); the prime-age incidence rose by 5.1 points (from 30.3% to 35.4%); and incidence of low wages for young workers increased by 14.7 percentage points (from 46.9% to 61.6%).

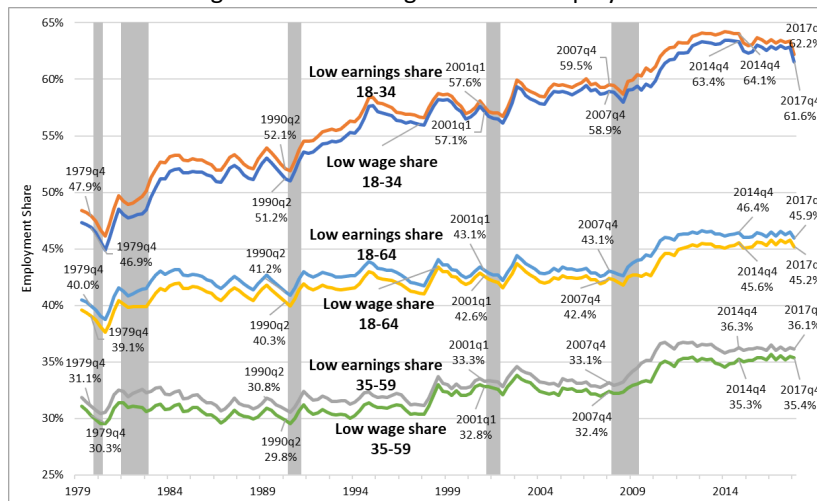
**Figure 6: The Incidence of Lousy and Low Pay by Age, 1979-2017**

**Panel A: The lousy-wage and lousy-earnings shares of employment\***



\*Lousy-wage jobs are those paid below the lousy-wage threshold (2/3 of the median full-time wage); Lousy-earnings jobs are either paid less than the lousy-wage threshold or paid above this threshold and employed involuntarily part-time.

**Panel B: The low-wage and low earnings shares of employment\***



\* Low-wage jobs are those paid below the decent wage threshold (2/3 of the mean full-time prime-age wage); low-earnings jobs are defined as workers paid less than this threshold or paid more but employed involuntarily part-time.

Source: author's calculations from the CPS-ORG (CEPR).

#### 4. Wage Contours and Job Quality

The three wage-quality thresholds defined above – for lousy wages, decent wages, and good wages – are employed in the first part of this section to describe the post-1979 American wage structure that consists of two segments (“decent” and “low-wage”) and four contours (“good-wage” at the top and “lousy-wage” at the bottom). Section 4.2 then describes changes in employment shares for

these segments and contours. The main finding is rising employment shares for each of the two low-wage job contours and declining shares for both decent-wage contours. This across-the-board worsening mix of employment has been most severe for young male workers without a college degree, but appears as well for non-college degree female workers, and even for both male and female college graduates. There is no evidence of employment polarization across these wage quality contours, understood as employment declines in the middle relative to the bottom and top of the wage distribution. In the third part of this section (4.3), a variety of non-wage job quality indicators taken from the 2015 Rand Survey of American Working Conditions (Maestas 2017) are shown to vary systematically across the four wage contours, which suggests that these wage quality contours can also be interpreted as good approximations for broader *job quality* contours.

#### 4.1. *The American Wage Structure: two segments, four contours*

It has been common to present job quality in simple binary terms, as for example “good” and “bad”, or “lousy” and “lovely”.<sup>31</sup> The early labor market segmentation (LSM) literature of the late 1960s and 1970s framed the job structure in broadly similar terms, as “primary” (good upward-mobility jobs) and “secondary” (low-wage dead-end jobs), but by the early 1970s the job structure was increasingly seen as consisting of three segments: “independent primary” (professional and high level managerial and technical), “subordinate primary” (good, often unionized blue-collar, mostly male jobs), and secondary (low-wage and low-skill manual and service jobs).<sup>32</sup> Gittleman and Howell (1995) used cluster analysis on 17 job quality indicators and found that detailed jobs (occupations by industry) grouped into three clusters that looked much like the description of the three labor market segments described in the LSM literature. Clustering further, they found that each of the three segments broke into two “job contours”. The resulting job structure featured three job segments and six job contours: 1) the *independent primary* segment, with (a) private and (b) public contours; 2) the *subordinate primary* segment, with (a) blue-collar (mostly male workers in manufacturing) and (b) routine white-collar (mostly more educated but lower paid female office workers) contours; and 3) the *secondary* segment, with (a) low-wage blue-collar and (b) low-wage service job contours.

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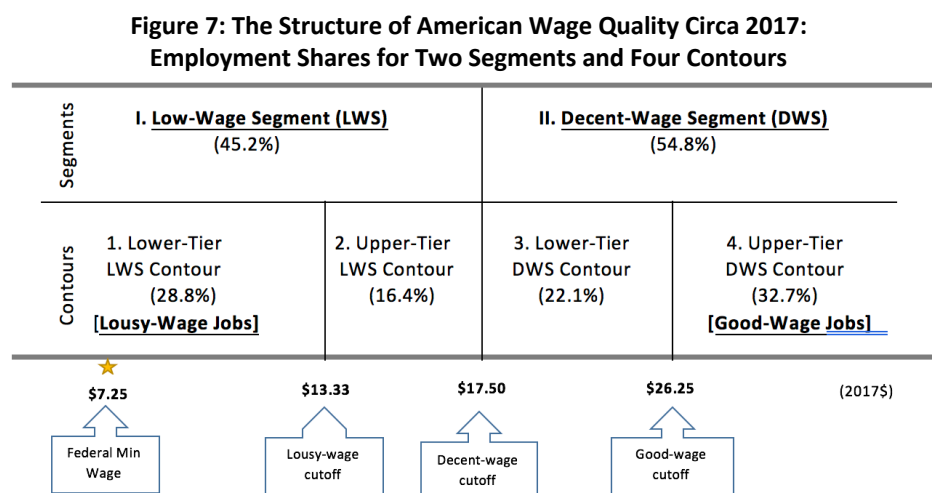
<sup>31</sup> Discussions of job quality are frequently framed in terms of “good” jobs (e.g., Schmitt 2007, 2012; Bartik and Houseman, 2008; Osterman and Shulman, 2011), “decent jobs” (ILO...), “bad jobs” (Warhurst et al. 2012), “lousy jobs” (Burtless, 1999), and the binaries “good and bad jobs” (Kalleberg, 2011) and “lousy and lovely jobs” (Goos and Manning, 2007).

<sup>32</sup> For example, see Michael Piore (1975) and Gordon, Edwards and Reich (1982).



Although not widely recognized, this older segmentation perspective maps closely to the tripartite conception of the task content of jobs in the recent technology-centered skills/tasks literature:<sup>33</sup> “nonroutine cognitive” jobs look much like “independent primary” jobs (contours 1a and 1b in the previous paragraph); jobs with high “routine cognitive” and “routine manual” task content look much like typical “subordinate primary” and “secondary” jobs (2a, 2b and 3a); and “nonroutine manual” task jobs closely resemble those in the “secondary low-wage service” jobs contour (3b).

These older labor market segmentation and skills/tasks job structures also look much like the structure produced by the three living standards-based wage thresholds just described. As **Figure 7** shows, about 55 percent of all wage and salary workers (18-64) were employed in the decent-wage segment in 2017, 45 percent in the low-wage segment, 29 percent in the lousy-wage contour (#1), and almost one-third in the good-wage contour (#4). Like the older tripartite LSM and more recent skills/task frameworks: 1) higher cognitive-skill nonroutine professional, technical and managerial jobs appear in the top tier, the good-wage contour #4; 2) routine-task manual, clerical and service jobs are concentrated in contours #2 and #3; and 3) low-wage manual and service sector jobs are located in the lousy-wage contour #1 (for examples of lousy-wage occupations and industries, see tables 4 and 5 in Section 6).



\* The lousy-wage threshold is the conventional low-wage cutoff: 2/3 of the median wage for full-time workers. The decent-wage threshold is defined as two-thirds of the mean wage for full-time prime-age workers. Good-wage jobs pay more than 50 percent above the decent-wage threshold. Employment shares (in parentheses) report the share of employed workers (18-64) with wages within each contour or segment wage range.

<sup>33</sup> (Autor, Levy and Murnane, 2003; Autor, Katz and Kearny, 2008; Autor and Dorn, 2013).

#### 4.2 Employment Change by Wage Contour

**Table 1** reports the change in the distribution of employment for three age and education groups by wage segment and wage contour between 1979 and 2017. The first row of the top panel shows that the share of all employed wage and salary workers (ages 18-64) in the decent-job segment fell from 60.4 to 57.1 percent between 1979 and 2000, and subsequently fell further to 54.8 percent by the end of 2017. Its mirror image, the low-wage job segment, increased its share of total employment from 39.6 to 45.2 percent between 1979 and 2017. The employment share of the upper-tier of the decent-wage segment (“good-wage” jobs) was broadly stable over these four decades at around one-third of all workers, but the 3<sup>rd</sup> row shows that the lower-tier decent job contour (between \$17.50 and \$26.25 in 2017) dropped from about 27 to 22 percent. For all 18-64 wage and salary workers, employment shifted from decent to low-wage (and lousy) jobs: employment shares increased for both low-wage job contours between 1979 and 2017, from 14.5 to 16.4 percent for the upper-tier low-wage contour, and from 25.1 to 28.8 percent for the lousy-wage contour.

**Table 1: Change in Employment Shares for Three Age/Education Groups by Wage Segment and Contour, 1979-2017 (percent)**

Age/Educ Group	Segments/Contours	1979q2	2000q4	2014q4	2017q4
18-64	<b>I. Decent-Wage Job Segment</b>	<b>60.4</b>	<b>57.1</b>	<b>54.4</b>	<b>54.8</b>
	1. Upper-Tier DW Contour (good-wage jobs)	33.5	33.6	33.2	32.7
	2. Lower-Tier DW Contour	26.9	23.5	21.2	22.1
	<b>II. Low-Wage Job Segment</b>	<b>39.6</b>	<b>42.7</b>	<b>45.6</b>	<b>45.2</b>
	3. Upper-Tier LW Contour	14.5	16.4	14.6	16.4
	4. Lower-Tier LW Contour (lousy-wage jobs)	25.1	26.3	31.0	28.8
18-34 <col	<b>I. Decent-Wage Job Segment</b>	<b>46.6</b>	<b>31.1</b>	<b>22.3</b>	<b>22.9</b>
	1. Upper-Tier DW Contour	20.2	10.8	8.1	7.6
	2. Lower-Tier DW Contour	26.4	20.3	14.2	15.3
	<b>II. Low-Wage Job Segment</b>	<b>53.4</b>	<b>68.9</b>	<b>77.7</b>	<b>77.1</b>
	3. Upper-Tier LW Contour	17.6	22.2	16.8	20.6
	4. Lower-Tier LW Contour	35.8	46.7	60.9	56.5
18-34 >=col	<b>I. Decent-Wage Job Segment</b>	<b>77.5</b>	<b>78.6</b>	<b>68.8</b>	<b>70.3</b>
	1. Upper-Tier DW Contour	42.8	48.3	41.9	40.7
	2. Lower-Tier DW Contour	34.7	30.3	26.9	29.6
	<b>II. Low-Wage Job Segment</b>	<b>22.5</b>	<b>21.4</b>	<b>31.2</b>	<b>29.7</b>
	3. Upper-Tier LW Contour	11.7	10.8	14.7	15.0
	4. Lower-Tier LW Contour	10.8	10.6	16.5	14.7

Source: author’s calculations of the CEPR (see text).

The middle and bottom panels of Table 1 report changes in employment shares across the four job quality contours for young (ages 18-34) workers by education level. For young workers with less

than a college degree, the middle panel shows that decent-wage employment fell from 46.6 in 1979 to 22.9 percent in 2017; the corresponding increase in the low-wage segment share was from 53.4 to 77.1 percent. Most spectacularly, the share of young workers with less than a college degree holding lousy-wage jobs increased from 35.8 to 56.5 percent between 1979 and 2017.

The bottom panel shows that this worsening pattern for young workers took place even for those with a college degree: the employment share of young college-degree holders in the decent-wage segment fell from 77.5 to 70.3 percent, as the share in the low-wage segment increased from 22.5 to 29.7 percent. Over half of this growth in low-wage jobs for college-educated young workers took place at the bottom, in the lousy-wage contour, which increased for young college-educated workers from 10.8 to 14.7 percent. Table 1 documents an across-the-board four-decade-long worsening in wage outcomes.

By this reckoning, there is no evidence of employment polarization - expansion at the top and bottom but declines in the middle. This conclusion is underscored in **Table 2** where the two middle quality contours (#2 and #3) have been merged to form a tripartite structure, like the older labor market segmentation and more recent skills/task schemes. This finding contrasts sharply with the take-away from the recent polarization literature, which has relied exclusively on grouping occupations by “skill”, usually measured by the wage.<sup>34</sup> The top panel of Table 2 shows that the middle-tier employment share for all workers (18-64) fell slightly from 1979 to 2017 (from 41.4 to 38.5 percent), just as it did for the top contour (from 33.5 to 32.7 percent). For young less-educated workers there was a substantial decline in the middle, from 44 to 26.9 percent, but an even larger percentage decline took place in the top job contour (from 20.2 to just 7.6 percent). The same pattern holds for young workers with at least a college degree: a declining share of employment at the top and the middle and increases at the bottom between 1979 and 2017.

**Table 2: Employment Shares in a Tripartite Wage Structure (percent)\***

Age/Educ Group	Contours	1979q2	2000q4	2014q4	2017q4
18-64	I. Top Job Quality Contour (#1)	33.5	33.6	33.2	32.7
	II. Middle JQ Contours (#2-3)	41.4	40.1	35.8	38.5
	III. Bottom JQ Contour (#4)	25.1	26.3	31.0	28.8
18-34 <col	I. Top Job Quality Contour (#1)	20.2	10.8	8.1	7.6
	II. Middle JQ Contours (#2-3)	44.0	42.5	31.0	26.9
	III. Bottom JQ Contour (#4)	35.8	46.7	60.9	56.5
18-34 >=col	I. Top Job Quality Contour (#1)	42.8	48.3	41.9	40.7
	II. Middle JQ Contours (#2-3)	46.4	41.1	41.6	44.6

<sup>34</sup> For critiques of calculating employment and wage polarization using occupation as the unit of analysis, see Mishel et al. (2013) and Hunt and Nunn (2019).

	III. Bottom JQ Contour (#4)	10.8	10.6	16.5	14.7
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\*See the footnote to Table 1.

#### 4.3 Non-wage Job Quality Indicators by Contour

Changes in the incidence of lousy- and decent-wage jobs offer a good approximation for changes in overall job quality for frontline workers because of the importance of wages to well being. This is particularly true if other important dimensions of employment valued by workers - like health, pension, days-off benefits and key working conditions - tend to be closely associated with wages.

The available data make it difficult to identify long-term changes in relationships among wages, benefits and working conditions (Schmitt and Jones, 2012). But the evidence does suggest that increases in nonwage benefits have not generally compensated for the stagnation in real pay and the sharp decline in relative pay for those in the bottom half of the wage distribution since the late 1970s. For example, average nonwage compensation grew by 10.1 percent between 1979 and 2016, which was only slightly higher than the 9.2 percent increase in the median wage (Schmitt et al., 2018). At the same time, there has been a sharp decline in the share of workers receiving employer-paid health and pension benefits. The Economic Policy Institute reports that the share of workers receiving at least partially paid health insurance from their employers in 2016 ranged from 24.3 percent in the bottom fifth of the wage distribution to 73.1 percent in the top fifth. Not only were low-wage workers much less likely to have this benefit, but the decline in the share of workers with health benefits was far greater for lower- than for higher-wage workers: the bottom fifth experienced twice the percentage decrease as the top fifth between 1979 and 2016 - a decline of 35.9 percent (from 37.9 to 24.3%), which compares to a decline of 18.3 percent at the top (from 89.5 to 73.2%). Between these top and bottom quintiles, the middle fifth experienced a middle-level decline of 23.6 percent (from 74.7 to 57.1%).<sup>35</sup> It should be noted that a much better indicator of net worker benefits would account for out-of-pocket costs, reflecting the level of employer subsidy, which has almost certainly declined more for lower- than higher-wage workers.

This regressive worsening in health insurance coverage (falling greater for those with the least coverage) was not so for pension benefits. The decline in the share of workers with employer-provided pension coverage across the wage distribution was similar in percentage terms: from 18.4 to 11.3 percent for the bottom quintile (-38.6%); from 52.3 to 34 percent for the middle quintile (-35%); and from 78.5 to 49.6 percent for the top quintile (-36.8%).<sup>36</sup>

<sup>35</sup> Author's calculations from EPI ([https://www.epi.org/data/#?subject=healthcov&d=\\*](https://www.epi.org/data/#?subject=healthcov&d=*))

<sup>36</sup> Ibid. ([https://www.epi.org/data/#/?subject=pensioncov&d=\\*](https://www.epi.org/data/#/?subject=pensioncov&d=*))

While the necessary time-series on other benefits and work conditions are not available, the 2015 Rand Survey of American Working Conditions provides a variety of indicators that can be associated with pay for a single year (Maestas et al. 2017). The survey included responses from 2,066 persons between the ages of 18-71 who were working for pay at the time of the survey (p. 4). **Table 3** tabulates key results for our four wage contours (wage ranges in row 1 are in 2015 dollars). Row 2 shows that the distribution of employed survey respondents is broadly similar to that of the CPS: the share is smallest in the 2<sup>nd</sup> contour (14.7% vs 17.5% in the CPS), second largest in contour #1 (21.5% and 27.5% respectively), and largest in the top contour (43% and 33%).

The shares of workers in firms that offer health, pension and disability benefits are shown in rows 3-5. Health and pension benefits are far higher in the two decent-wage contours (rows 3 and 4) than in the lousy-wage contour (row 1) and the gaps are strikingly similar for each benefit. The two decent-wage contours had employment shares with health insurance offered (but not necessarily paid) by the employer in 2015 of 81.5 percent (row 3) and 73.4 percent (row 4), compared to 40.6 percent for the lousy-wage contour. The same pattern holds for employer-offered pension benefits (80.9% and 75.6% compared to 37%). While the lousy-wage contour shows a 42.6 percent share with disability benefits, the other three contours (#2-4) are all about 30 percentage points higher (from 69.4% to 71.9%).

Six indicators of paid time-off are shown in rows 6-11. For each, benefits are better the higher the wage contour. For example, the share of workers with paid sick time (row 6) is almost twice as high in the upper-tier low-wage contour 2 (66.9%) as in lousy-wage contour 1 (35%), and in the decent-wage contours the shares are higher (79.4% and 76.8%). Similarly, the number of paid sick days offered (row 7) increases from 9.7 days in the bottom contour to 10.3, 12.2 and 15.2 days in the upper three contours. The same pattern holds for paid holidays, paid vacation time, and both paid vacation days given and paid vacation days taken (rows 8-11).

The two indicators of work schedule quality (rows 12 and 13) show that workers in good-wage jobs (#4) are much more likely than workers in lousy-wage jobs (#1) to agree that their job offers both “a good fit of working hours with family and social commitments” (39.6% compared to 18.4%) and that the job offers “regular and steady work” (40.4% vs 17.6%). At the same time, a *smaller* share of workers in contour #2 say they have regular and steady work than those in lousy-wage jobs (12.6% compared to 18.4%). While workers in the highest wage contour report much more satisfaction with

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these two measures of work scheduling than their counterparts in the three lower-wage contours, it is interesting that far fewer than half of these “good-job” holders are satisfied (39.6% and 40.4%).

Working conditions are represented by “physical conditions”, measured by two indicators: the share of workers who report not being bothered by any conditions (row 14a) and those reporting being bothered by at least 3 conditions (row 14b). According to the survey, most workers are not happy with at least one physical condition in the workplace, but in the three lowest wage contours (1-3), 22.9 - 24.2 percent are not bothered by any conditions, while one-third of workers in the top, good-wage contour jobs have no complaints (row 14a). As measured by being bothered by at least three physical conditions, the workers most bothered are in the two low-wage contours (55.6% and 55.1%); a moderately lower share of workers in the two decent-wage contours reported being bothered by at least three physical conditions (49.8% and 43%).

The last two “indirect” indicators are included because they can be expected to be associated with wages, benefits, satisfactory hours and work schedule and job conditions: the share looking for a different job (row 15) and the share who report that they are union members (row 16). Active job search is much higher for workers in lousy wage jobs (39%) than the two middle-wage contours (29.9% and 32.5%), and these are far above the search rate for good-wage jobs (22.2%). Similarly, union membership increases steadily from 6.5 percent in the lousy-wage contour to 22.7 percent in the good-wage contour. These results are consistent with the well-known positive effects of unions on working conditions (Freeman and Medoff, 1984; Buchmueller, DiNardo and Valleta, 2002; Budd, 2004).

**Table 3: Non-Wage Job Quality Indicators by Wage Contour, 2015**

	<b>Contour #1:</b> lower-tier low-wage segment	<b>Contour #2:</b> upper-tier low-wage segment	<b>Contour #3:</b> lower-tier decent wage segment	<b>Contour #4:</b> upper-tier decent wage segment
1. Wage range, 2015\$	<=\$12.67	\$12.68-\$16.41	\$16.42-\$24.62	>=\$24.63
2. Survey Observations (share of total)	434 (21.5%)	297 (14.7%)	422 (20.1%)	870 (43.0%)
<b>Insurance Benefits</b>				
3. Employer Offered Health Ins* (% yes)	40.6	71.5	81.5	73.4
4. Employer Offered Pension* (% yes)	37.0	68.0	80.9	75.6
5. Employer Offered Disability Ins* (% yes)	42.6	70.0	69.4	71.9
<b>Paid Time Off</b>				
6. Paid Sick Time Offered (% yes)	35.0	66.9	79.4	76.8
7. Paid Sick Days per year (#)	9.7	10.3	12.2	15.2
8. Paid Holidays (% yes)	41.1	64.4	72.1	72.2
9. Paid Vacation Time (% yes)	40.3	66.6	84.3	75.9
10. Paid Vacation Days Given (#)	12.4	16.1	22.2	22.8
11. Paid Vacation Days Taken (#)	11.6	12.0	13.7	16.3
<b>Hours and Schedule</b>				
12. Good Fit of Working Hours with Family and Social Commitments (% "well"/ "very well")	18.4	12.6	20.1	39.6
13. Regular and Steady Work Thru Year (% yes)	17.6	13.4	21.9	40.4
<b>Working Conditions</b>				
14. Physical Conditions				
14a. Not Bothered by Any Conditions (%)	22.9	23.5	24.2	33.3
14b. Bothered by 3 or more Conditions (%)	55.6	55.1	49.8	43.0
<b>Indirect Job Quality Indicators</b>				
15. Looking for a Job (% yes)	39.0	29.9	32.5	22.2
16. Union Member (% yes)	6.5	12.6	16.6	22.7

\*The question asks whether the respondent's employer "offers you" health insurance, pension/retirement benefits or disability benefits. This appears to leave open how much, if anything, is contributed by the employer.

Source: author's calculations of data from the 2015 Rand Survey of American Working Conditions

(<https://www.rand.org/education-and-labor/projects/american-working-conditions.html>). For wage contour definitions, see text and the footnote to Figure 3.

The Rand Survey evidence offers strong support for the view that non-wage dimensions of job quality vary across the four wage contours broadly in line with wage levels. At the same time, these non-wage job quality indicators show substantial differences in a variety of interesting ways: in some cases, the variation is fairly linear, with large differences between each contour that range from worst in contour 1 to best in contour 4, as shown by active job search and union membership (#15 and #16); in others, the lousy-wage contour shows much worse outcomes than the upper-tier low-wage contour (#2), as in the cases of health, pension and time-off benefits (rows 3-6 and 8-10); in still others, the big gap is between the good-wage contour and the other three contours, as is the case for the goodness-of-fit of working hours with preferences (#12), the steadiness of work (#13), and bothersome physical conditions (14a and 14b).

## 5. The Decoupling of Decent Jobs from Economic Growth

How successfully has the American labor market translated economic growth into decent jobs? The poor wage and earnings outcomes generated by the post-1979 American economy documented

above (and below, in Section 6) have been explained by leading labor economists by shifts in labor supply and demand: the growth in worker educational attainment has failed to keep pace with employer demands for worker skills caused by computer-driven advances in production technology (Goldin and Katz, 2007; Acemoglu and Autor, 2011; Autor and Dorn, 2013). Other economists and social scientists have explained wage stagnation and rising wage inequality mainly by political choices that have weakened protective labor market policies and institutions (Bivens et al., 2018; Krueger, 2018; Deaton, 2019). But still another approach, often closely linked to the computer-driven skill mismatch account, contends that the wage and inequality problems can be found in slow productivity growth – at the level of firms, sectors and the entire economy. This account is driven by a “trickle-down” vision in which economic growth can be relied upon to “lift all boats”, a shared-growth narrative that has long been the conventional wisdom and that was, in fact, a fair characterization of the earlier post-war “Golden-Age” decades (see Figures 1 and 2).<sup>37</sup> For example, Baumol, Litan and Schramm (2007, p. 15) have argued that in the early post-war decades “... the priority given to economic growth was not controversial and ... was even on a par with motherhood and apple pie. Faster growth in the output of goods and services in an economy meant higher incomes for everyone (even though some people would, inevitably, earn more than others).”

This trickle-down, slow productivity growth vision remains the conventional wisdom in many influential circles. For instance, *Bloomberg Businessweek* has argued that “efficiency improvement could also allow companies to pay workers more without taking a hit to profits,” citing former Federal Reserve Chair Janet Yellen, who is quoted as saying: “I think to really see a faster average pace of real wage growth, we need faster productivity.”<sup>38</sup> Similarly, according to Morgan Stanley, “if the (worker productivity) improvement is sustained, it could boost the growth potential of the U.S. economy and lead to raises for workers. Stronger productivity is ‘the salve for everything’.”<sup>39</sup> *The Economist* has recently weighed in with the same logic of shared growth: “Pay is still increasing more slowly than might have been expected given the tightness of the labour market. For that, blame weak productivity growth” (May 25, 2019, “Working It”, p. 23).<sup>40</sup>

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<sup>37</sup> President Reagan announced in his first State of the Union Address that massive tax cuts would “expand our national prosperity, enlarge national incomes and increase opportunities for all Americans.” Quoted by Eduardo Porter, *New York Times* (December 27, 2017).

<sup>38</sup> Bloomberg Businessweek December 25, 2017 (p. 36).

<sup>39</sup> Attributed to Ellen Zentner, *Bloomberg Businessweek*, December 25, 2017 (p. 36)

<sup>40</sup> It is notable that none of these statements claiming dependence of the rate of wage growth on the rate of productivity growth were supported by as much as a single reference to the empirical evidence.



But the post-1979 decades challenges this shared growth vision. While tight labor markets (e.g., the late 1990s) unquestionably tend to improve earnings outcomes for the least well-paid, they do so only modestly and the improvements fail to keep pace with the declines in recession years: the long-term trend since the late 1970s has been a decline in the real and relative wage of frontline workers. This is illustrated above by Figure 2a and by the four-decade rise in the incidence of lousy- and low-wage jobs (Figures 6a and 6b). It is also demonstrated in this section by the decoupling of the number and incidence of decent jobs from economic growth.

Panels A-C of **Figure 8** show the number of decent jobs against GDP in inflation-adjusted dollars for 1979-2014 for three demographic groups: all workers (18-64); young workers (18-34) with a college degree; and young workers without a college degree.<sup>41</sup> For all workers (18-64), the main diagonal line in **Panel A** is the linear trendline for GDP (billions of 2009 dollars) and the number of decent jobs during the 1980s expansion (the 2<sup>nd</sup> quarter of 1982 through the first quarter of 1991) extended through the 4<sup>th</sup> quarter of 2014. Excluding recession years, linear time trends are also shown for the three subsequent expansions: the 1990s (1992q2 through 2000q3), the early 2000s (2002q3 through 2007q4), and the post-crisis expansion (2009q4 through 2014q4). The main takeaway from Panel A is that if the relationship between the number of decent jobs and GDP during the 1980s expansion had been maintained - as GDP grew from \$6.4 to \$16.2 trillion - there would have been an additional 8.2 million more decent jobs in 2001q1, 13.9 million more in 2007q4, and 23.5 million more in 2014q4. The nearly flat relationship between decent jobs and GDP for the post-2009 expansion (the right side of Panel A) shows that the growth in GDP translated into virtually no increase in decent jobs.<sup>42</sup>

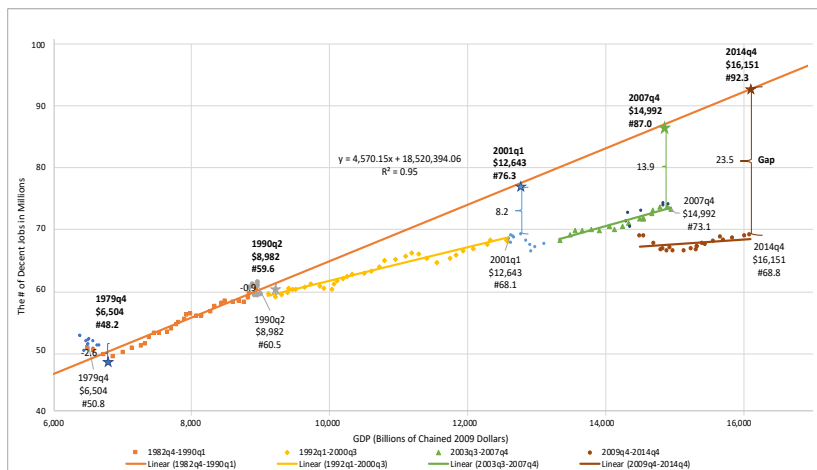
**Figure 8: GDP and Decent Jobs, 1979-2014**

Panel A: All Workers (18-64)

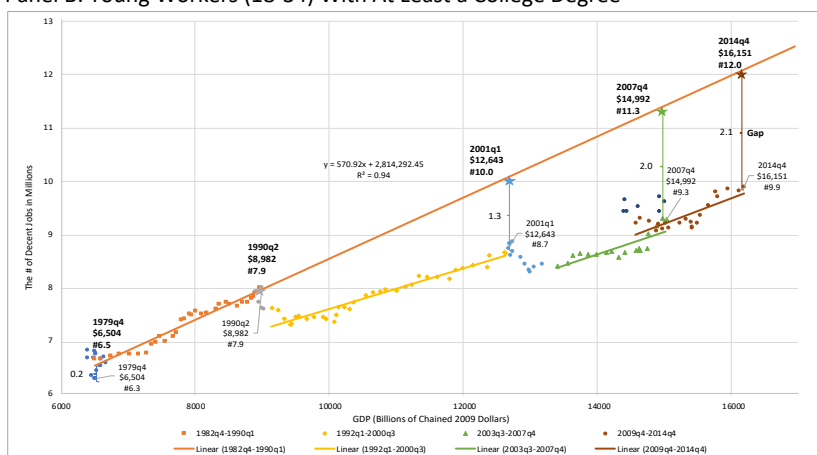
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<sup>41</sup> Results for GDP per capita are similar.

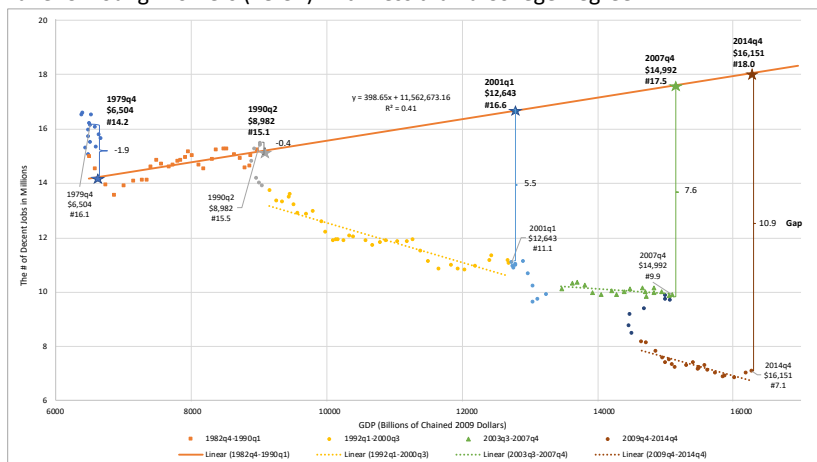
<sup>42</sup> To get an idea of the change in relationship between output growth and decent job growth, we can compare the most recent four years in the figure - between 2010q4 and 2014 - with the four years after 1983q4 (just after the 1980-82 recessions). GDP rose by \$1.21 trillion between 2010q4 to 2014q4, which was slightly less than the 1983-87 GDP increase of \$1.29 trillion, but the 2010-14 expansion generated only 2.61 million decent jobs, compared to 6.63 million in 1983-87.



Panel B: Young Workers (18-34) With At Least a College Degree



Panel C: Young Workers (18-34) With Less than a College Degree



Source: author's calculations from the CPS-ORG (CEPR).

Panel B shows that even for young workers with a college degree, the decent-job performance of the American labor market since the 1990 recession has failed to match that of the 1980s. Had the

increase in decent-job creation for highly educated young workers continued at the 1980s pace, there would have been 12 million decent jobs held by college graduates by the end 2014, instead of just 9.9 million, a shortfall of 2.1 million decent jobs. The problem for young college-educated workers in the neoliberal era has been less the difference in the falloff in the relationship between GDP and decent jobs during the post-1990 expansions (the slopes of the trend lines) than in the sharp declines in decent-job opportunities for these workers during and just after the 1990 and 2001 recessions.

While the labor market has done a poor job of translating GDP growth in decent jobs for young college educated workers, **Panel C** shows that it has been catastrophic for those without a college degree. Decent jobs for these workers declined sharply between 1980 and 1983 and then rose over the rest of the decade, generating the upward trend that appears on the figure. But each subsequent expansion starts at a lower level of decent jobs and then trends downward until the next economic downturn, at which point it falls sharply again. Had the relationship between economic growth and decent jobs for less-educated young workers in the 1980's expansion continued, these workers would have held 18 million decent jobs by the end of 2014, instead of just 7.1 million. The pattern of this decent jobs collapse suggests that employers have taken advantage of economic downturns to reduce the number (and share) of decent jobs.<sup>43</sup>

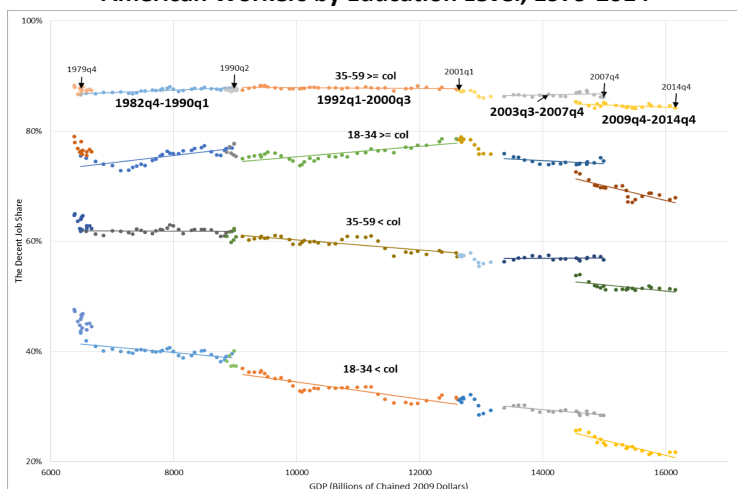
The failure of economic growth to translate into the creation of decent jobs is demonstrated by the incidence as well as the number of decent jobs. **Figure 9** presents four series of quarterly estimates of the decent-job share of employment for young (18-34) and prime-age (35-59) workers by education level (with and without a college degree). As in Figure 8, trend-lines are shown for expansionary periods (with recession quarters shown but excluded from the calculation of the trend line). The demographic group with the largest share of decent jobs, *prime-age workers with at least a college degree*, experienced a slight increase in the incidence of decent jobs between 1979q2 and 2000q3 (86.7% to 87.5%) but their decent job share fell by over 3 percentage points between 2001 and the end of 2014 (84.2% in 2014q4), due mainly to the declines during and after the 2001 and 2008 recessions. *Prime-age workers with less than a college degree* had a much lower decent-job share in 1979 (63.6%) which fell by over 12 percentage points, reaching just 51.2 percent in 2014. It is notable that most of this decline took place during the 1990s expansion and the 2008-10 financial crisis.

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<sup>43</sup> Jaimovich and Siu (2012) point to job polarization as the driving force behind jobless recoveries. "... essentially all of the contraction in aggregate employment during NBER dated recessions can be attributed to recessions in these middle-skill, routine occupations.... jobless recoveries are observed only in these disappearing, middle-skill jobs" (pp. 2-3). But my results suggest a more pervasive decline in job quality, especially for young workers, for both college- and non-college degree holders.

*Young workers with a college degree* experienced a modest increase in the share of decent jobs between 1979 and 2001, from 77 percent to 79 percent, but the share has dropped sharply since, reaching 68 percent in 2014. Not surprisingly, most of the post-2001 decline took place after the start of the crisis in 2008. This decent-job share decline for college-educated young workers of 9 percentage points in just 13 years took place as GDP grew from \$12.6 to \$16.2 trillion, an increase of almost 29 percent. Finally, the decent-job share of *young workers without a college degree* has declined precipitously, from 45.4 percent in 1979 to 21.7 percent in 2014.

**Figure 9: GDP and the Decent Job Share of Employment for Prime-Age and Young American Workers by Education Level, 1979-2014**



Source: author's calculations from the CPS-ORG (CEPR).

## 6. The Lousy Jobs Economy

The last section showed that the American economy has performed increasingly poorly at translating economic growth into decent jobs since the late 1970s, even with a wage threshold for “decent” as low as \$16.00 in 2014 and \$17.50 in 2017. Workers employed in jobs that fail the decent-jobs test are located in the low-wage segment - about 45 percent of the workforce (Figure 7). This section shifts the focus from decent to lousy jobs, those in the bottom tier of the low-wage segment - about 29 percent of all wage and salary jobs in 2017. Lousy jobs pay less than two-thirds of the median full-time wage (less than \$13.33 in 2017) or offer less than desired hours of work (workers are employed involuntarily part-time). This section begins by describing the occupations and industries in which lousy jobs are most concentrated. Section 6.2 presents changes in the incidence of lousy jobs by gender, education, age, race and nativity between 1979 and 2017. Section 6.3 concludes with changes in the quality of lousy jobs for young workers by gender and education, as measured by the median wage.

### 6.1. Lousy Job Occupations and Sectors

Lousy jobs are concentrated in several large service occupation groups that include food preparation, retail sales, personal care services and cleaning/maintenance services, all of which have experienced strong growth in employment and stagnant or declining median wages in recent decades. **Table 4** lists occupation groups, large occupations and detailed occupations in which a large share of lousy jobs are located, ranked by the 2014 median wage. These range from *Cashiers*, a single occupation with a median wage of \$9.16 and 3.4 million workers, to *Sales & Related Occupations*, which had a median wage of \$12.19 and 14.25 million workers in 2014. Other large lousy-job occupation groups include *Food Preparation and Serving Occupations* (\$9.20 and 12.3 million workers); *Personal Care & Service Occupations* (\$10.22 and 4.1 million workers); and *Building, Grounds Cleaning & Maintenance Occupations* (\$11.19 and 4.4 million workers). More narrowly defined occupations include *Personal Care Aides* (\$9.83 and 1.26 million workers), *Stock Clerks and Order Fillers* (\$10.99 and 1.88 million workers), *Security Guards* (\$11.74 and 1.1 million workers), and *Laborers & Movers* (\$11.74, 2.4 million workers).

Not all workers employed in each of these occupations and occupation groups were paid below the 2014 lousy job cutoff (\$12.50, equivalent to \$13.33 in 2017). The 3<sup>rd</sup> column in Table 4 presents a measure of within-occupation inequality, calculated by taking the ratio of the median to the mean. The closer this ratio is to 1, the tighter the distribution of workers around the median. For example, *Fast Food Cooks* (the 2<sup>nd</sup> detailed occupation under *Food Preparation Occupations*), with 520,000 workers, had a mean wage only slightly higher than the median, for a ratio of .97. Nearly all *Fast Food Cooks* were paid between \$7.83 (10<sup>th</sup> percentile) and \$11.39 (90<sup>th</sup> percentile).<sup>44</sup> To take another example, *Home Health Aides*, had a median wage of \$10.28 and an inequality ratio of .95 in 2014, and 75 percent of these Health Aides earned less than \$11.69 and 90 percent earned less than \$14.21, which is \$1.81 below our decent wage cutoff for 2014 (\$16.00). Similarly, 75 percent of the 1.3 million workers employed as *Personal Care Aides* earned less than \$11.27; and 75 percent of *Retail Salespersons* (almost 4.6 million workers) earned less than \$13.54, a full \$2.46 less than the decent wage threshold. Half of all *Janitors and Cleaners* earned under \$10.98 and 75 percent were paid less than \$14.38, about half way between the lousy and decent job thresholds.<sup>45</sup>

**Table 4: Lousy Job Occupations: Wage and Employment Characteristics, 2003-2014**

<sup>44</sup> Bureau of Labor Statistics, Occupational Employment Statistics, May 2014 (<https://www.bls.gov/oes/2014/may/oes352011.htm>).

<sup>45</sup> <https://www.bls.gov/oes/2014/may/oes372011.htm>

Occupation	Wage 2014		Occ inequality 2014	Employ 2014	Change 2003-2014	
	Median \$ (1)	Mean \$ (2)	Med/Mean % (3)	Total # (4)	Med Wage (pct chg) (5)	Employ (pct chg) (6)
<b>Cashiers</b>	9.16	9.93	0.92	3,398,330	-7.3%	-0.8%
<b>Food Preparation &amp; Serving Occupations</b>	9.20	10.57	0.87	12,277,720	-4.6%	19.0%
Food Prep & Serving Workers	8.85	9.19	0.96	3,131,390	-2.5%	51.1%
Cooks, Fast Food	8.91	9.15	0.97	519,910	-1.2%	-16.2%
Counter Attendants	9.01	9.53	0.95	476,470	-6.3%	0.6%
Dishwashers	9.03	9.40	0.96	502,280	-3.5%	3.3%
Cooks, Restaurant	10.81	11.40	0.95	1,104,790	-10.0%	48.9%
<b>Childcare Workers</b>	9.48	10.44	0.91	582,970	-7.5%	17.5%
<b>Maids &amp; Housekeeping Cleaners</b>	9.67	10.82	0.89	929,540	-6.8%	4.0%
<b>Packers &amp; Packers, Hand</b>	9.77	11.08	0.88	693,170	-7.1%	-20.2%
<b>Personal Care Aides</b>	9.83	10.20	0.96	1,257,000	-5.1%	147.7%
<b>Personal Care &amp; Service Occupations</b>	10.22	12.01	0.85	4,154,360	-7.6%	36.7%
<b>Home Health Aides</b>	10.28	10.77	0.95	799,080	-8.7%	38.6%
<b>Stock Clerks &amp; Order Fillers</b>	10.99	12.20	0.90	1,878,860	-10.6%	22.0%
<b>Building, Grounds Cleaning, &amp; Maint. Occs</b>	11.19	12.68	0.88	4,371,450	-5.1%	2.3%
Janitors & Cleaners	10.98	12.24	0.90	2,137,730	-5.0%	3.1%
Landscaping & Groundskeeping Workers	11.68	12.85	0.91	868,770	-6.4%	3.6%
<b>Security Guards</b>	11.74	13.48	0.87	1,077,520	-5.0%	12.0%
<b>Laborers &amp; Movers, Hand</b>	11.74	13.07	0.90	2,400,490	-5.1%	5.8%
<b>Sales &amp; Related Occupations</b>	12.19	18.59	0.66	14,248,470	-8.3%	5.4%
Retail Salespersons	10.29	12.38	0.83	4,562,160	-9.3%	11.7%
Counter & Rental Clerks	11.47	13.25	0.87	437,610	4.2%	-2.1%

Source: BLS Occupational Employment Statistics, May 2014 (<https://www.bls.gov/oes/2014/may/oes352011.htm>).

The two columns on the right side of Table 4 show that the jobs in the lousy jobs economy tend overwhelmingly to be growing in number and declining in wages, a result inconsistent with the main message of recent work by Autor and Dorn (2013). Among these 23 occupations and occupation groups, only *Counter & Rental Clerks* experienced an increase in the real inflation-adjusted median wage between 2003 and 2014. As the median wage fell by 10 percent for *Cooks*, employment increased by 49 percent. Similarly, the median wage for the 4.1 million workers in *Personal Care & Service Occupations* fell by 7.6 percent as employment increased by 37 percent; the *Personal Care Aides* wage fell by 5.1 percent while employment exploded by 148 percent; jobs in *Food Preparation & Serving Occupations* grew by 19 percent to 12.3 million in 2014 as the median wage fell by 4.6 percent. Only 4 of these 23 occupations and occupation groups show declining employment between 2003 and 2014.

**Table 5: Industry Sectors that Drive the Lousy Job Economy:  
The Sector Share of All Lousy Jobs by Age and Gender, 2003-2014**

Panel A: all workers 18-64

Rank (2014)	Industry	2003q2	2007q4	2014q4	% Chg 03-14
		Percent			Pct. Chg
1	22: Retail Trade	17.39	18.61	18.94	8.90

2	46: Food Services & Drinking Places	14.01	12.95	13.97	-0.31
3	42: Health Care Services, Except Hospitals	6.63	6.81	7.79	17.49
4	40: Educational Services	7.33	6.79	7.12	-2.83
5	38: Administrative & Support Services	5.65	5.55	5.57	-1.47
6	4: Construction	4.75	5.77	4.45	-6.24
7	23: Transportation & Warehousing	3.21	3.68	3.72	15.71
8	41: Hospitals	2.66	2.42	2.65	-0.33
9	43: Social Assistance	2.58	2.78	2.59	0.37
10	48: Personal & Laundry Services	2.21	2.21	2.42	9.73
	Total (Top 10 only)	66.42	67.56	69.22	4.21

Panel B: females, ages 18-34

	Industry	2003q2	2007q4	2014q4	% Chg 03-14
1	22: Retail Trade	19.91	21.96	23.02	15.66
2	46: Food Services & Drinking Places	19.12	17.91	19.03	-0.44
3	42: Health Care Services, except Hospitals	9.16	9.77	10.88	18.77
4	40: Educational Services	7.00	6.79	7.83	11.75
5	43: Social Assistance	4.05	4.39	4.25	4.89
6	38: Administrative & Support Services	4.64	4.76	3.96	-14.68
7	41: Hospitals	2.97	2.61	3.09	4.15
8	48: Personal & Laundry Services	3.45	2.97	2.97	-13.87
9	32: Finance	3.36	2.63	2.81	-16.52
10	44: Arts, Entertainment, & Recreation	2.87	3.06	2.60	-9.57
	Total (Top 10 only)	76.54	76.86	80.45	5.10

Panel C: males, ages 18-34

	Industry	2003q2	2007q4	2014q4	% Chg 03-14
1	22: Retail Trade	18.95	20.28	21.67	14.37
2	46: Food Services & Drinking Places	18.13	15.25	18.39	1.41
3	4: Construction	10.16	12.17	8.11	-20.20
4	38: Administrative & Support Services	6.86	6.56	5.97	-13.00
5	23: Transportation & Warehousing	3.66	4.53	4.65	26.91
6	40: Educational Services	4.25	4.23	5.10	20.10
7	1: Agriculture	2.44	2.29	2.75	12.47
8	21: Wholesale Trade	2.24	2.81	2.28	1.97
9	47: Repair & Maintenance	3.19	2.52	2.86	-10.19
10	44: Arts, Entertainment, & Recreation	3.52	2.29	2.36	-32.90
	Total (Top 10 only)	73.40	72.92	74.14	1.01

Source: author's calculations of CPS-ORG data (CEPR).

Just as lousy jobs are concentrated in a small number of occupation groups, they are also mainly located in a handful of economic sectors, most notably *Retail Trade* and *Food Services & Drinking Places*. Of the 52 sectors defined at the two-digit industry level, **Table 5** presents the ten sectors with the largest shares of lousy jobs for all workers (Panel A), young female workers (Panel B), and young male workers (Panel C). The bottom row of Panel A shows that these top 10 sectors accounted for over 69 percent of all lousy-job workers in 2014, up from 66.4 percent in 2003. The concentration of lousy jobs in the top 10 sectors for young female and male workers was even higher: 80.5 percent for female workers, up from 76.5 percent in 2003 (Panel B); and 74.1 percent for young male workers, up slightly from 73.4 percent in 2003 (Panel C).

Two of the 52 sectors - *Retail Trade and Food Services* - account for fully one-third of all lousy jobs for workers ages 18-64 (Panel A, 32.9%) and employ more at least two-fifths of all young female workers (Panel B, 42%) and male workers (Panel C, 40%). It is also notable that lousy jobs are heavily concentrated in health, education and social service-related sectors, typically funded in large part by government. Four of the top ten lousy job sectors - *Health Care Services, Educational Services, Hospitals, and Social Assistance* - employed 20 percent of all lousy-job workers in 2014, and over one-quarter (26%) of all young female workers in lousy jobs. After *Retail Trade and Food Services*, the next largest lousy job sectors for young male workers were *Construction* (8.1% - hard hit by the 2008-10 financial crisis), *Administrative & Support Services* (6%), and *Transportation and Warehousing* (4.7%). Given the concerns over the effects of globalization on labor market outcomes, it is important that the two large tradeable goods sectors, manufacturing and mining, do not make the top-10 list of lousy job sectors.

## 6.2. The Incidence of Lousy Jobs

The results presented in sections 3 and 4 were for lousy-wage, low-wage, and decent-wage jobs. Like the section 5 results on decent jobs, the evidence presented here is for the quality of earnings – in addition to wage adequacy, the “lousy jobs” (in contrast to “lousy-wage jobs”) accounts for the adequacy of hours worked, measured by involuntary part-time employment. This section presents changes in the incidence of lousy jobs by gender, age, education, race and nativity for 1979 to 2017.

### 6.2.a Lousy Jobs by Gender, Age and Education

Among the most striking developments since the late 1970s has been the rise in lousy-job rates for men between 1979 and 2017, the convergence in the incidence of lousy jobs by gender until around 2000, the sharp increases in lousy job rates for female workers - closely tracking the male trajectory - between 2000 and 2017, and the disastrous expansion of the lousy-job share of young men with less than a college degree.

Panels A-D in **Figure 10** show the lousy-job employment rate for all workers (18-64) by gender and education level. One of the few examples of job quality *improvements* in the post-1979 decades was the large decline in the incidence of lousy jobs for female workers before the 2001 recession (**Panel A**). The share of all female workers employed in lousy jobs fell from just under 42 percent in 1979 to 33.7 percent in 2001 and subsequently rose to 35.1 percent at the end of 2017. In sharp contrast, the incidence of lousy jobs for male workers shows a 1979-to-2014 increase of 11.4 percentage points, from 16.2 to 27.6 percent, before dropping slightly to 25.5 percent in 2017. Most of the increase for male



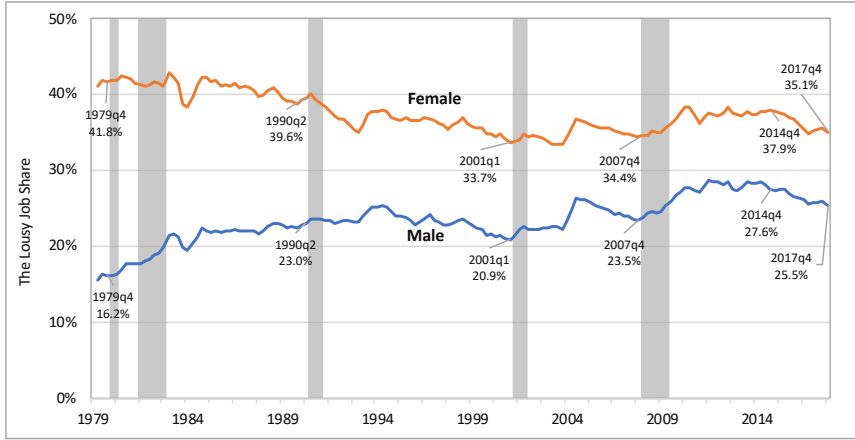
workers was concentrated during the two early 1980s recessions and during and after the 2008-9 financial crisis (with a curious spike between 2004q2 and 2005q2). Overall, an important outcome of these trends in wage quality is that declining lousy job rates for female workers and rising rates for males led to a sharp decline in the *gender gap*, from 25.6 to 9.6 percentage points between 1979 and 2017, and that most of this convergence took place before the mid-1990s.

Lousy-job employment rates by education level are reported in **Panel B**. The incidence of lousy jobs for all workers (18-64) with less than a college degree rose between 1979 and 2017 by 10.2 points, from 31.1 to 41.3 percent, nearly all of which took place during and immediately after the 1981-2 and 2008-9 recessions. Despite the attention paid to the beneficial effects of computer-driven skill-biased technological change for college graduates, Panel B shows that the lousy-job incidence for these workers was quite stable over these four decades, beginning at 10.8 percent in 1979 and ending at 11.2 percent in 2017. While the non-college-to-college degree gap increased substantially, from 20.3 to 30.1 percentage points between 1979 and 2017, Panel B shows that this growing divergence was caused entirely by rising lousy-job rates for non-college degree workers.

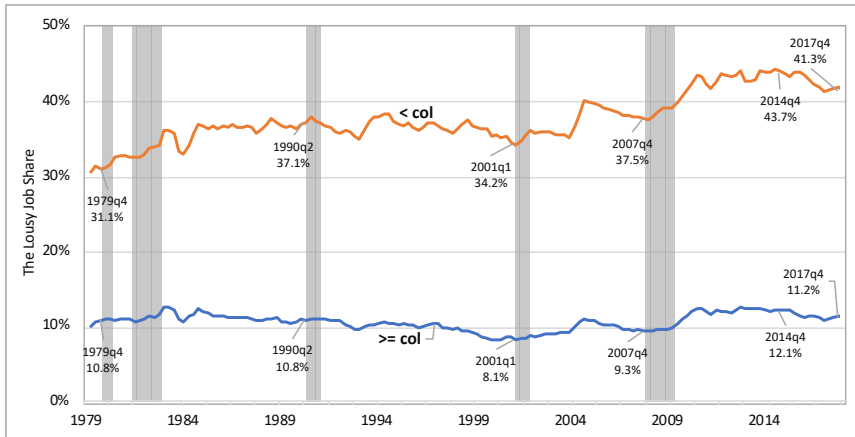
**Panels C and D** show a much larger *education gap* in the incidence of lousy jobs for female than male workers, but the education gap has increased substantially between 1979 and 2017 for both: from 28.3 to 36.1 percentage points female workers (Panel C) and from 12.4 to 25.7 points for male workers (Panel D). While female non-college degree lousy job rates increased only moderately between 1979 and 2017 (Panel C), from 46.4 to 49.6 percent, for less-educated male workers they almost doubled, from 18.9% to 34.4% [Panel D]. For workers with a college degree, the incidence of lousy jobs fell for female workers, from 18.1 to 13.5% (Panel C) but rose for male workers, from 6.5 to 8.7% (Panel D). The result has been a strong convergence in the gender gap for both college and non-college degree workers: for less-than-college workers, from a female-to-male lousy job difference of 27.5 points in 1979 (46.4% vs. 18.9%) to 15.2 points (49.6% vs. 34.4%); and for college degree holders, from a gap of 11.6 points (18.1% vs. 6.5%) to just 4.5 points (13.5% vs. 8.7%).

**Figure 10: Lousy Job Employment Rates for All Workers (18-64) by Gender and Education, 1979-2014**

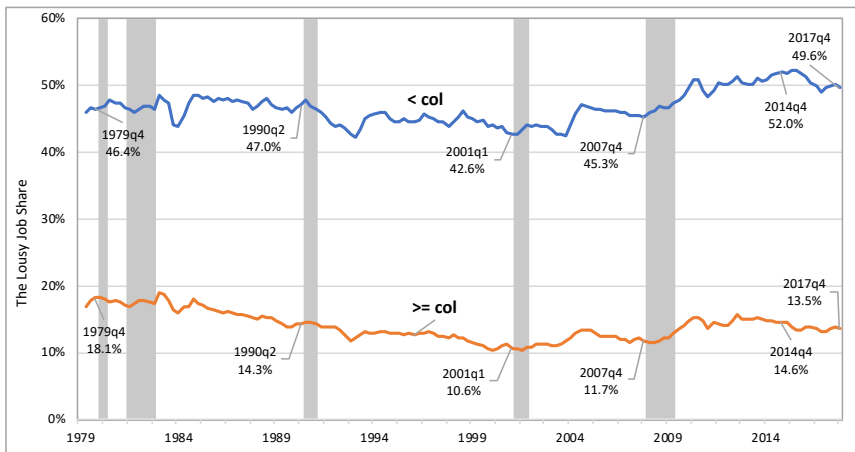
Panel A: Lousy Job Rates by Gender



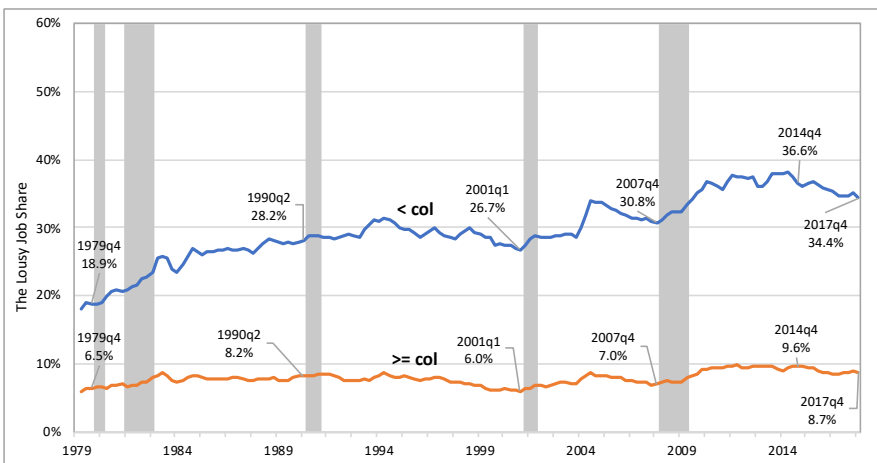
Panel B: Lousy Job Rates by Education



Panel C: Female Lousy Job Rates by Education



Panel D: Male Lousy Job Rates by Education

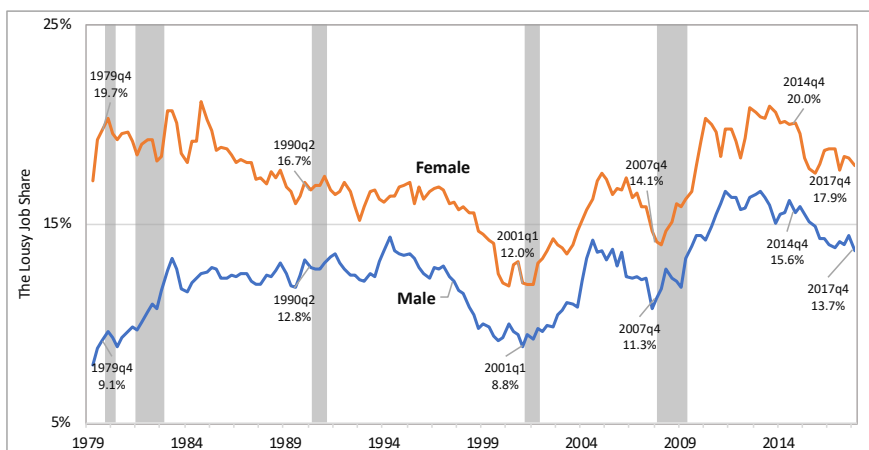


Source: author's calculations of CPS-ORG data (CEPR).

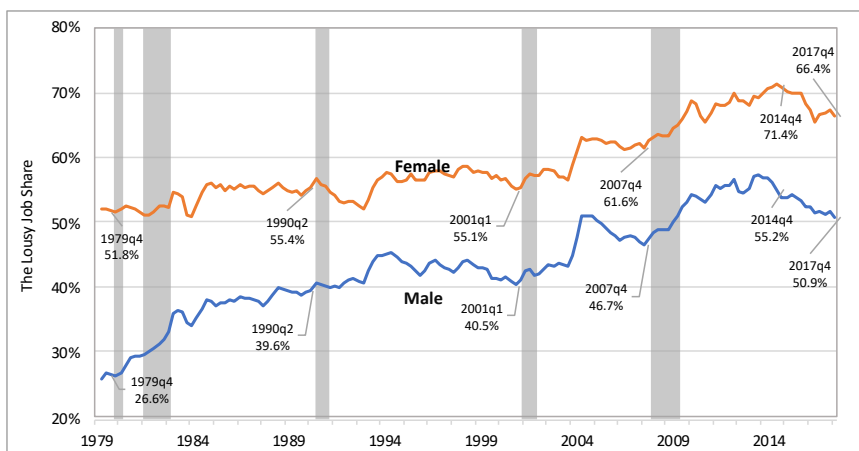
**Figure 11** shifts the focus to young workers by education and gender. **Panel A** shows strong U-shaped trends for both female and male college-educated workers along with a strong gender-gap convergence between 1979 and the early 1990s recession, from 10.6 percentage points in 1979 to 3.9 points in 1990, after which it held steady (4.2 points in 2017). An entirely different picture appears in **Panel B**, which reports steadily worsening lousy-job rates for both young female and male workers without a college degree: from 51.8 to 66.4 percent for female workers and from 26.6 to 50.9 percent for male workers. The gender gap for young non-college degree workers fell from 25.2 to 15.8 percentage points in the 1980s and has remained about the same since (15.5 points in 2017).

**Figure 11: Lousy Job Rates for Young Workers (18-34) by Gender and Education, 1979-2014**

Panel A: Lousy Job Rates by Gender for Young Workers with at Least a College Degree



Panel B: Lousy Job Rates for Young Workers with Less Than a College Degree by Gender



Source: author's calculations of CPS-ORG data (CEPR).

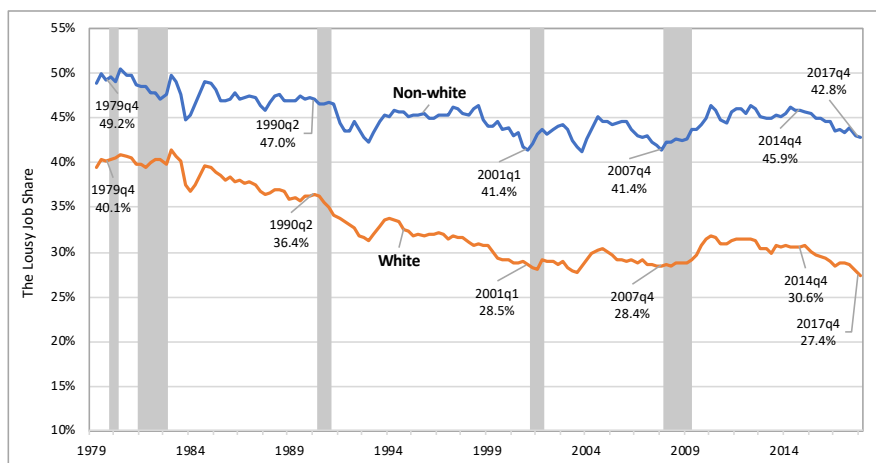
### 6.2.b. Lousy-job Incidence by Race

In contrast to the strong convergence in lousy-job rates by gender, the lousy-jobs *race gap* for 18-64 workers has widened for both males and females, but the story of trends by race becomes more complicated for groups distinguished by age and education. The overall trends in the lousy-job employment rate for all (18-64) white and nonwhite workers are shown in **Figure 12. Panel A** reports that the female non-white incidence of lousy jobs has fluctuated around 45 percent, ranging from 49.2 percent in 1979 to 42.8 percent in 2017, while the white female lousy-job rate fell substantially, from 40.1 percent in 1979 to 27.4 percent in 2017. As a result, the female racial lousy-job gap grew by over 6 percentage points, from a gap of 9.1 points in 1979 to 15.4 points in 2017. This expansion of the female racial lousy-job gap took place mainly before 2000; the rates have moved together between 2011 and 2017.

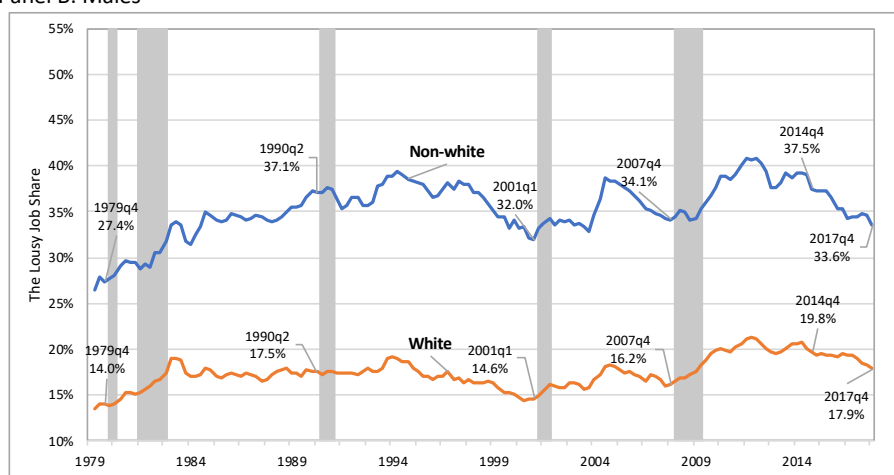
**Panel B** presents lousy-job rates for male workers by race. White male rates increased from 14 to 17.9 percent between 1979 and 2017, but the figure shows little upward trend, fluctuating between 15 and 18 percent between 1980 and 2010. In contrast, nonwhite male lousy-job rates increased sharply between 1979 and 1994, from 27.4 percent to almost 40 percent. It has fluctuated since, between 32 and 41 percent, and was 33.6 percent at the end of 2017 – 6.2 percentage points above the rate in 1979. Comparing endpoints, the male racial wage gap increased from 13.4 to 15.7 percentage points over these four decades.

**Figure 12: Lousy Job Rates for All Workers (18-64) by Race and Gender, 1979-2017**

Panel A: Female



Panel B: Males



Source: author's calculations of CPS-ORG data (CEPR).

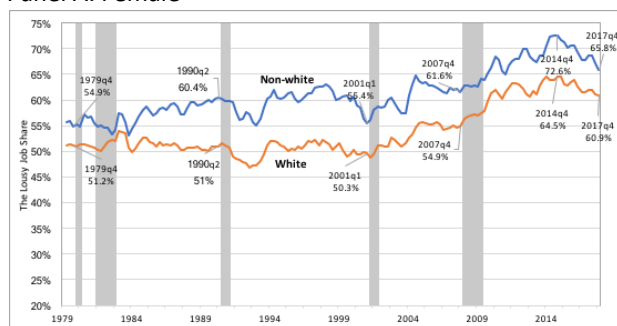
**Figure 13** shows that outcomes by race look quite different for young workers by education and gender, with much smaller racial lousy-job rate gaps and either stability or convergence since the 1990s. **Panel A** shows rising nonwhite female lousy-job incidence between 1979 and the mid-1990s, from 54.9 percent in 1979 to 60.9 percent in 1999, then a sharp back to about 55 percent in the late 1990s through 2001, followed by a steady climb to 72.6 percent in 2014, ending at 65.8 percent at the end of 2017. For young white women, the incidence of lousy jobs was stable for the first two decades at around 50 percent through 2001, and then increased steadily to 64.5 percent in 2014 before falling to 60.9 percent in 2017. Panel A shows that the female non-college racial lousy-jobs gap widened from under 4 percentage points in 1979 to almost 11 points in 1999, fell to 5.1 points in 2001, and remained at about 5 points through 2017.

For young men without college degrees, **Panel B** reports that lousy-job rates increased for both white and non-white workers between 1979 and the mid-1990s, fluctuated together over the next two

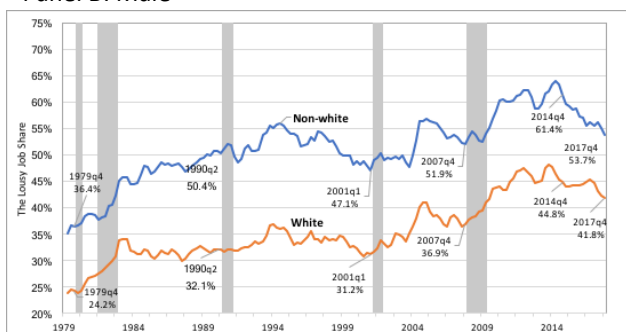
decades, and ending far higher at the end of 2017 (53.7% for nonwhites and 41.8% for whites) than in 1979 (36.4% for nonwhites and 24.2% for whites). As a result, the racial lousy-jobs gap for young men rose from 12.2 points in 1979 to 21 points in 1997, then fell to 15 points in 2007 and dropped further to 12 points in 2017. The takeaway for young male workers without a college degree is that job quality has steadily and dramatically worsened, and that by race there are two stories: a strong divergence between 1979 and the mid-1990s, and strong convergence since, resulting in the same 12-point gap at the beginning and end of these four decades.

**Figure 13: Lousy Job Rates for Young Workers (18-34) Without a College Degree by Race, Gender, 1979-2017**

Panel A: Female



Panel B: Male

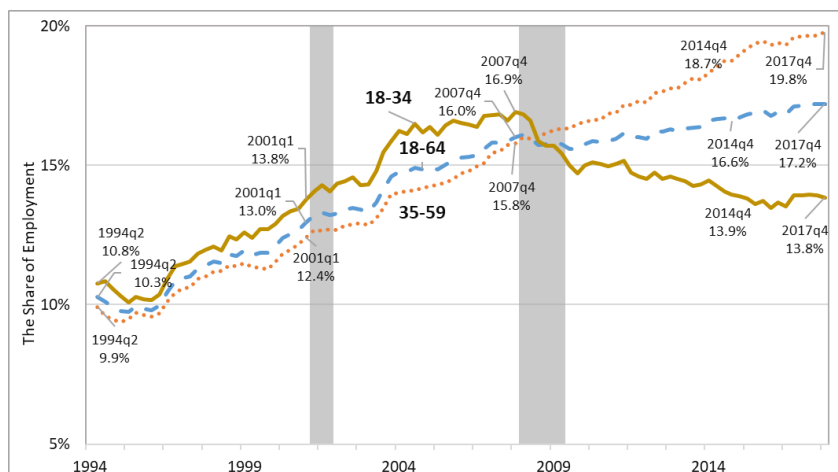


Source: author's calculations of CPS-ORG data (CEPR).

### 6.2.c. Incidence by Nativity

The foreign-born share of employment has increased sharply since the 1970s, sparking controversy over the effects on labor market outcomes for native-born workers. **Figure 14** shows the foreign-born share of employment since 1994, the earliest available data from the CPS. The employment share for all foreign-born workers (18-64), young workers (18-34) and prime-age workers (35-59) all rose until the onset of the 2008 recession, with young workers growing fastest until about 2005. In just 13 years, from the second quarter of 1994 to the end of 2007, foreign-born workers increased from 10.3 to 16 percent of all 18-64 workers, and the young foreign-born share increased from 10.8 to 16.9 percent. But since 2007, the young foreign-born share has plunged, from 16.9 in 2007q4 to 14.7 percent in 2009q4, and then further to 13.8 percent at the end of 2017. Interestingly, the foreign-born share of prime-age workers continued to increase between 2007 and 2017 (from 15.8 to 19.8%), resulting in an overall increase in foreign-born share over the last decade from 16.0 to 17.2.

**Figure 14: The Foreign-born Share of Employment by Age, 1994-2017**



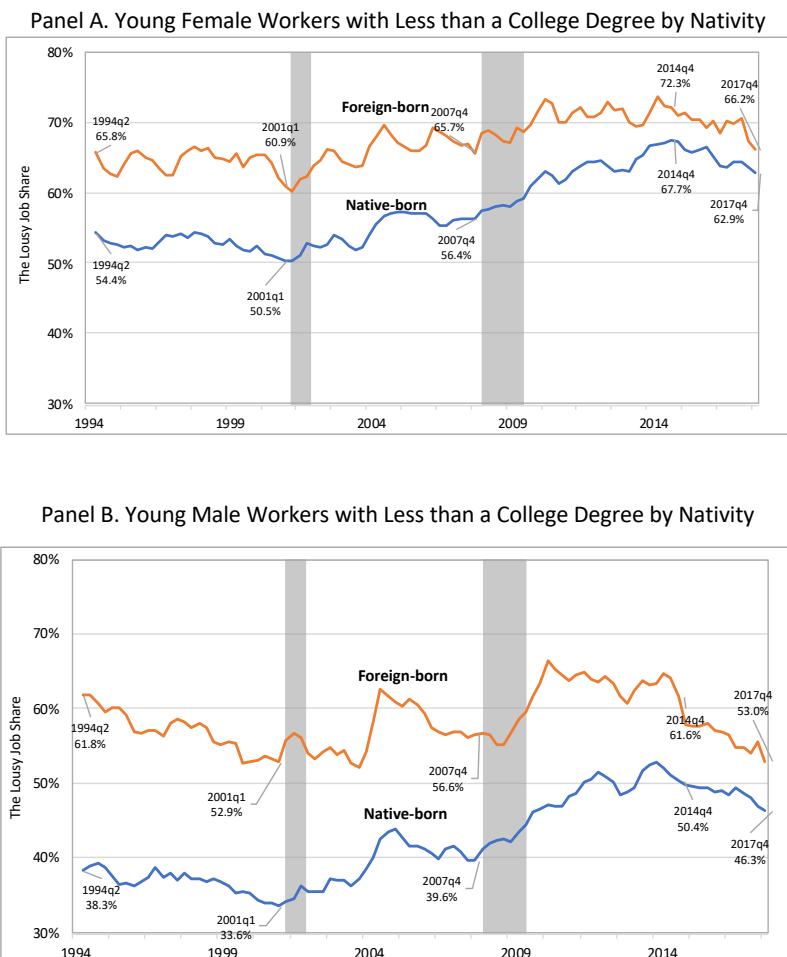
Source: author's calculations of CPS-ORG data (CEPR).

**Figure 15** shows the incidence of lousy jobs for young workers by nativity, gender and education. Panels A and B report that for young female and male workers without a college degree, foreign-born workers have consistently experienced a higher incidence of lousy jobs than native-born workers. But there has also been a notable convergence, as the lousy-job rate increased (worsened) at a faster rate after 2000 for both native-born males and females. **Panel A** reports that as the female native-born lousy-job rate increased from 50.5 percent in 2001 to 62.9 percent in 2017, the female foreign-born incidence rose from 60.9 percent to 66.2 percent, causing the lousy-jobs gap between young native- and foreign-born female workers to fall from 10.4 to just 3.3 percentage points (panel A). Even more dramatically, **Panel B** shows that as the young native-born non-college male incidence of lousy jobs rose from 33.6 percent in 2001 to 46.9 percent in 2017 while the male foreign-born share actually fell, from 56.6 to 53 percent, leading the male nativity lousy-jobs gap for young men to fall precipitously, from 23.5 to 6.7 percentage points.<sup>46</sup>

**Figure 15: The Lousy Job Rate for Young (18-34) Workers with Less than a College Degree**

<sup>46</sup> For workers with a college degree (not shown) lousy job rates for native- and foreign-born young workers are much closer and have converged for both males and females. For young college-degree workers, between 2014 and 2017 there has been little or no nativity gap for both females and males.

### by Gender and Nativity, 1994-2017



Source: author's calculations of CPS-ORG data (CEPR).

### 6.3 Changes in Lousy-Job Quality for Young Workers

As the incidence of lousy jobs has exploded for young male and female workers without a college degree, and has risen substantially even for both young male and female college graduates (Figure 11), how has the wage quality of lousy jobs changed for these young workers? The four panels of **Figure 16** show changes in job quality as measured by the lousy-job median wage for young workers with and without a college degree by gender. These panels also show the overall median wage for all jobs held by each of these four demographic groups.

These two metrics, the overall median wage and the lousy-job median wage, are shown in **Panel A** for young male workers without a college degree. The lower series shows that stagnation best characterizes lousy-job wages for these workers: the lousy-job median rose slightly from \$9.74 in 1979 to \$9.99 just before the 2001 recession and reached \$10.27 by the end of 2017: a gain of 53 cents in 38



years. At the same time, the overall median wage for young men without a college degree fell sharply towards the lousy-job median: from \$16.34 in 1979 to \$14.20 in 2001, and to just \$13.25 at the end of 2017. Taken together, these two series indicate substantial downward wage compression for young non-college degree men in the bottom half of the wage distribution. Since the lousy-wage cutoff (two-thirds of the median for all full-time workers) rose from \$12 to \$13.33 between 1979 and 2017, the median wage for these young non-college educated workers in all jobs fell from \$4.34 above the cutoff (\$16.34 compared to \$12) to 8 cents below it (\$13.25 compared to \$13.33). As their overall median wage was collapsing, their median wage in lousy-wage jobs rose from 60 percent of the overall median (\$9.74 versus \$16.34) to 77.5 percent (\$10.27 versus \$13.25), while their pay in real terms rose only slightly (from \$9.74 to \$10.27). This is a clear example of downward convergence, with the lousy-wage median constrained from below by minimum wage laws and social norms.

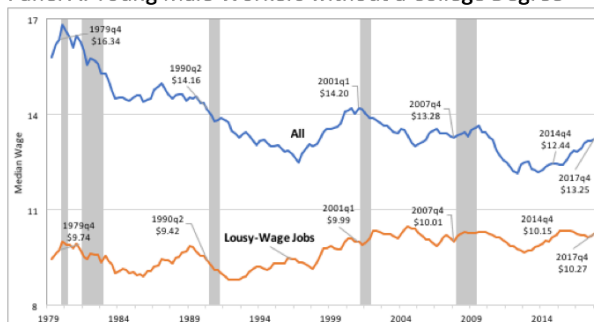
**Panel B** reports similar results for young non-college degree female workers. The lousy job median ranged from \$9.53 in 1979 to \$10.00 in 2017 - a gain of just 47 cents in 38 years. Wage compression is also visible in this panel, beginning in the early 1990s: the gap between the overall median and the lousy-job median fell from \$2.47 in 1990 to \$1.68 in 2017.

Like the results for young workers without a college degree employed in lousy jobs, **Panels C and D** report that college-educated workers in lousy jobs experienced only very small increases in wages over these four decades, from \$9.96 to \$11.10 for males and from \$10.05 to \$11.00 for females. But quite unlike Panels A and B for non-college degree workers, the gap between the median for all jobs and the median for lousy-wage jobs is stable for young college-degree male workers (Panel C) and diverging for female workers (Panel D).

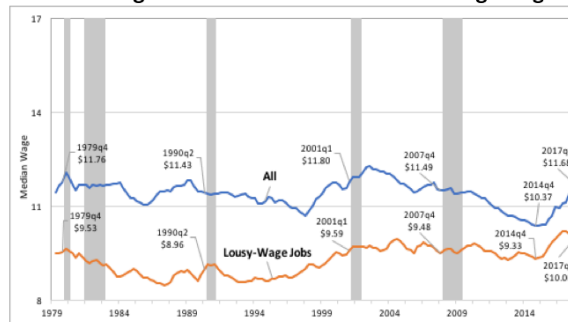
In short, there was a declining penalty for young male and female workers without a college degree for working in lousy-wage jobs (because of downward convergence), stability for young college-educated men, and a growing penalty for college-educated women (because the overall median was growing relative to the lousy-wage median).

**Figure 16: The Overall and Lousy Job Median Wage for Young Workers (18-34) by Education, 1979-2017\***

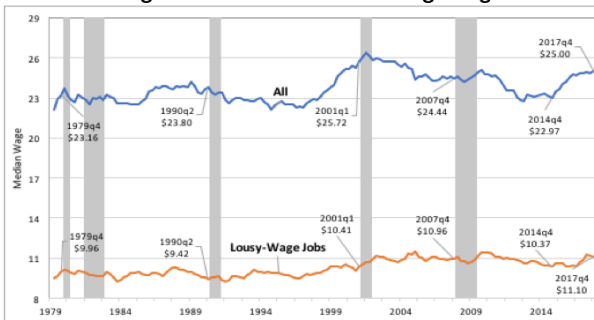
Panel A: Young Male Workers without a College Degree



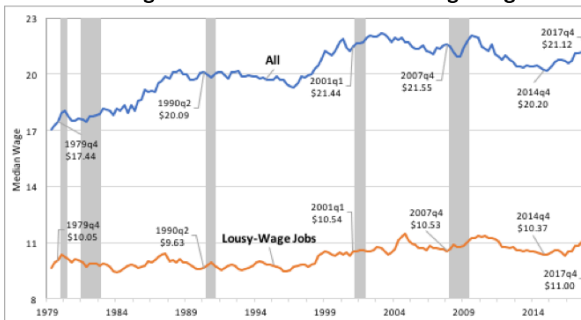
Panel B: Young Female Workers Without a College Degree



Panel C: Young Male Workers with a College Degree



Panel D: Young Female Workers with a College Degree



Source: author's calculations of CPS-ORG data (CEPR).

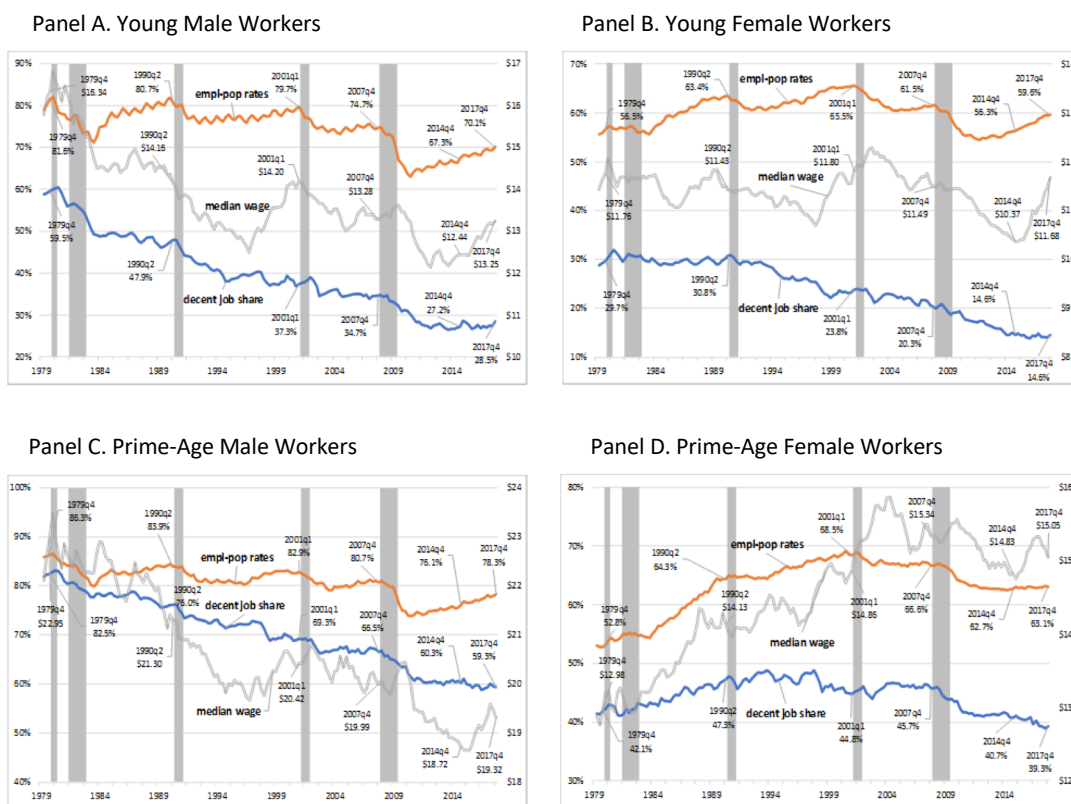
## 7. From Declining Job Quality to Nonparticipation

One of the striking and not well-understood labor market developments in recent decades is declining labor force participation rates. The decline in the male labor force participation began in the late 1960s and has accelerated since the late 1990s for young men ages 18-19, 20-24, and 25-34 (Krueger, 2017: Appendix Figures A2, A3 and A4). In contrast, young female participation rates increased over the three decades prior to the late 1990s, but since 1998-99 have stabilized or fallen (Krueger, 2017, Appendix Figures A10, A11 and A12).

Can collapsing job quality help explain recent declines in labor force participation? For workers deciding whether or not to work for pay, the quality of job opportunities should matter, but the literature has been strangely silent on this seemingly obvious determinant (e.g., see Abraham and Kearney, 2018). However, a recent report by the President's Council of Economic Advisors (2016) found that wage levels and wage inequality (the 90-10 ratio) helped account for prime-age male labor force participation rates between 1977 and 2015, noting that when firms pay lower wages, some workers will be "unwilling to work at these lower wages and (will) drop out of the labor force" (p. 28).

Figure 17 offers some suggestive evidence in support of a close link between trends in job quality and employment rates for workers without a college degree, at least since the late 1990s, but only since the late 1990s. **Panel A** shows that despite large declines in both the median wage and the incidence of decent jobs, the young male employment rate was nearly as high in 2001 (79.7%) as it was in 1979 (81.6%). But with the 2001 recession, and especially the 2008-9 crisis, employment rates ratcheted downwards, tracking declines in both job quality metrics: the median wage for these men fell from \$14.20 in 2001 to \$12.44 in 2014, and the decent job share fell by more than 10 percentage points, from 37.3 to 27.2 percent. Notably, as the decent job share for these workers stabilized and the median wage increased between 2014 and 2017, so did the employment rate (from 67.3% to 70.1%).

**Figure 17: Decent Job Rates, the Median Wage and Employment Rates for Young (18-34) And Prime-Age (35-54) Male and Female Workers without a College Degree, 1979-2017**



Source: author's calculations of CPS-ORG data (CEPR).

These indicators are shown for young female workers without a college degree in **Panel B**. The employment rate increased from 56.5 percent in 1979 to 65.5 percent in 2001 despite a median wage that fluctuated between \$11 and \$12 and a declining incidence of decent jobs in the 1990s (from 30.8% in 1990 to 23.8% in 2001). But like their male counterparts, young female employment rates fell

between 2001 and 2014, and then increased from 2014 to 2017, tracking the declines and then the increases in their median wage and the decline and then stability of their decent-job rate.

Panels C and D offer similar support for a strong link between job quality and employment rates for prime-age workers. For non-college-degree male workers ages 25-54, **Panel C** shows a long-term decline in the median wage and decent-job rate between 1979 and 2017 and stability of the employment rate in the 1980s and then a decline between 1990 and 2011. Again, the trends since the 2008-9 recession may be instructive: prime-age male employment rates turned upwards as the decent-jobs rate stabilized and median wages increased after 2014. Perhaps the strongest evidence is shown in Panel D for prime-age female workers: each series is shaped as an inverse-U, with a decent-jobs rate peak in 1994-98, a median wage peak around 2004-05, and an employment rate that peaks in 2001, between the peaks of the two job quality metrics.

## 8. Conclusion: Skills, Bargaining Power and Job Quality

There is well-established evidence that that wages levels have been stagnant or fallen while wage inequality has exploded since the late 1970s, typically measured by comparing averages (production and nonsupervisory wages) or percentiles of the wage distribution. This evidence, though powerful, is a step removed from what has been happening to job quality experienced by workers, as measured by the likelihood of getting a job that pays above or below a particular wage quality threshold – one that corresponds to the standard of living that can be attained from work with a full-time job. The central contribution of this paper is to explore the performance of the American labor market with three indicators of job quality - the incidence of decent, low, and lousy jobs - that confirm a dramatic worsening of labor outcomes since 1979. These job quality indicators are defined by wage thresholds associated with common understandings of standards of living made possible by full-time work, relying on basic-needs budget evidence: the decent-wage threshold, defined as two-thirds of the mean full-time wage for prime-age workers (\$17.50 in 2017), marked the cutoff between low- and decent-wage jobs; the lousy-wage threshold, defined as two-thirds of the median wage for all full-time workers (\$13.33 in 2017), distinguished lousy-wage jobs from upper-tier low-wage jobs (between \$13.33 and \$17.50).<sup>47</sup> The main task of the paper was to explain this approach to the measurement of job quality outcomes and to present results for all three incidence indicators (lousy-, low-, and decent-wage jobs) for the nearly four

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<sup>47</sup> This paper presented these incidence rates for earnings, using both wage thresholds alone and wage thresholds combined with the adequacy of hours worked (involuntary part-time employment).

decades between 1979 to 2017 by demographic group, defined by gender, age, education, race and nativity.

Among the key findings are that, across most demographic groups - but especially for young workers without a college degree - the incidence of lousy jobs has steadily and sharply risen for male workers since 1979, and for female workers since the late 1990s, but an important consequence of this extremely poor labor market performance can be viewed as strongly positive - the striking convergence between male and female job quality rates. Similarly, there has been a substantial convergence between native- and foreign-born lousy-job rates, but a large divergence by race for all workers (but not for young workers or for those with a college degree). There has been an astonishing decline in the number of decent jobs generated per dollar of GDP since the 1980s, particularly for young workers without a college degree, but it also appears for those with at least a college degree. As should be expected, workers - both young and prime-age, male and female - appear to have responded to this four-decade collapse in job quality by dropping out of the labor force, at least since the late 1990s.

The task of this paper was not to explain these developments, but this concluding section briefly outlines some evidence that points to a central role of political choices that have led to important shifts in public policies and corporate governance practices which have systematically undermined worker bargaining power.

In the mainstream economics literature, the dominant explanation for stagnant wages and rising wage inequality has been shifts in the supply and demand for skills – an account that follows directly from the core assumptions of the competitive market model (Howell and Kalleberg, 2019). The crux of the post-1980 wage problem in this view is that as the computerization of the workplace has increased the demand for skills, the supply of college-degree workers failed to keep pace. Because computer technologies most easily substitute for workers doing routine non-cognitive tasks, employment becomes polarized, with faster job growth at the bottom and top than in the middle of the skill (wage) distribution. Autor and Katz (2010, 1) offer a good summary of this view:

“Two forces are rapidly shifting the quality of jobs, reshaping the earnings distribution, altering economic mobility, and redefining gender roles in OECD economies. These forces are, one, employment polarization (a demand-side force) and, two, a reversal of the gender gap in higher education (a supply-side force), reflecting women’s rising educational attainment and men’s stagnating educational attainment. The result has been a labor market that greatly rewards workers with college and graduate degrees but is unfavorable to the less-educated, particularly less-educated males.”

In short, as Goldin and Katz (2009, 1) put it, “Stripped to essentials, the ebb and flow of wage inequality is all about education and technology.”<sup>48</sup>

While empirical support for this computer-driven skill mismatch account has been strongly challenged in the recent literature (Mishel et al., 2013; Hunt and Nunn, 2019; for an overview, see Howell and Kalleberg, 2019), some basic descriptive evidence alone raises questions about how this account stands up. As described above, the average market income for working-age adults in the bottom half of the distribution fell by about 6 percent between 1980 and 2014 (Figure 2). The skill-mismatch explanation has focused on the slowdown in the college-educated share of the workforce, but as Schmitt et al. (2018) show, it is hard to imagine a more rapid increase in educational credentials than what took place between 1979 and 2017: a decline of the share of the workforce with a high school degree or less from 59.9 to 34.4 percent, an increase for those with some college from 21.6 to 28.7 percent, and an increase of the college-degree share from 12.5 to 23.7 percent. And yet, inflation-adjusted median wages fell for both young and prime-age workers - male and female - over these four decades (figure 17).

**Table 6** shows how much educational upgrading has taken place among workers with less than a college degree by gender and age, for all jobs and for workers in lousy jobs. This is a key level of educational attainment for workers in the middle-wage, routine-task jobs focused on by the mainstream mismatch literature. Panel A indicates that there has been a substantial and fairly steady increase in the some-college share of all workers without a college degree over these four decades: from 28.1 to 46.9 percent for all (18-64) workers, and from 35.5 to 49.7 percent for young (18-34) workers. Panel B shows that strong educational upgrading is also evident for workers holding lousy jobs, though far more impressive for female than male workers. For example, the share of non-college degree young female workers with some college in lousy jobs rose from 32.2 to 52.3 percent, while the increase for their male counterparts was from 34.4 to 40.2 percent. But these data also point to a big gender gap, most pronounced for the 1979-2000 period: while the female share of non-college degree workers with some college in lousy jobs rose from 32.2 to 41.7 percent, the male rate fell from 34.4 to 33 percent (but subsequently increased to 40.2 percent by 2017). There is no evidence that the tasks required in most lousy-wage jobs (e.g., those in food services, retail sales and personal care occupations – see Tables 4 and 5) require college or even some college.

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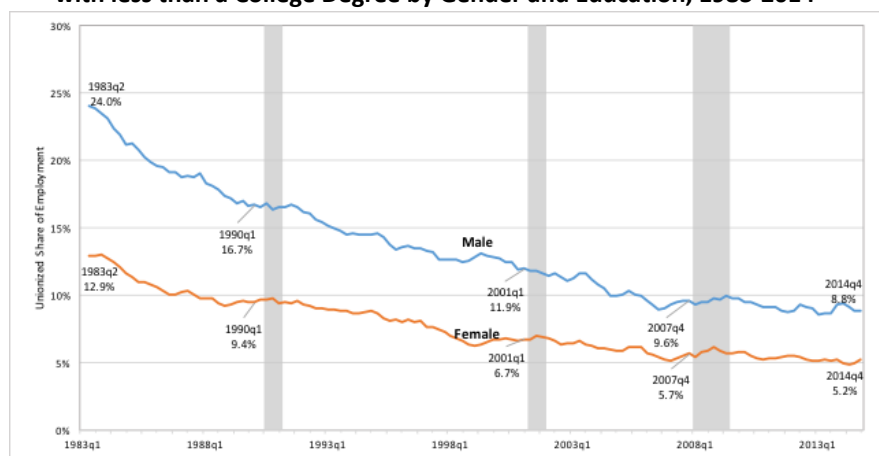
<sup>48</sup> See for example Autor, Katz and Kearney, 2008; Goldin and Katz 2007, 2008; Autor and Katz 2010; Acemoglu and Autor 2011; 2012; Autor and Dorn 2013).

**Table 6: Workers with Some College as a Share of Workers with Less than a College degree, 1979-2017**

Panel A: All Jobs	Ages 18-64			Ages 18-34		
	Total	Female	Male	Total	Female	Male
1979q2	28.1	28.3	27.8	35.5	35.7	35.3
1990q2	34.8	36.5	33.3	38.4	42.4	35.0
2000q2	41.5	44.6	38.6	43.2	48.6	43.2
2017q2	46.9	52.4	42.3	49.7	56.7	44.2
Panel B: Lousy Jobs						
1979q2	25.1	23.9	27.4	33.0	32.2	34.4
1990q2	28.7	29.2	27.8	34.3	36.9	31.3
2000q2	33.2	35.6	29.8	37.7	41.7	33.0
2017q2	35.4	45.3	40.8	46.4	52.3	40.2

Source: author's calculations of the CEPR CPS-MORG data.

As workers were increasing their skills, at least as measured by educational attainment, they were increasingly less likely to be union member. Collective bargaining and protective public policies, like minimum wage legislation, have helped counter employer efforts to reduce wages, but protective labor institutions and policies have been under intense attack since the inauguration of President Ronald Reagan in 1981. Combined with the effects of declining employment in formerly union-intensive goods-producing sectors, anti-union efforts via public policy initiatives and corporate actions have led to precipitous declines in membership and coverage. **Figure 18** shows that the share of young (18-34) male workers with less than a college degree who were union members fell from 24% in 1983 to 11.1% in 2001, and fell further to just 8.8% in 2014; for similar female workers, the union share fell from 12.9% to 6.7% to 5.2%.

**Figure 18: Union Member Share of Employment for Young (18-34) Workers with less than a College Degree by Gender and Education, 1983-2014**

Source: author's calculations of the CEPR CPS-MORG data.

The erosion of the value of the federal minimum wage has also contributed to the spread of

lousy- and low-wage jobs. Recent evidence overwhelmingly supports the existence of large positive wage effects with little or no harmful consequences for employment or even hours worked (see for example Card and Krueger 1995; Dube et al. 2010; Schmitt 2013; Cengiz et al. 2018). While recent minimum wage legislation at the state and local levels has had important effects for workers holding lousy jobs, the federal minimum wage remains at \$7.25 - only slightly above *half* of the 2017 lousy-wage threshold of \$13.33. A substantially higher federal minimum wage seems necessary to increase the median wage for young workers without a college degree, which was just \$10.27 for males and \$10.00 for females in 2017 (for a discussion of the “right” minimum wage, see Howell et al. 2016).

The norms governing employer wage policies have also shifted, promoted by the influence of efficient market theories and more generally by the growing acceptance of neoliberal ideology in the 1970s and 1980’s, which helped open up the political space for substantial deregulation of financial, product and labor markets. As firms increased their monopsony power and the countervailing effects of protective labor institutions declined, employers took advantage of this new ideological and policy setting to reconfigure the employment relationship and the organization of the workplace. According to David Weil’s fissured workplace hypothesis, an important driver of the growth in wage inequality “over the last three decades has been an evolution of business organization that has fundamentally altered the employment relationship and, in turn, the way that wages are set for workers in a growing range of industries” (2017, 210). The goal was to have the same workers doing exactly the same tasks in the same jobs at a much lower cost less by hiring them via specialized outside contractors (224). Examples include janitors, security guards, cleaning service and food service workers. Considering the post-1979 increase in outsourcing to low-wage contractor firms, Eileen Appelbaum’s research points to a “new labor market segmentation between lead firms and contractor firms.... The position of the worker’s employer in the production network directly affects the worker’s pay and working conditions. Thus, worker’ wages depend not only on their own productivity characteristics, but on the relative power of their employer vis-à-vis other organizations in the network” (2017, 14). Elizabeth Handwerker and James Spletzer (2015) and Handwerker (2018) provide strong supporting evidence of the growth in employment outsourcing and its effect on wages by measuring changes in occupation concentration, defined as the variety of occupations in particular establishments (2015).

Beyond outsourcing, employers make use of a myriad of methods to reduce labor costs. As the labor journalist Steven Greenhouse (2019) has put it: “As workers’ power has waned, many corporations have adopted practices that were far rarer — if not unheard-of — decades ago: hiring hordes of unpaid interns, expecting workers to toil 60 or 70 hours a week, prohibiting employees from suing and instead



forcing them into arbitration (which usually favors employers), and hamstringing employees' mobility by making them sign noncompete clauses."

As Figures 1 and 2 illustrated, trends in wage and income inequality increased sharply around 1980, as did the decoupling of average worker compensation from productivity trends. This timing is no coincidence. Like Joseph Stiglitz (2012), Tony Atkinson (2015) and Alan Krueger (2018) among many other prominent economists, Angus Deaton (2019) explains the remarkably sudden U-turn away from shared growth as a reflection of the effects of political choices: "In the face of globalization and innovation, many of us would argue that American policy, instead of cushioning working people, has instead contributed to making their lives worse, by allowing more rent-seeking, reducing the share of labor, undermining pay and working conditions, and changing the legal framework in ways that favor business over workers." In his words, these are "mechanisms of enrichment" that generate inequality "through upward transfers from workers." This argument about the significance of ideological, policy, and institutional settings for labor market outcomes can also be explored through cross-country comparisons, particularly with other rich countries whose labor markets face similar technological and global challenges, the subject of a forthcoming companion paper.

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