

Federal Reserve Bank of New York
Staff Reports

Can Low-Wage Workers Find Better Jobs?

Todd Gabe
Jaison R. Abel
Richard Florida

Staff Report No. 846
April 2018



This paper presents preliminary findings and is being distributed to economists and other interested readers solely to stimulate discussion and elicit comments. The views expressed in this paper are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System. Any errors or omissions are the responsibility of the authors.

Can Low-Wage Workers Find Better Jobs?

Todd Gabe, Jaison R. Abel, and Richard Florida

Federal Reserve Bank of New York Staff Reports, no. 846

April 2018

JEL classification: J01, J24, J61, J62

Abstract

There is growing concern over rising economic inequality, the decline of the middle class, and a polarization of the U.S. workforce. This study examines the extent to which low-wage workers in the United States transition to better jobs, and explores the factors associated with such a move up the job ladder. Using data covering the expansion following the Great Recession (2011-17) and focusing on short-term labor market transitions, we find that around 70 percent of low-wage workers stayed in the same job, 11 percent exited the labor force, 7 percent became unemployed, and 6 percent switched to a different low-wage job. Troublingly, just slightly more than 5 percent of low-wage workers found a better job within a 12-month period. Study results point to the importance of educational attainment in helping low-wage workers move up the job ladder.

Key words: low-wage jobs, career ladder, labor market dynamics

Abel: Federal Reserve Bank of New York. Florida: University of Toronto. Gabe (corresponding author): University of Maine (email: todd.gabe@maine.edu). The views expressed in this paper are those of the authors and do not necessarily reflect the position of the University of Maine, the University of Toronto, the Federal Reserve Bank of New York, or the Federal Reserve System.

I. INTRODUCTION

The act of finding a better job is not only at the heart of economic development (Gabe, 2017), but it's a veritable cornerstone of the American Dream of upward mobility, rising living standards, and a higher quality of life. However, over the past few decades, the ladder of upward mobility (e.g., children earning more money than their parents) has stalled (Chetty et al., 2017). Moreover, a growing polarization of the U.S labor market—documented by Autor, Katz, and Kearney (2006) and Acemoglu and Autor (2011), among others—has made it more difficult for a large portion of the U.S. workforce to find a good job.

While the economic fortunes of highly-skilled workers have improved substantially since the early 1980s, traditional middle-skill workers have seen their jobs disappear; forcing more U.S. workers to take lower-wage jobs (Cortes, 2016). Technological change (e.g., automation) and globalization (e.g., substituting relatively low-cost labor from other countries) are two of the driving forces behind these employment patterns. These same forces have increased labor market opportunities for highly-skilled workers, particularly those who create technology or utilize it to become more productive. Likewise, many low-skill service industry jobs, which are largely insulated from these forces because they require physical proximity or face-to-face contact, have also grown steadily and become a larger part of the U.S. labor market (Autor & Dorn, 2013). As a result, the U.S. middle class has declined as the labor market and class structure has split into a small group of high-wage knowledge, professional and creative workers and a much larger cohort of low-wage workers in routine blue-collar and service jobs (Florida, 2017; Temin, 2017). These changes in the composition of employment opportunities, coupled with the rising returns to skill, have been major contributors to economic inequality in the United States (Autor, 2014; Goldin & Katz, 2010; Murphy & Topel, 2017).

A potential way to address the growing divide between the rich and poor is for more workers in low-wage jobs to move up the job ladder. Finding a better job can bring higher wages, a more favorable work schedule, a greater likelihood of receiving employer-provided benefits, or simply more prestige. These benefits, which often improve the wellbeing of individuals—and their families, children, and communities—have prompted policymakers and economic development officials to support programs aimed at crafting pathways that help workers shift out of low-wage, lower-skill jobs into better paying, higher-skill ones. These strategies include education and training, apprenticeship programs, and even some types of financial incentives provided directly to companies.

From the standpoint of public policy, the severity of the problem of low-wage jobs depends, in large part, on the ease with which workers can transition to better jobs. If low-wage jobs are simply a stepping stone to higher-quality jobs, then the problem of low-wage work can be solved via the labor market. If, on the other hand, people tend to get trapped in low-wage jobs that are difficult to escape, then some more proactive policies may be warranted. As a gauge for the importance and potential role of policy, information is needed on the transitions of workers in low-wage jobs and the obstacles that they face.

This paper examines the short-term transitions—i.e., those of a year or less—of people working in low-wage jobs, as well as the factors that are associated with moving into a better job. We develop a metric of job quality to identify low-wage jobs based on average hourly pay, the desirability of the workweek (relative to a full-time job of 40 hours), the likelihood of receiving employer-provided health insurance, and the occupation's prestige. Worker transitions are examined using individual-level data from the U.S. Current Population Survey through the expansion that has followed the Great Recession (2011-2017). With our focus on the fortunes of

low-wage workers, the specific outcomes considered are: exiting the labor force, becoming unemployed, remaining in the same job, moving into a different low-wage job, or finding a better job. The regression models, estimated using a multinomial logit framework, include individual-level characteristics such as educational attainment and age, as well as controls for the industry of work. Our findings show that only a relatively small percentage of low-wage workers transition into better jobs. In fact, low-wage workers are more likely to become unemployed than to move up the job ladder. The analysis further points to the importance of educational attainment in helping low-wage workers transition into higher-quality occupations. Among the types of jobs that facilitate this transition, sales-related occupations, administrative support jobs, and truck drivers appear to offer a particularly important pathway for escaping low-wage work.

Related Literature

Other studies have analyzed occupational and labor market mobility in the United States (Kambourov & Manovskii, 2008; Moscarini & Thomsson, 2007) and the rest of the world (Bachmann et al., 2015; Lalé, 2012; Stier & Endeweld, 2015; Theodossiou & Zangelidis, 2009). Although much of this work examines the mobility of workers across the entire spectrum of job types, some studies have focused on the movement of U.S. workers in technology-based occupations and businesses (Almeida & Kogut, 1999; Fallick, Fleischman & Rebitzer, 2006; Freedman, 2008). Related research has examined occupational mobility over the lifecycle (Gervais et al., 2016; Gorry, Gorry & Trachter, 2014; Topel & Ward, 1992) and the impacts of personal characteristics (e.g., gender) on labor market transitions (Bleakley & Lin, 2012; Stier & Endeweld, 2015; Theodossiou & Zangelidis, 2009; Wilkins & Wooden, 2013). These studies show that mobility decreases with age, consistent with younger workers trying multiple jobs to find their optimal match, whereas the effects of characteristics such as gender are less clear cut.

Our analysis of the transitions of low-wage workers differs from many studies of occupational mobility in that we focus on people at the bottom of the labor market, but we use many of the same characteristics (e.g., age, education, gender) to explain the transitions that occur.

Research on occupational mobility has also examined the role of human capital in job changes. While having more education and skills generally means a better job and higher wages, changing jobs can adversely impact some aspects of human capital. Kambourov and Manovskii (2009) find that a large portion of a person's human capital is tied to a specific job, and therefore an occupation change lowers a person's productivity. This insight explains why occupations characterized by substantial differences in job tenure have a wide distribution of wages. Focusing on the skill content of work, Robinson (2017) finds that changing jobs using similar skills carries a lower wage penalty than moving among occupations with different skill requirements (e.g., an involuntary switch to a low-skill job). In contrast to studies that examine all sorts of occupation transitions moving up and down the spectrum of skills required to perform a job, our analysis focuses on low-wage workers and the outcome of interest is moving into a better job. Thus, although a worker making this transition may need to acquire some new human capital related to the job itself, the outcome is viewed as beneficial given the attendant improvement in job characteristics (e.g., pay, desirability of workweek, access to benefits, prestige).

Theodos and Bednarzik (2006) and Andersson, Holzer, and Lane (2003) examine the earnings mobility of low-wage workers. Theodos and Bednarzik (2006) find that education has a positive effect on the earnings growth of low-wage workers—and we expect education to have a large beneficial influence in our analysis, as well—whereas race and gender do not affect the earnings mobility of low-wage workers. On the other hand, Andersson, Holzer, and Lane (2003) find that women and minorities are less likely to transition out of low-earnings occupations.

While this research examines changes in earnings of low-wage workers, our study looks at changes in occupations and other labor market transitions, such as becoming unemployed or exiting the labor market.

A recent study by Cortes (2016)—utilizing the job-type classification developed by Acemoglu and Autor (2011)—examines the labor market transitions of a specific cohort of workers, with a particular focus on those in routine jobs. Consistent with patterns of labor force polarization, the analysis finds that lower-ability workers in routine jobs (e.g., clerical, laborers) are more likely to transition into non-routine jobs that involve manual tasks (e.g., services), while higher-ability workers in routine jobs change to non-routine jobs that involve cognitive tasks (e.g., business and financial operations). Furthermore, Cortes’ (2016) research shows that people in routine jobs—referred to as middle-wage workers—experience a large wage premium when transitioning into non-routine cognitive jobs.

II. IDENTIFYING LOW-WAGE JOBS

What is a low-wage job? Precisely where to draw the line when defining a “low-wage”—or, more generally, a “low-quality”—job is an important consideration. Researchers interested in the lower end of the labor market typically focus on either the skills required to perform the job or the wage level associated with the position itself (Osterman, 2001). Here, we use an occupation’s average hourly pay to identify low-wage jobs, but also incorporate additional characteristics related to the desirability of the workweek (compared to a benchmark of 40 hours), the likelihood of receiving employer-provided health insurance, and the occupation’s prestige. All four job quality metrics are constructed using data on more than 1.3 million individuals from the 2011 American Community Survey (ACS) (Ruggles et al., 2017), and these observations are averaged across 487 occupations to create an overall job quality index.

Job Characteristics

For the first measure of job quality, *hourly pay*, the ACS reports an individual's annual wage and salary income—and the hourly wage is found by dividing this amount by the estimated number of hours worked during the year. The 2011 ACS reports a specific value for an individual's "usual hours worked per week," but the number of weeks worked during the past year is a categorical variable (e.g., 27-39 weeks, 40-47 weeks, 48-49 weeks). For the purposes of estimating the number of hours worked during the year, we use midpoints of the ranges for the number of weeks worked. Food service counter attendants, cashiers, and service station attendants are among the lowest-paying jobs; while the occupations with the highest hourly wages include physicians, chief executives, and financial analysts.

The second measure of job quality, *desirability of the workweek*, is found by calculating the average number of hours worked per week, which was also used to determine the hourly wage. As an indicator of job quality, however, we compare the average weekly hours in an occupation to a 40-hour benchmark, with lower deviations (i.e., smaller absolute values) counted as better jobs. Some of the occupations providing the best hours—i.e., closest to 40 hours per week—are urban and regional planners, and eligibility interviewers for government programs; while the jobs with the largest deviations from 40 hours per week include oil and gas drill operators (more hours), ship and boat captains (more hours), crossing guards (fewer hours), and dancers (fewer hours).

The third measure of job quality, *likelihood of benefits*, is the percentage of workers in an occupation with health insurance provided by the employer or union. Information from the 2011 ACS shows wide variation across occupations in this job quality metric. Over 90 percent of the workers classified as economists, flight attendants, insurance underwriters, and secondary school

teachers—among other occupations—reported having employer-provided health insurance; compared to less than 35 percent of the workers in occupations such as roofers, dishwashers, and fishing workers.

The final characteristic used to measure job quality is the occupation's *prestige*. This variable, as reported in the American Community Survey, is based on a framework developed by P.M. Siegel (1971). In the original job quality index, Siegel (1971) combined information from several studies, conducted in the 1960s by the National Opinion Research Center, that asked respondents to evaluate the “social standing” of occupations (Nam, 2000; Stevens and Hoisington, 1987). Some of the more prestigious occupations include lawyers, aerospace engineers, and clergy; while the jobs providing the least cachet include maids, animal control workers, and ushers.

Job Quality Index

We combine the four measures into a single job quality index. The four metrics of job quality exhibit positive pairwise correlation (as shown in Table 1), with the largest correlation among occupations being 0.65 for the characteristics of prestige and average hourly wages. Of the remaining five pairwise combinations, the correlations range from 0.10 to 0.55. The fact that the individual characteristics of job quality are correlated, but not overly so, suggests that these dimensions contribute distinct elements to the overall index.

The job quality index is calculated as the sum of the standardized values (i.e., number of standard deviations above or below the mean) of the four job quality metrics. Some of the occupations with the lowest overall index scores (with a summation of standardized values of less than -6.0) are crossing guards, door-to-door sales workers, and dining room attendants;

while the highest-quality jobs (with sums of standardized values of more than +5.0) include chemists, actuaries, and aerospace engineers.

To facilitate our analysis of the transitions of workers along the job quality continuum, the occupations are placed into quartiles according to the overall index. Table 2 shows average values of the four job quality metrics for occupations placed in the four quartiles. The occupations in the first quartile—what we refer to as “low-wage jobs”—have average hourly wages of about \$13.00, an average of a seven-hour deviation from 40 hours per week, and less than 50 percent of workers in low-wage occupations have employer-provided health insurance. At the other end of the spectrum, the occupations in the top quartile of the job quality index are what you could call the “highest-quality” or, simply, “high-wage” jobs. Workers in these occupations earn an average of just under \$37.00 per hour, have schedules that are (on average) within three hours of 40 hours per week, and almost 90 percent have employer-provided health insurance.

III. LABOR MARKET TRANSITIONS OF U.S. WORKERS

To analyze the labor market transitions of U.S. workers, we use information on nearly 700,000 individuals covered in the 2011 to 2017 rounds of the March Supplement of the Current Population Survey (CPS) (Flood et al., 2017). Because these data are not longitudinal, which would allow us to follow the same group of people over time, we make use of a question that asks about a person’s “occupation last year” and—to measure short-term labor market transitions—compare the response to a person’s “current status.”

Some advantages of using the CPS in our analysis are its large sample size, which is important when focusing on a small segment of the workforce, and its availability through 2017. Some limitations of using the March CPS to measure labor market transitions are that survey

coding errors reduce the accuracy of the data (although these errors have been reduced since 1970) and that “annual” mobility estimates (i.e., comparing a person’s “current” status to “last year’s occupation”) are more representative of occupational transitions over a shorter time frame (Kambourov & Manovskii, 2013). The reason for this imprecision around the exact timing of labor market mobility is that the “current” occupation is, in fact, “the longest job in the previous calendar year” (Kambourov & Manovskii, 2013; p. 182). Thus, comparing “last year’s occupation” to one held at some point in the previous year provides a time interval of 12 months or less.

Other questions from the CPS that refer to a person’s “current status” place workers into one of the following outcomes as compared to the previous year: (1) exited the labor force, (2) became unemployed, (3) working in the same occupation, (4) working in a different occupation of the same quality, or (5) working in a different occupation of a different quality. For workers in occupations classified as low-wage jobs, the only possible outcome for the last category (i.e., different occupation of a different quality) is to have found a better job. For workers in the second or third quartiles of occupations, the last category could mean that the worker found a “better” or “worse” position, depending on how the current occupation stacks up to last year’s job.

Figure 1 shows the percentages of workers, across all four quartiles of job quality, that fall into the various labor market transition categories. For all workers, the most common outcome—by a wide margin—is to have the same occupation as the previous year. The probability of having the same job is much higher, however, for workers in the top quartile of occupations (87.2 percent) compared to those in low-wage jobs (71.8 percent). Workers in low-wage jobs are considerably more likely than others to exit the workforce (10.6 percent) or

become unemployed (6.7 percent). Accounting for an additional 5.7 percent of workers in the bottom quartile of occupations that moved into different low-wage jobs, we find that only 5.2 percent of these workers transitioned into better jobs. Given that 87.2 percent of the workers in the top quartile of jobs reported the same occupation one year later—and another 4.1 percent had a different occupation in the top quartile—over 91 percent of the workers in the “best jobs” retained this status.

IV. FINDING A BETTER JOB

Next, we investigate the factors related to the short-term transitions of workers in low-wage jobs. For this analysis, we focus solely on the roughly 175,000 individuals in our sample that had—in the previous year—an occupation in the bottom quartile of the job quality index. Given the discrete nature of the five distinct labor market outcomes described above, we use a multinomial logit framework for the regression analysis. Occupations in the second, third, and fourth quartile of the job quality index are grouped into a single category because of the small share of low-wage workers (i.e., 5.2 percent) who transition to *any* kind of better job. For ease of interpretation, the specific results reported in the paper are the estimated marginal effects. These marginal effects are interpreted as the percentage-point change in the probability of a particular outcome, given a one-unit change in the explanatory variable. An appealing feature of this empirical approach is that the sum of the marginal effects for a particular variable, across all five possible outcomes, is equal to zero. This occurs because if a variable—say, educational attainment—increases a person’s probability of finding a better job, the same variable must decrease an individual’s probability of transitioning into one or more of the other outcomes (e.g., becoming unemployed).

Two of the most important personal characteristics that impact employment outcomes are education and age, which is a proxy for potential experience. These variables are commonly used to examine individual earnings and, using a Mincer-style wage regression model, most empirical studies show positive effects of education and age on earnings (Card, 1999; Gabe, 2009; Goldin & Katz, 2010; Mincer, 1974). Our regression model used to explore the transitions of workers in low-wage jobs include four options for a worker's highest level of formal education: (1) high school diploma (or equivalent), (2) some college without a degree, (3) two-year college degree, and (4) four-year college degree or more education. When interpreting the regression results, the estimated coefficients of these categories are interpreted relative to an "omitted category" of a worker without a high school diploma (or equivalent). We expect individuals with higher levels of education to be more apt to find a better job, consistent with studies showing a positive relationship between earnings and education, and less likely to become unemployed (Mincer, 1991).

The effects of age on the transitions of low-wage workers—despite the positive impacts of age on earnings—are less clear cut. Past studies of occupational mobility over the lifecycle find higher rates of job switching for younger workers and labor market transitions decrease with age (Bleakley & Lin, 2012; Stier & Endeweld, 2015; Theodossiou & Zangelidis, 2009; Wilkins & Wooden, 2013). One explanation for these findings is that young workers do not have perfect information about their best occupational fit and that learning takes place, early in a worker's career, by trying different jobs. We thus expect younger workers to experience more movement among occupations, whereas older workers (who may be more entrenched in their jobs) are more likely to remain in the same occupation.

The regression model also includes a set of dummy variables that indicate a worker's industry of employment. The specific industry categories used are those that account for at least five percent of the workers in the bottom quartile of occupations. These include—among others—the sectors of retail trade, accommodation and food services, construction, healthcare and social assistance, and “other” services. The omitted category of industries, important for interpreting the regression results, includes individuals employed in sectors with smaller percentages of workers in low-wage jobs (e.g., management of companies and enterprises; professional, scientific, and technical services; finance and insurance). Finally, although not the main focus of our analysis, the regression model controls for the impacts of other personal characteristics such as gender, race, ethnicity, and marital status. These variables are commonly used as control variables in studies of labor market outcomes such as wages and earnings, and unemployment (Antonovics & Town, 2004; Fortin & Lemieux, 1998; Greenman & Xie, 2008).

Table 3 presents summary statistics of the variables used in the regression analysis. The results indicate that just 10 percent of workers in low-wage occupations have a four-year college degree or more (formal) education and 8 percent have a two-year degree, while 37 percent have a high school diploma and 23 percent have completed “some college.” The omitted category of “less than a high school diploma” represents 22 percent of the workers in low-wage occupations. These individuals have an average age of 38 years, and about three-quarters are white. One-quarter of the workers in low-wage occupations are of Hispanic origin, slightly more than half are male, and about 40 percent are married.

Estimation Results

Table 4 presents marginal effects from a multinomial logit regression of the outcomes of workers in low-wage jobs. The results show that, compared to an omitted category of not having

a high school diploma, the four educational attainment variables are positively related to the transition of workers into better jobs. The magnitudes of these impacts are largely in-line with the amount of education completed, where having at least a four-year college degree is associated with a 7.4-percentage point increase in finding a better job (compared to someone without a high school diploma) and a high school degree (or equivalent) is associated with a 2.9-percentage point bump. These impacts are relatively large, especially when considering that only 5.2 percent of the workers in the bottom quartile of occupations moved into better jobs. Marginal effects of the educational attainment variables on all five of the potential outcomes are summarized in Figure 2. While education increases the probability of finding a better job and remaining in the same occupation, it generally reduces the likelihood of becoming unemployed or exiting the labor force. Educational attainment has little impact, one way or another, on the transition of moving into a different low-wage job.

Older workers are considerably more likely than younger people to remain in the same occupation. The marginal effect suggests that a 20-year increase in age—say, comparing someone who recently entered the job market to a person who is about 40-years old—is associated with a 6-percentage point higher probability of remaining in the same job. Although experience does not appear to help workers in low-wage jobs move up the job ladder, it does lower the probability of becoming unemployed or exiting the labor force. In other words, the beneficial impact of experience to workers in low-wage jobs is a reduction in the probability of an adverse outcome (e.g., becoming unemployed). Conversely, educational attainment lowers the probability of experiencing an unwanted transition *and* increases the likelihood of moving up the job ladder.

The industries included in the regression, which are listed in Table 3, are those that account for at least five percent of the workers in low-wage occupations. The results show that none of the industry dummy variables, compared to an omitted category of people in any of the sectors that are less apt to have workers in low-wage occupations, have a positive and significant effect on the outcome of finding a better job. In fact, workers in low-wage jobs in the five broad sectors of agriculture, forestry, fishing and hunting; administrative and support and waste management and remediation services; health care and social assistance; accommodation and food services; and “other” services are less likely—as compared to individuals in those industries with smaller percentages of workers in low-wage jobs—of transitioning into better jobs.

Workers with low-wage jobs in the three broad sectors of construction; administrative and support and waste management and remediation services; and agriculture, forestry, fishing and hunting have higher probabilities of becoming unemployed, while those in the health care and social assistance, accommodation and food services, retail trade, and “other” services industry groups are less apt to transition from low-wage jobs to unemployment. Workers in the health care and social assistance industry—as well as “other” services, accommodation and food services, and retail trade—are more likely to remain in the same low-wage occupation (compared to the omitted category). Finally, workers in the sectors of health care and social assistance; accommodation and food services; “other” services; and administrative and support and waste management and remediation services are most likely to transition among different low-wage jobs.

Male workers are more likely than females to find a better job, although the magnitude of this effect is small. Men in low-wage occupations also have a higher probability of becoming unemployed. Furthermore, whites have a higher probability of finding a better job (compared to

an omitted category of individuals that are not classified as white, black, or Asian), while Asians in low-wage occupations are less apt to transition into a better job. Finally, the effects related to the year of observation suggest that, compared to the initial year of 2011, the years of 2014 to 2017 are associated with approximately one-percentage point higher probabilities of finding a better job, consistent with an improving labor market during this period. The results also show a reduction in the likelihood of workers in low-wage occupations becoming unemployed in these later years.

V. WHAT KINDS OF BETTER JOBS DO LOW-WAGE WORKERS FIND?

For those workers who successfully escape low-wage work, what kinds of jobs are they able to find? These positions are important because they offer some combination of higher wages, a more desirable workweek, a greater likelihood of receiving employer-provided health insurance, and/or more prestige. Figure 3 shows the occupations that granted the largest number of employment opportunities to people who, in the previous year, worked in low-wage jobs. The X-axis measures the percentage of workers in low-wage occupations that transitioned into the job. The low magnitudes of these values, which are all well below one-half of one percentage point, should come as no surprise given that only 5.2 percent of the workers in low-wage occupations found a better job. The values on the Y-axis are the occupations' percentiles along the overall job quality index. Since low-wage jobs are defined as those that fall in the bottom quartile, the "better jobs" start above the 25th percentile. Finally, the size of the bubbles shown in Figure 3 represent differences in the relative percentages of people in the occupation that worked, one year earlier, in a low-wage job. Whereas the X-axis shows the higher-quality occupations that are most often found by people transitioning from low-wage jobs, the bubble

size indicates the extent to which an occupation is populated by people who moved up the job quality ladder.

The occupation of truck driver—which falls just above the 30th percentile for overall job quality—is the most common better job, by a wide margin, found by people working in low-wage jobs. As the X-axis value of about 0.35 percent suggests, nearly one out of 300 workers in low-wage jobs became a truck driver. However, the bubble size for truck drivers suggests that it is not among the occupations with the highest percentages of workers that previously held low-wage jobs. In fact, the occupation of truck driver ranks 79th out of the 410 higher-quality jobs according to this metric. This means that, although a relatively large number of workers in low-wage jobs became truck drivers, the sheer size of this occupation means that a fairly small percentage of truck drivers were in low-wage occupations one year earlier. Consistent with our findings, the job of truck driver was noted as an “opportunity occupation” in a study that identified reasonably well-paying jobs that are attainable without a college degree (Wardrip et al., 2015).

Other occupations that are among the five “better jobs” most commonly found by low-wage workers include nursing aides, customer service representatives, secretaries and administrative assistants, and wholesale and manufacturing sales. These jobs—in addition to truck drivers—represent only 1.2 percent of the 410 occupations in the top-three quartiles of the job quality index, but they account for 17 percent of the jobs found by people who escaped low-wage work. The top-10 percent of occupations according to this metric—that is, the 41 occupations with the highest values on the X-axis of Figure 3—account for 62 percent of those that found better jobs. Clearly, a relatively small group of occupations are quite important to low-wage workers looking to move into better jobs.

Several of the “better jobs” with the highest numbers of people transitioning out of low-wage work are in the broad category of sales. For example, financial sales, advertising sales, insurance sales, wholesale and manufacturing sales, real estate, and “other” sales rank high in terms of the percentages of better jobs found by low-wage workers (i.e., values along the X-axis). The larger bubbles for these sales-related jobs suggest that they are also among the leaders for the percentages of workers in an occupation that held a low-wage job one year earlier. These results, along with the fact that sales jobs rate relatively well for overall quality (i.e., values along the Y-axis), makes these occupations very important to workers in low-wage jobs. Similar to our findings, Wardrip et al. (2015) also list wholesale and manufacturing sales, and “other” sales among the top ten “most prevalent” opportunity occupations.

In contrast to the abundance of sales jobs noted in Figure 3, none of the highlighted occupations are typically thought of as manufacturing jobs. Of the occupations in the figure that are labeled, the closest one to manufacturing is “wholesale and manufacturing sales,” which is not a production-oriented job. Although the occupation of “miscellaneous assemblers and fabricators” is the only production-oriented job in the top 15 according to the percentage of low-wage workers that moved into the occupation (i.e., values along the X-axis), there are several jobs of this ilk among the top in terms of the percentages of people in the occupation that previously worked in a low-wage job. These production occupations—such as model makers and pattern makers, textile winders, and mining machine operators—are indicated by large bubble sizes, but they are positioned very close to the left side of the figure.

Another important sector of the economy that is largely missing in Figure 3 is healthcare. With the exception of the occupation of nursing aides, which falls just above the job-quality threshold of the 25th percentile, there are no healthcare jobs highlighted in the figure.

Occupations such as nurses, and various sorts of medical technicians are certainly classified as “good jobs,” but there are relatively few people that transition into these jobs from low-wage occupations. Likewise, many healthcare professions are significantly large such that they have relatively small percentages of their ranks that came out of low-wage jobs in the previous year.

This absence of healthcare jobs should come as no surprise, in light of the regression results showing that—although people with low-wage jobs in the health care and social assistance industry are likely to keep the same occupation or transition into a different low-wage job—healthcare (and social assistance) workers are less likely to move into better jobs. The results paint a similar picture for low-wage workers in the accommodation and food services industry. With the exception of first-line food service supervisors, there are no tourism- or hospitality-related occupations highlighted in the figure. Likewise, the regression results show that low-wage workers in the accommodation and food services sector are less likely to move into better jobs, but—similar to those in low-wage healthcare jobs—they are relatively more apt to keep the same occupation or move into a different low-wage job.

VI. SUMMARY AND CONCLUSIONS

This study examined the short-term transitions of low-wage workers in the United States. We find that most people worked in the same job as the previous year, and those that changed occupations are most likely to find jobs of a similar quality. People in low-wage jobs, however, are more likely than those in higher-quality occupations to exit the labor force or become unemployed, and, troublingly, only 5.2 percent moved up the job ladder. This means that almost 95 percent of the workers in low-wage occupations were either in jobs of similar quality or not working (i.e., out of the labor force or unemployed). And for those that successfully escaped low-wage work, more than half ended up in only a slightly better occupation (i.e., the second

quartile of the job quality index). By contrast, over 90 percent of those that worked in the highest-quality jobs were in similar positions, and only 5.6 percent were not working.

Regression analysis of the transitions of workers in low-wage jobs focused on the personal characteristics of education and age, and also examined the influence of industry. The model also included controls for, among other things, gender and race. Our results point to the importance of education in helping low-wage workers move up the job ladder, with all four educational attainment categories (e.g., four-year college degree or more, two-year college degree, high school diploma) having positive coefficients—relative to an omitted category of “no high school diploma”—on the outcome of finding a better job. Of note, the boost associated with having a 4-year college degree (or more education) is about 2.5 times larger than the impact from a high school diploma. Results pertaining to age suggest that older workers are less likely to move up the job quality ladder, whereas age is positively associated with the outcome of remaining in the same low-wage occupation. Consistent with the literature on life-cycle job mobility, these findings imply that job switching is more common among younger workers in low-wage occupations as they are more likely to move into better jobs.

The regression results pertaining to a person’s industry of employment show that individuals with low-wage jobs in the health care and social assistance, and accommodation and food services sectors—which are among the leaders for the percentages of workers in low-wage occupations—are less apt to move into better jobs (relative to an omitted category of workers in sectors that account for fewer than five percent of those in low-wage occupations). Healthcare and tourism/hospitality workers in low-wage jobs, however, are afforded a relatively high level of job security in that they are less likely to become unemployed or exit the labor force. On the other hand, workers with low-wage jobs in the agriculture, forestry, fishing and hunting; and

administrative and support and waste management and remediation services sectors are more likely to become unemployed, and—like healthcare and tourism/hospitality—they have a lower probability of moving up the job quality ladder.

Our analysis of the occupations that provide opportunities to people in low-wage jobs gives some additional perspective about the influence of industry on the transitions of these individuals. Very few occupations that are associated with healthcare and the tourism/hospitality sectors are among the better jobs most commonly found by workers in low-wage occupations, nor are they typically among the occupations with the highest shares of workers that previously held low-wage jobs. On the other hand, several sales-related occupations rank high in terms of these two indicators of the opportunities provided to workers in low-wage jobs.

Challenges Facing Low-Wage Workers

All things considered, the results of this study highlight the following challenges faced by workers in low-wage occupations attempting to move up the job ladder, and some issues that merit the attention of policymakers and the agencies and organizations that help workers find better jobs. First, a lack of formal education appears to be a substantial barrier to finding a better job. Programs aimed at helping these workers increase their human capital, even to the level of a high school diploma (or equivalent), can improve the odds of moving up the job ladder. Our findings related to the effects of education on the transitions of workers in low-wage jobs are consistent with the results of numerous studies showing a positive relationship between labor market outcomes (e.g., earnings) and educational attainment.

Second, older workers—even after controlling for the influence of education and industry—are less likely to move up the job ladder. This finding, which is consistent with past research showing higher rates of occupational mobility among younger workers, could be due to

a variety of factors. Studies on occupational mobility across the life cycle suggest that young workers change positions more frequently because they are uncertain about their abilities, and trying different jobs helps determine their optimal match. Although some of the older workers in low-wage jobs may stay in them because they are resigned to the fact that these occupations are a “good match,” other factors might explain the lack of upward mobility found for older workers. These may include a reluctance to give up the perks that come from seniority in a job (even in a low-wage occupation), a risk aversion associated with leaving their current job, or even an unfamiliarity with some of the technologies that are commonly used in job searches and/or higher-quality jobs. Irrespective of the cause, our results suggest that special attention, even beyond education, should be devoted to assisting experienced workers in low-wage jobs. Helping older individuals transition into better jobs is especially important given that many of these workers may remain in the labor force beyond the traditional retirement age due to low savings and other financial limitations.

Third, our results suggest that sales positions offer relatively high promise for people moving up the job ladder. This underscores the importance of cultivating strong “people skills” (e.g., communication, presentation, motivation, organization) that are often needed for success in sales occupations and have become increasingly important in the U.S. labor market (Deming, 2017). On the other hand, the lack of healthcare and tourism/hospitality occupations among those that are the most hospitable to workers in low-wage jobs suggests that, especially in the case of healthcare, there may be barriers to moving up the job ladder related to education, training and certifications.

Fourth, our results suggest that ongoing technological advances could make it even more challenging—moving forward—for low-wage workers to move up the job ladder. Indeed, jobs

such as receptionists, secretaries, and administrative assistants—fairly common “better jobs” found by people that escape low-wage work—are classic examples of the “routine” jobs that have been displaced by technology (Acemoglu & Autor, 2011; Autor, Katz, & Kearney, 2006; Cortes, 2016). Moreover, the potential for new technological advances, such as the invention of driverless vehicles, provides a direct threat to a wide array of transportation-related jobs, such as a truck driver, which we found to be the most common “better job” for people transitioning out of low-wage occupations. While technologies such as autonomous vehicles are not currently displacing truck drivers on a large scale, research by Brynjolfsson and McAfee (2014) suggests that this may not be the case in the future. Of course, the net effect of technological change on the fortunes of low-wage workers—and those across the entire job quality spectrum—also needs to account for the new opportunities that are created. The challenge moving forward, however, is to make sure that workers have the skills necessary to perform the jobs that are created and enhanced by technology.

Finally, people in low-wage occupations appear to have much less favorable labor market outcomes than those who are already at higher rungs on the job quality ladder. Workers in low-wage jobs are considerably more likely than others to exit the labor force or become unemployed, and these workers have a one in twenty chance of moving into a better job. Our finding that workers in low-wage jobs are more likely to become unemployed than move into a better job suggests that keeping the same position, or even sliding into a different low-wage job, could be considered a “win” for some of these individuals. From this perspective, the fact that over three-quarters of the workers in low-wage occupations remained in low-wage jobs (either the same or different) suggests that, above all else, people at the bottom of the job quality ladder need support and training to succeed in their current positions.

This makes finding ways to upgrade the quality of low-wage jobs, by improving their pay and working conditions, a priority for policymakers as well. Programs that work with businesses or networks of firms to encourage training and job upgrading as a mechanism for improved productivity may be particularly promising (Florida, Mellander, & King, 2017; Osterman, 2008). Indeed, recent research on service jobs finds that improving pay and involving workers in decision making, customer service, and innovation can improve the productivity and performance of firms (Ton, 2014). Given the large number of workers in low-wage jobs and the difficulty escaping them, upgrading these positions may, in fact, be the best option available.

REFERENCES

- Acemoglu, D., & Autor, D. (2011). Skills, tasks, and technologies: Implications for employment and earnings, in D. Card & O. Ashenfelter (Eds.), *Handbook of Labor Economics*, Vol. 4 (pp. 1043-1171). Amsterdam: Elsevier-North Holland.
- Almeida, P., & Kogut, B. (1999). Location of knowledge and the mobility of engineers in regional networks. *Management Science*, 45(7), 905-917.
- Andersson, F., Holzer, H., & Lane, J. (2003). *Worker Advancement in the Low-Wage Labor Market: The Role of 'Good Jobs.'* Policy Briefs, Center on Urban and Metropolitan Policy, The Brookings Institution.
- Antonovics, K., & Town, R. (2004). Are all the good men married? Uncovering the sources of the marital wage premium. *American Economic Review*, 94(2), 317-321.
- Autor, D. (2014). Skills, education, and the rise of earnings inequality among the 'Other 99 Percent.' *Science*, 344(6186), 843-850.
- Autor, D., & Dorn, D. (2013). The growth of low-skill service jobs and the polarization of the U.S. labor market. *American Economic Review*, 103(5), 1553-1597.
- Autor, D., Katz, L., & Kearney, M. (2006). The polarization of the U.S. labor market. *American Economic Review*, 96(2), 189-194.
- Bachmann, R., Bechara, P., Kramer, A., & Rzepka, S. (2015). Labour market dynamics and worker heterogeneity during the Great Recession—Evidence from Europe. *IZA Journal of European Labor Studies*, 4(19), 1-29.
- Bleakley, H., & Lin, J. (2012). Thick-market effects and churning in the labor market: Evidence from U.S. Cities. *Journal of Urban Economics*, 72(2), 87-103.
- Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York, NY: W.W. Norton & Company.
- Card, D. 1999. The causal effects of education on earnings, in O. Ashenfelter & D. Card (Eds.), *Handbook of Labor Economics* (pp.1801-1863). Amsterdam: Elsevier.
- Chetty, R., Grusky, D., Hell, M., Hendren, N., Manduca, R., & Narang, J. (2017). The fading American dream: Trends in absolute income mobility since 1940. *Science*, 356 (6336), 398-406.
- Cortes, G.M. (2016). Where have the middle-wage workers gone? A study of polarization using panel data. *Journal of Labor Economics*, 34(1), 63-105.
- Deming, D. (2017). The growing importance of social skills in the labor market. *Quarterly Journal of Economics*, 132(4), 1593-1640.

- Fallick, B., Fleischman, C., & Rebitzer, J. (2006). Job-hopping in Silicon Valley: Some evidence concerning the microfoundations of a high-technology cluster. *The Review of Economics and Statistics*, 88(3), 472-481.
- Flood, S., King, M., Ruggles, S., & Warren, J.R. (2017). *Integrated Public Use Microdata Series, Current Population Survey: Version 5.0*. [dataset]. Minneapolis: University of Minnesota. <https://doi.org/10.18128/D030.V5.0>.
- Florida, R. (2017). *The New Urban Crisis*. New York, NY: Basic Books.
- Florida, R., Mellander, C., & King, K. (2017). *Building 65 Million Good Jobs: The Geography of Low-Paid Service Class Jobs and How to Begin to Upgrade Them*. University of Toronto, Rotman School of Management, Martin Prosperity Institute.
- Fortin, N., & Lemieux, T. (1998). Rank regressions, wage distributions, and the gender gap. *Journal of Human Resources*, 33(3), 610–643.
- Freedman, M. (2008). Job hopping, earnings dynamics, and industrial agglomeration in the software publishing industry. *Journal of Urban Economics*, 64(3), 590-600.
- Gabe, T. (2009). Knowledge and earnings. *Journal of Regional Science*, 49(3), 439-457.
- Gabe, T. (2017). *The Pursuit of Economic Development: Growing Good Jobs in U.S. Cities and States*. Cham, Switzerland: Palgrave Macmillan.
- Gervais, M., Jaimovich, N., Siu, H., & Yedid-Levi, Y. (2016). What should I be when I grow up? Occupations and unemployment over the life cycle. *Journal of Monetary Economics*, 83 (October), 54-70.
- Goldin, C., & Katz, L. (2010). *The Race between Education and Technology*. Cambridge, MA: Harvard University Press.
- Gorry, A., Gorry, D., & Trachter, N. (2014). Learning and life cycle patterns of occupational transitions. Federal Reserve Bank of Richmond, Working Paper 14-15.
- Greenman, E., & Xie, Y. (2008). Double jeopardy? The interaction of gender and race on earnings in the U.S. *Social Forces*, 86(3), 1217-1244.
- Kambourov, G., & Manovskii, I. (2008). Rising occupational and industry mobility in the United States: 1968-97. *International Economic Review*, 49(1), 41-79.
- Kambourov, G., & Manovskii, I. (2009). Occupational mobility and wage inequality. *Review of Economic Studies*, 76(2), 731-759.
- Kambourov, G., & Manovskii, I. (2013). A cautionary note on using (March) Current Population Survey and Panel Study of Income Dynamics data to study worker mobility. *Macroeconomic Dynamics*, 17(1), 172-194.

- Lalé, E. (2012). Trends in occupational mobility in France: 1982-2009. *Labour Economics*, 19(3), 373-387.
- Mincer, J. (1974). *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research.
- Mincer, J. (1991). *Education and Unemployment*. NBER Working Paper 3838.
- Moscarini, G., & Thomsson, K. (2007). Occupational and job mobility in the US. *Scandinavian Journal of Economics*, 109(4), 807-836.
- Murphy, K., & Topel, R. (2016). Human capital investment, inequality, and economic growth. *Journal of Labor Economics*, 34(S2), S99-S127.
- Nam, C. (2000). *Comparison of Three Occupational Scales*. Center for the Study of Population, Florida State University.
- Osterman, P. (2001). Employers in the low-wage/low-skill labor market, in R. Kazis & M. Miller (Eds.), *Low-Wage Workers in the New Economy* (pp. 67-87). Washington, DC: Urban Institute.
- Osterman, P. (2008). Improving job quality: Policies aimed at the demand side of the low-wage labor market, in T. Bartik & S. Houseman (Eds.), *A Future of Good Jobs?: America's Challenge in the Global Economy* (pp. 203-244). Kalamazoo, MI: W.E. Upjohn Institute.
- Robinson, C. (2017). Occupational mobility, occupation distance and specific human capital. *Journal of Human Resources*, forthcoming.
- Ruggles, S., Genadek, K., Goeken, R., Grover, J. & Sobek, M. (2017). *Integrated Public Use Microdata Series: Version 7.0* [dataset]. Minneapolis: University of Minnesota. <https://doi.org/10.18128/D010.V7.0>
- Siegel, P. (1971). *Prestige in the American Occupational Structure*. Unpublished Ph.D. dissertation, Department of Sociology, University of Chicago.
- Stevens, G., & Hoisington, E. (1987). Occupational prestige and the 1980 U.S. labor force. *Social Science Research*, 16(1), 74-105.
- Stier, H., & Endeweld, M. (2015). Employment transitions and labor market exits: Age and gender in the Israeli labor market. *Research in Social Stratification and Mobility*, 41, 92-102.
- Temin, P. (2017). *The Vanishing Middle Class: Prejudice and Power in a Dual Economy*. Cambridge, MA: The MIT Press.
- Theodos, B., & Bednarzik, R. (2006). Earnings mobility and low-wage workers in the United States. *Monthly Labor Review*, (July), 34-47.

- Theodossiou, I, & Zangelidis, A. (2009). Should I stay or should I go? The effect of gender, education and unemployment on labour market transitions. *Labour Economics*, 16(5), 566-577.
- Ton, Z. (2014). *The Good Jobs Strategy: How the Smartest Companies Invest in Employees to Lower Costs and Boost Profits*. Boston, MA: Houghton Mifflin Harcourt Publishing Company.
- Topel, R., & Ward, M. (1992). Job mobility and the careers of young men. *Quarterly Journal of Economics*, 107(2), 439-479.
- Wardrip, K., Fee, K., Nelson, L., & Andreason, S. (2015). *Identifying Opportunity Occupations in the Nation's Largest Metropolitan Areas*. Special Report of the Federal Reserve Banks of Philadelphia, Cleveland, and Atlanta.
- Wilkins, R., & Wooden, M. (2013). Gender differences in involuntary job loss: Why are men more likely to lose their jobs? *Industrial Relations*, 52(2), 582-608.

Table 1. Correlations among Occupational Characteristics Used to Measure Job Quality

	Average Hourly Wage	Average Weekly Hours Compared to 40	% of Workers w/Employer- Provided Health Insurance	Prestige Index
Average Hourly Wage	1.00			
Average Weekly Hours Compared to 40	0.10	1.00		
% of Workers w/Health Insurance Provided by the Employer	0.55	0.20	1.00	
Prestige Index	0.65	0.14	0.54	1.00

Note. Higher values are interpreted as “better” jobs for the characteristics of average hourly wage, percentage of workers with employer-provided health insurance, and the prestige index. For the characteristic of average weekly hours, lower deviations from a 40-hour benchmark are interpreted as “better.” For this reason, negative values are used for the occupation-level characteristic of “average weekly hours compared to 40” when calculating the correlations shown in the table. For example, the results show that occupations with average weekly hours that are more different than 40 are less likely to have employer-provided health insurance, but jobs with “better” hours—i.e., closer to 40—are more likely to have this employment benefit.

Table 2. Occupational Characteristics across the Four Quartiles of Job Quality

Job Quality Quartile	Average Hourly Wage	Average Weekly Hours Compared to 40	% of Workers w/Employer-Provided Health Insurance	Prestige Index
First (low-wage)	\$13.02	7.13	47.5%	24.8
Second	\$16.97	3.72	63.7%	35.2
Third	\$24.45	3.05	77.8%	44.9
Fourth (high-wage)	\$36.93	2.95	87.1%	57.7

Note: All of the values are calculated using data from the 2011 American Community Survey (Ruggles et al., 2017).

Table 3. Descriptive Statistics of U.S. Workers in Low-Wage Jobs

Variable	Description	Mean	Standard Deviation
High School Diploma	Variable equals 1 if highest level of education is a high school diploma or equivalent; 0 otherwise	0.37	0.48
Some College	Variable equals 1 if highest level of education is some college without a degree; 0 otherwise	0.23	0.42
2-Year College Degree	Variable equals 1 if highest level of education is a 2-year college degree; 0 otherwise	0.08	0.26
4-Year College Degree or More	Variable equals 1 if highest level of education is a 4-year college degree (or more); 0 otherwise	0.10	0.30
Age	Individual age, measured in years	37.73	15.89
Male	Variable equals 1 if individual is male; 0 otherwise	0.52	0.50
White	Variable equals 1 if individual is white; 0 otherwise	0.77	0.42
Black	Variable equals 1 if individual is black; 0 otherwise	0.14	0.35
Asian	Variable equals 1 if individual is Asian; 0 otherwise	0.05	0.22
Hispanic	Variable equals 1 if individual is Hispanic; 0 otherwise	0.25	0.43
Married	Variable equals 1 if individual is married; 0 otherwise	0.39	0.49

Table is continued on the following page.

Table 3. Descriptive Statistics of U.S. Workers in Low-Wage Jobs, continued

Variable	Description	Mean	Standard Deviation
Agriculture, Forestry, Fishing & Hunting	Variable equals 1 if individual works in the agriculture, forestry, fishing and hunting industry; 0 otherwise	0.05	0.22
Construction	Variable equals 1 if individual works in the construction industry; 0 otherwise	0.08	0.26
Retail Trade	Variable equals 1 if individual works in the retail trade industry; 0 otherwise	0.23	0.42
Administrative & Support & Waste Management & Remediation Services	Variable equals 1 if individual works in the administrative and support and waste management and remediation services industry; 0 otherwise	0.07	0.26
Health Care & Social Assistance	Variable equals 1 if individual works in the health care and social assistance industry; 0 otherwise	0.08	0.27
Accommodation & Food Services	Variable equals 1 if individual works in the accommodation and food services industry; 0 otherwise	0.22	0.41
“Other” Services	Variable equals 1 if individual works in the “other” services industry; 0 otherwise	0.08	0.27

Notes: The sample size is 176,567 observations. The data source is the 2011 to 2017 rounds of the March Supplement of the U.S. Current Population Survey.

Table 4. Multinomial Logit Marginal Effects: Factors Affecting the Transitions of Workers in Low-Wage Jobs

	Out of Labor Force	Unemployed	Same Job	Different Low-Wage	Better Job
High School Diploma	-0.067*** (0.002)	-0.001 (0.002)	0.037*** (0.004)	0.003 (0.002)	0.029*** (0.003)
Some College	-0.029*** (0.002)	-0.020*** (0.002)	0.006 (0.004)	0.003 (0.002)	0.040*** (0.003)
2-Year College Degree	-0.070*** (0.004)	-0.020*** (0.004)	0.039*** (0.006)	-0.001 (0.004)	0.051*** (0.003)
4-Year College Degree or More	-0.075*** (0.004)	-0.025*** (0.003)	0.023*** (0.006)	0.003 (0.003)	0.074*** (0.003)
Age	-0.0011*** (8.15E-05)	-0.0009*** (5.76E-05)	0.0032*** (1.08E-04)	-0.0006*** (5.93E-05)	-0.0007*** (5.75E-05)
Male	-0.032*** (0.002)	0.004** (0.002)	0.028*** (0.003)	-0.006*** (0.002)	0.006*** (0.002)
White	-0.009* (0.005)	-0.018*** (0.004)	0.025*** (0.007)	-0.006 (0.004)	0.007** (0.004)
Black	-0.034*** (0.005)	0.011*** (0.004)	0.009 (0.008)	0.009** (0.004)	0.005 (0.004)
Asian	-0.031*** (0.006)	-0.035*** (0.005)	0.086*** (0.009)	-0.004 (0.005)	-0.016*** (0.005)
Hispanic	-0.062*** (0.003)	-0.008*** (0.002)	0.094*** (0.004)	-0.004** (0.002)	-0.020*** (0.002)
Married	-0.024*** (0.002)	-0.021*** (0.002)	0.051*** (0.003)	-0.004** (0.002)	-0.001 (0.002)
Agriculture, Forestry, Fishing & Hunting	0.015*** (0.004)	0.020*** (0.004)	0.006 (0.007)	-0.021*** (0.005)	-0.020*** (0.004)
Construction	-0.021*** (0.005)	0.042*** (0.003)	-0.012* (0.006)	-0.011*** (0.004)	0.001 (0.003)

Table is continued on the following page.

Table 4. Multinomial Logit Marginal Effects: Factors Affecting the Transitions of Workers in Low-Wage Jobs, continued

	Out of Labor Force	Unemployed	Same Job	Different Low-Wage	Better Job
Retail Trade	-0.013*** (0.003)	-0.004* (0.002)	0.021*** (0.004)	-0.006** (0.003)	0.002 (0.002)
Administrative & Support & Waste Management & Remediation Services	0.006 (0.004)	0.031*** (0.003)	-0.026*** (0.006)	0.008** (0.003)	-0.019*** (0.004)
Health Care & Social Assistance	-0.018*** (0.004)	-0.020*** (0.004)	0.046*** (0.006)	0.013*** (0.003)	-0.021*** (0.003)
Accommodation & Food Services	-0.020*** (0.003)	-0.005* (0.003)	0.022*** (0.004)	0.017*** (0.002)	-0.015*** (0.002)
“Other” Services	-0.010** (0.004)	-0.023*** (0.004)	0.032*** (0.006)	0.012*** (0.003)	-0.011*** (0.003)
Year 2012	-0.002 (0.003)	-0.006** (0.002)	0.016*** (0.005)	-0.004 (0.003)	-0.004 (0.003)
Year 2013	0.009 (0.003)	-0.011*** (0.002)	-0.002 (0.005)	0.002 (0.003)	0.001 (0.003)
Year 2014	0.002 (0.003)	-0.020*** (0.003)	-0.004 (0.005)	0.012*** (0.003)	0.010*** (0.003)
Year 2015	0.004 (0.003)	-0.024*** (0.003)	-0.001 (0.005)	0.012*** (0.003)	0.009*** (0.002)
Year 2016	0.000 (0.003)	-0.030*** (0.003)	-0.002 (0.005)	0.018*** (0.003)	0.014*** (0.002)
Year 2017	0.001 (0.003)	-0.037*** (0.003)	0.007 (0.005)	0.016*** (0.003)	0.013*** (0.002)

Notes: Results shown are marginal effects from a multinomial logit model. Standard errors are shown in parentheses. The superscripts ***, ** and * indicate statistical significance at the 1-, 5- and 10-percent levels. The variables Year 2012, Year 2013, etc. are dummy variables for the year an observation was recorded. Results for the “year dummy variables” are interpreted relative to an “omitted category” of 2011. The sample size is 176,567 observations.

Figure 1. Transitions of U.S. Workers, by Quality of Last Year's Occupation

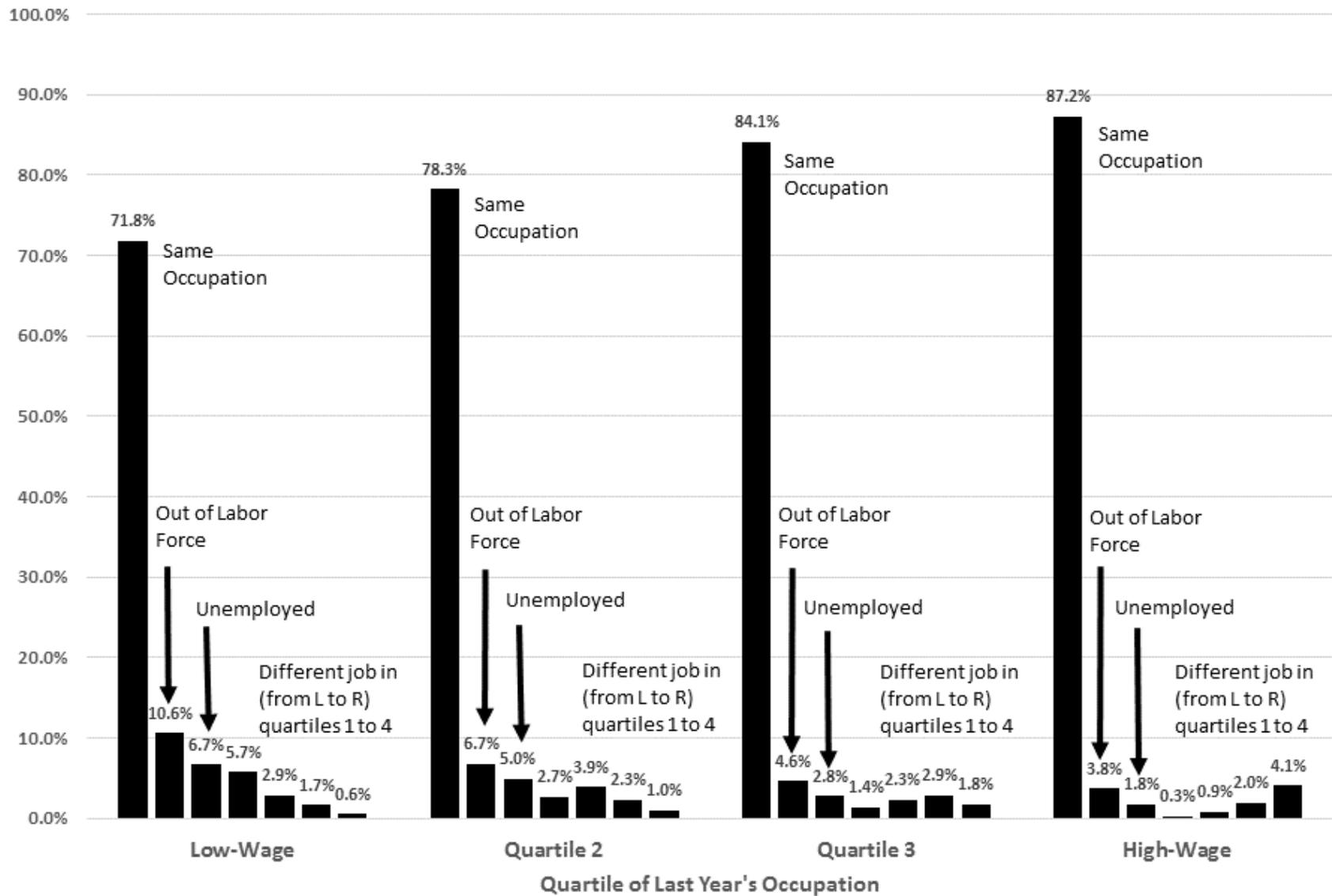


Figure 2. Marginal Effects of Educational Attainment on Transitions of Workers in Low-Wage Occupations

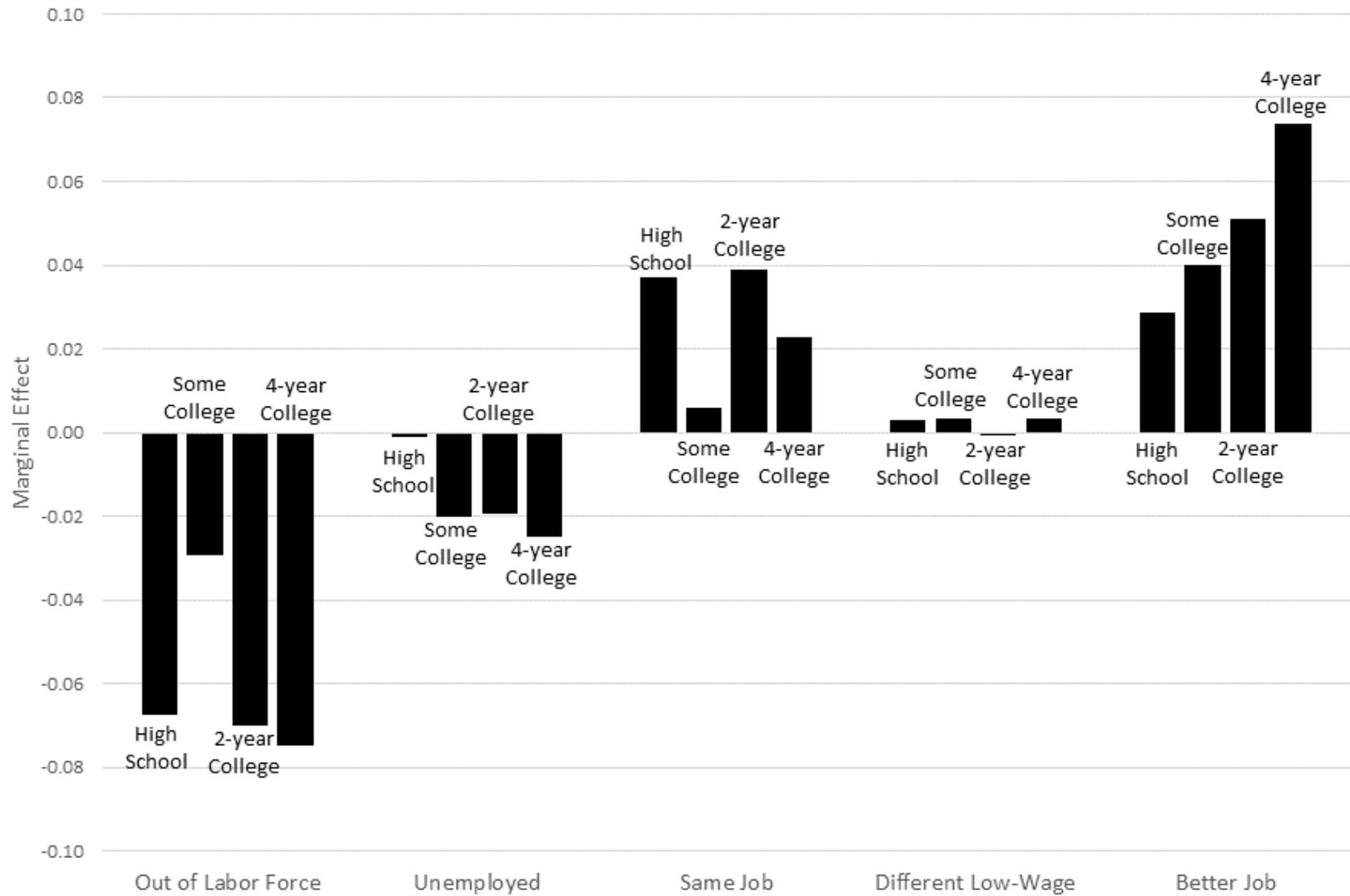


Figure 3. "Better Jobs" Found by Workers in Low-Wage Occupations

