Does Job Quality Affect OCCUPATIONAL MOBILITY?

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INTRODUCTION

Job quality, a well-known topic in workforce development circles, is an underutilized but useful lens with which to examine labor market conditions. The Aspen Institute (2020), a long-time advocate for job quality, defines it as "a range of attributes that drive worker experiences: wages, benefits, scheduling, legal rights, equity and inclusion, opportunity to build skills and advance, supportive work environment, and worker voice." Given the record number of resignations and available job openings, especially in the lower-paid industry sectors, along with popular labor market narratives around the Great R's (Resignation, Renegotiation, Reshuffle). I wonder to what extent job quality plays a role in the occupational mobility of workers. Occupational mobility includes all potential outcomes an individual has when holding a job. For instance, in addition to the option of changing to another occupation, an individual can remain in that occupation, become unemployed, or leave the labor force. Occupational mobility metrics are an appealing way to explore labor market conditions because they provide a dynamic perspective, while traditional metrics such as unemployment and labor force participation rates tend to be static observations.

One challenge to incorporating job quality into an analysis is that while certain aspects are easily measured using publicly available data (wages, hours worked, and benefits), there are significant deficiencies in the measurement of other aspects (legal rights, equity and inclusion, opportunity to build skills and advance, supportive work environment) (Katz, Congdon, and Shakesprere, 2022). Despite this challenge, there is a growing body of research related to job quality that provides a strong foundation as well as motivation for pursuing this analysis. Workers who are more likely to hold low-quality jobs tend to put greater value on job quality (Scott and Katz, 2021). Workers also value components of job quality differently. For example, female workers put greater value on flexible scheduling than do their male counterparts (Scott and Katz, 2021) and are more likely to trade greater control over their schedule for a lower wage (Wiswall and Zafar, 2018). Relatedly, job quality has also been connected to issues related to racial

equity as disparities have been documented across several job quality dimensions (Shakesprere, Katz, and Loprest, 2021). A business case can be made for improving job quality, too; creating quality jobs and investing in workers can strengthen the operational efficiency and competitiveness of a company (Ton, 2017). Job quality can help with retention challenges because workers are more likely to stay in a higherquality occupation than a lower-quality occupation (Gabe, Abel, and Florida, 2019). In general, job quality influences a worker's quality of life, financial status, and overall health (Rothwell and Crabtree, 2019; Congdon, et al., 2020). However, an analysis of the 2011 to 2017 period found that occupational mobility varies by job quality to the detriment of workers in low-quality occupations; they are more likely to leave the labor market or become unemployed, and they are unlikely to move into a better-quality occupation (Gabe, Abel, and Florida, 2019). But because the data were pooled across years, it is unclear whether this dynamic changed over the years.

This report examines how job quality affects a worker's occupational mobility over time and investigates if the COVID-19 pandemic has brought changes to the occupational mobility of workers, especially those in the lowest-quality jobs. I apply a job quality lens in this exercise by estimating occupational mobility rates across job quality quartiles annually from 2010 to 2021. This analysis also takes a closer look at workers in the lowest-quality occupations to explore which worker characteristics are associated with specific occupational mobility outcomes.

FINDINGS

- Workers in the highest-quality occupations are more likely to remain in those occupations and less likely to be unemployed or leave the labor force than workers in the lowest-quality occupations.
- The differences in occupational mobility across job quality have been ongoing and do not appear to be driven by the pandemic. The rate at which a worker remains in the same occupation has declined over the sample period and is most pronounced in the lowest-quality occupations.
- Workers in the lowest-quality occupations have increasingly transitioned out of the labor force (4.9 percent), into different lowest-quality occupations (3.1 percent), or into a higher-quality occupation (4.8 percent) over the sample period.
- For workers in the lowest-quality occupations
 - Higher rates of educational attainment are associated with a greater likelihood of attachment to the labor market and transitioning into a better-quality occupation.
 - There is evidence that some industry sectors, such as construction and manufacturing, hold more promise for a worker's ability to find a higher-quality occupation than industry sectors that have higher concentrations of lowestquality occupations.
 - Older workers are more likely to be attached to the labor market than younger workers, yet they are less likely to move into a higher-quality occupation.
 - Gender and racial disparities are present, but a worker's gender or race tends to have smaller effects than other worker characteristics.

The Bureau of Labor Statistics defines a job as a "specific instance of employment" and an occupation as a "category of jobs that are similar with respect to the work performed and the skills possessed by workers," but for the purposes of this report, the terms are used interchangeably throughout. This analysis uses data from the American Community Survey (ACS) and Current Population Survey (CPS) via the Integrated Public Use Microdata series (IPUMS).

Defining Job Quality

The 2019 ACS (5-year sample) is used to produce an index of job quality, which is then applied to all years in the sample, such that an occupation's level of quality is fixed. There can be many dimensions to job quality, but for this analysis, a job quality index is constructed using four inputs: an occupation's average hourly wage, average hours worked per week, average weeks worked per year, and the share of workers with health insurance through an employer or a union.¹ Occupations are placed into job quality quartiles based on their index levels. Job quality quartiles were constructed to account for roughly equal shares of employment.

Table 1 shows the mean value for each of the inputs into the job quality index by quartile. Based on these inputs, the quartiles delineate a range of highest-quality jobs to lowest-quality jobs. For example, occupations in the lowest-quality job quartile are

characterized as relatively low-wage, part-time employment, and less than half of workers receive employer-provided health benefits. Ushers, hosts and hostesses, retail salespersons, childcare workers, personal care and home health aides, cashiers, fast food workers, waiters and waitresses, and janitors/building cleaners are all examples of lowest-quality occupations.

On the other side of the spectrum, the highest-quality occupations have high wages, full-time schedules, and four out of five workers receive employer-provided health benefits. Highest-quality occupations include accountants/auditors, architects, computer support specialists, lawyers, occupational therapists, crane operators, optometrists, and various types of engineers and managers. A list of occupations by job quality quartile can be found in the appendix.

Table 1. Job Quality Quartiles

Job Quality Quartile	Average Hourly Wage	Average Hours per Week	Average Weeks per Year	Percent of Workers with Health Insurance through Employer or Union
1 (Lowest)	\$15.39	28.1	35.6	47.7%
2 (Low)	\$20.68	33.8	40.3	58.8%
3 (High)	\$28.95	36.6	42.6	72.8%
4 (Highest)	\$48.07	39.8	44.5	79.4%
Total	\$28.21	34.5	40.7	64.5%

Source: IPUMS-ACS, 2019.

Worker Characteristics by Job Quality

Worker characteristics vary by job quality.² Table 2 displays the average worker characteristics for each job quality quartile. Workers in the lowest-quality occupations tend to be younger, are more likely to be female, have lower levels of educational attainment, are more likely to be Black or Hispanic workers, and are less likely to be married or head of a household.

Lowest-quality occupations are predominantly in the retail trade, accommodation and food services, and healthcare and social assistance sectors. Highest-quality occupations are more likely to be found in the professional and business services, manufacturing and finance, and insurance and real estate industry sectors.

Table 2. Worker Characteristics by Job Quality Quartile, 2010–2021

	Lowest Job Quality	Low Job Quality	High Job Quality	Highest Job Quality
Age (years)	37.3	41.1	42.1	43.0
Male (%)	44.3	51.7	49.9	63.7
No high school diploma (%)	15.9	9.9	4.0	1.4
High school diploma (%)	37.9	35.6	22.3	12.8
Some college (%)	23.7	22.3	15.5	12.9
2-year degree (%)	4.0	5.5	6.0	3.3
4-year degree or more (%)	13.5	19.7	43.0	60.3
White (%)	74.8	78.6	81.7	81.1
Black (%)	16.0	13.1	10.5	8.0
Asian (%)	5.1	4.9	5.0	8.6
Hispanic (%)	25.6	20.4	13.2	9.3
Married (%)	40.1	53.6	60.4	66.9
Head of household (%)	42.7	49.0	53.6	58.5
Children under the age of five in household (%)	11.8	12.4	13.8	14.6
Agriculture, forestry, fishing, hunting, and mining (%)	2.5	3.1	1.2	1.0
Construction (%)	1.5	11.8	7.5	5.8
Manufacturing (%)	3.9	12.6	11.1	14.2
Wholesale trade (%)	1.5	2.4	1.2	4.8
Retail trade (%)	22.5	8.3	10.8	3.5
Transportation and warehousing (%)	3.5	8.2	3.9	3.1
Utilities (%)	0.2	0.5	0.9	1.9
Information (%)	0.8	1.7	2.2	3.3
Finance, insurance, and real estate (%)	1.6	6.5	5.9	12.8
Professional and business services (%)	9.3	9.5	7.1	21.8
Educational services (%)	5.6	7.6	19.1	4.8
Healthcare and social assistance (%)	15.2	12.2	17.2	8.4
Arts, entertainment, and recreation (%)	3.3	1.4	0.5	0.7
Accommodation and food services (%)	18.2	5.1	3.7	1.0
Other services (%)	8.0	5.7	3.6	2.2
Public administration (%)	1.6	2.9	4.0	10.3
Live in a metro area (%)	86.2	85.0	86.1	91.3
# of observations (millions)	1.2	1.3	1.4	1.4

Sources: IPUMS-CPS (2010-2021), IPUMS-ACS (2019), IPUMS USA, University of Minnesota, www.ipums.org.

Occupational Mobility by Job Quality

Monthly samples of the CPS are used to observe the occupational mobility of employed individuals (18 to 64 years old) from 2010 to 2021.³ The IPUMS-linked CPS allows a user to see if a worker stays in the same occupation or transitions out of the labor force, into unemployment, or into another occupation from one month to the next.⁴ Figures 1–3 present the annual rates of occupational mobility by job quality quartile from 2010 to 2021.⁵ Collectively, these three figures help illustrate the value of looking at job quality by showing how occupational mobility varies based on the quality of jobs workers hold. Figure 4 shows the annual rates at which workers in the lowest-quality occupations change occupations.

Staying in the Same Job

Figure 1 presents the rate at which a worker remains in the same occupation by job quality quartile from 2010 to 2021. On average, workers in the highest-quality occupations remained in those occupations 92.3 percent of the time, compared to 86.3 percent of workers in the lowest-quality occupations. The rate at which a worker remains in any occupation has been declining since 2010, but this is especially true for lower-quality occupations. The rate at which workers remained in the lowest-quality occupations declined 2.3 percentage points (from 87.7 percent to 85.4 percent) between 2010 and 2021. The rate at which workers remained in the same occupation in each of the other three job quality quartiles saw declines of 1.0, 0.1, and 0.4 percentage points, respectively. Importantly, and contrary to the Great Resignation narrative, this decline in the rate at which a worker remains in an occupation has been ongoing since 2010. In fact, for workers in the lowest-quality occupations, the largest annual decline (1.8 percentage points) took place from 2018 to 2019 as labor market conditions tightened. This decline is associated with increased movement among the lowest-quality jobs in 2019.

Leaving the Labor Force

Figure 2 displays the rate at which a worker transitions out of the labor force by job quality quartile. Again, this rate varies by job quality. Workers in the lowest-quality occupations leave the labor force at rates that are roughly 3.5 to 4 times that of workers in the highest-quality occupations. From 2010 to 2021, workers in the lowest-quality occupations left the labor force 4.5 percent of the

time, on average, while workers in the highest-quality occupations left the labor force 1.2 percent of the time. This rate has increased since 2010, especially for lower-quality occupations. The rate at which workers in the lowest-quality occupations left the labor force increased by 0.8 percentage points from 2010 (4.1 percent) to 2021 (4.9 percent). The three higher-quality job quartiles saw smaller increases of 0.6, 0.1, and 0.2 percentage points, respectively. Again, contrary to the Great Resignation narrative, the increase in the rate at which a worker leaves the labor force has been ongoing. Moreover, only workers in lower-quality jobs saw upticks in 2020.

Becoming Unemployed

Figure 3 shows the rate at which a worker transitions into unemployment by job quality quartile. Consistent with the first two occupational mobility metrics, the rate at which a worker transitions into unemployment varies by job quality. Workers in lower-quality occupations transition into unemployment at higher rates than workers in higher-quality occupations. The transition into unemployment rates follow the business cycle: steady declines in the rates from 2010 to 2019, followed by an increase in 2020 and decline in 2021, with lower-quality occupations showing larger swings than higher-quality occupations. Workers in the lowest-quality occupations saw the rate into unemployment increase by 2.8 percentage points from 2019 to 2020, compared to the increase of 0.6 percentage points that workers in the highest-quality occupations saw. In 2021, rates remained above prepandemic levels for all quartiles, with the largest differences in the lowest-quality occupations (0.3 percentage points).

Changing Occupations

The final occupational mobility metric I examine is the rate at which workers in the lowest-quality occupations move to other employment—either to another lowest-quality occupation or into a higher-quality occupation. Figure 4 presents the rates at which workers in the lowest-quality occupations transition into a different lowest-quality occupation and into a higher-quality occupation (quartiles 2, 3, and 4). Both outcomes are relatively infrequent (less than 5 percent) but have become increasingly more likely since 2010. The rate at which workers moved to another lowest-quality occupation showed a slight upward trend from 2010 to 2018, followed by an increase in 2019 to 4.5 percent. The increase is attributed to a decrease in the

rate at which workers remained in the same occupation as labor market conditions tightened. The rate has since settled to 3.1 percent in 2021. The rate at which a worker moved into a higher-quality occupation steadily increased from 2010 to 2015, after which upward mobility slowed but has since picked up in 2019; the rate reached 4.8 percent in 2021. Again, these trends began prior to the pandemic.

Exploring the series of occupational mobility metrics for workers highlights the value of looking at labor market data with a job quality lens. There is a positive enough correlation between higher-quality occupations and higher rates of workers' remaining in the same occupation (and labor force in general) that improving job quality is likely an additional solution for employers to consider in response to hiring and retention challenges.

These metrics also highlight how daunting navigating the labor market can be for workers in the lowest-quality jobs. In 2021, nearly 9 out of 10 workers in the lowest-quality jobs remained in the same lowest-quality jobs (85.4 percent) or in different lowest-quality jobs (3.1 percent). Workers in the lowest-quality occupations are just as likely to leave the labor force altogether (4.9 percent) as they are to move into a higher-quality occupation (4.8 percent). And workers with the lowest-quality jobs transition into unemployment at four times the rate of workers in the highest-quality jobs (1.8 vs. 0.4 percent).

Figure 1. Rate at Which a Worker Remains in the Same Occupation by Job Quality Quartile



Figure 2. Rate at Which a Worker Leaves the Labor Force by Job Quality Quartile



Figure 3. Rate at Which a Worker Becomes Unemployed by Job Quality Quartile

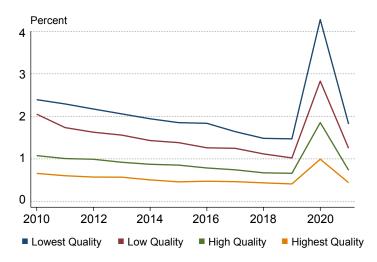


Figure 4. Rates at Which Workers in Lowest-Quality Occupations Change Jobs



Sources: Author's calculations, IPUMS-CPS (2010–2021), IPUMS-ACS (2019), IPUMS USA, University of Minnesota, www.ipums.org.

Which Worker Characteristics Are Associated with Specific Occupational Mobility Outcomes?

To futher understand job mobility outcomes for workers in the lowest-quality occupations, it can be helpful to examine the characteristics of workers there. Each of the four occupational mobility outcomes described above can be used to explore which worker characteristics are associated with specific outcomes for workers in the lowest-quality occupations. I've incorporated the worker characteristics listed in Table 2 into a series of logistic regression models to do this portion of the analysis. I've also included year variables to further support the observation that the occupational mobility trends started prior to the COVID-19 pandemic. Results included in the following figures contain an average effect for each variable and are relative to the omitted category for each group of variables.⁷

There are a few observations that emerge from this part of the analysis:

- The importance of education is highlighted across
 the occupational mobility outcomes. Higher rates of
 educational attainment are associated with a greater
 likelihood of both staying in the labor market and
 transitioning into a higher-quality occupation.
- There is evidence that some industry sectors, such as construction and manufacturing, hold more promise for a worker's upward mobility than others. Unfortunately, those industry sectors that employ the highest shares of workers in the lowest-quality occupations, such as retail sales, healthcare and social services, and accommodation and food services, do not fall into this category.
- Older workers are more likely to stay in the labor market, yet they are less likely to move into a higherquality occupation.
- Gender and racial disparities are present in occupational mobility outcomes, but a worker's gender or race tends to have smaller effects than other worker characteristics. However, the data suggest that women and workers of color may be more sensitive to job quality than their counterparts.
- As mentioned above, the observed occupational mobility trends have been ongoing since the mid-2010s.

Characteristics of Workers Who Stay in the Same Occupation

Figure 5 presents worker characteristics as they relate to workers who stay in the same lowest-quality occupation. Looking at the rate at which they stay (x axis), it is clear that no one worker characteristic is a dominating factor for remaining in the same occupation, but there are a few characteristics worth mentioning. Being a head of household (4.1 percent more likely than those who are not heads of households), holding a 2-year degree (3.1 percent more likely than a worker without a high school diploma), and being employed in the retail trade. healthcare and social assistance, and accommodation and food service sectors (3.2 percent more likely than a worker in the public sector) are associated with remaining in the same occupation. Also noteworthy (if somewhat hidden by the relatively small average effect) is age; an older worker (45 years old) is 3.7 percent more likely than a younger worker (25 years old) to remain in the same occupation.

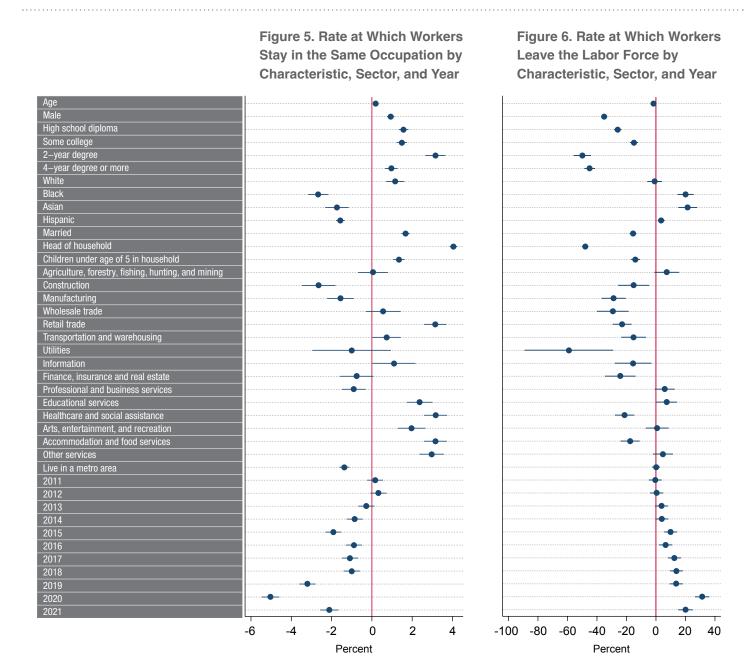
Alternatively, factors related to race, industry, and time are associated with not remaining in the same occupation. Black (2.7 percent less likely than other races), Asian (1.7 percent less likely than other races), and Hispanic (1.6 percent less likely than non-Hispanic workers) workers are less likely to remain in the same occupation. Similarly, those employed in construction are 2.6 percent less likely than public-sector workers to remain in the same occupation. And workers have become less likely over time to remain in the same occupation, especially in the last three years (2019–2021).

Characteristics of Workers Who Leave the Labor Force

Figure 6 shows which characteristics have a larger impact on workers' leaving the labor force. Race and time are associated with workers being more likely to leave the labor force. Asian (21.5 percent) and Black (20.1 percent) workers are more likely to leave the labor force than workers of other races. And starting in 2015, workers have been more likely than workers in 2010 to leave the labor force. Important worker characteristics associated with remaining in the labor force include age, gender, education, head of household, and industry. An older worker (45 years old) is 32.6 percent less likely to leave the labor force than a younger worker (25 years

old). Male workers are 35.1 percent less likely to leave the labor force than female workers. Higher rates of educational attainment are also associated with greater attachment to the labor force; workers with a 2-year degree or a 4-year degree are more than 45 percent less likely to leave the labor force than a worker without a high school diploma. A head of household is 47.9 percent less likely than a worker who is not head of household to leave

the labor force. Workers in several industry sectors—manufacturing; wholesale trade; retail trade; utilities; finance, insurance, and real estate; and healthcare and social assistance—are at least 20 percent more likely than public-sector workers to remain in the labor force. And workers with young children in the home are 14 percent less likely to leave the labor force than a worker without young children in the home.



Sources: Author's calculations, IPUMS-CPS (2010-2021), IPUMS-ACS (2019), IPUMS USA, University of Minnesota, www.ipums.org.

Characteristics of Workers Who Become Unemployed

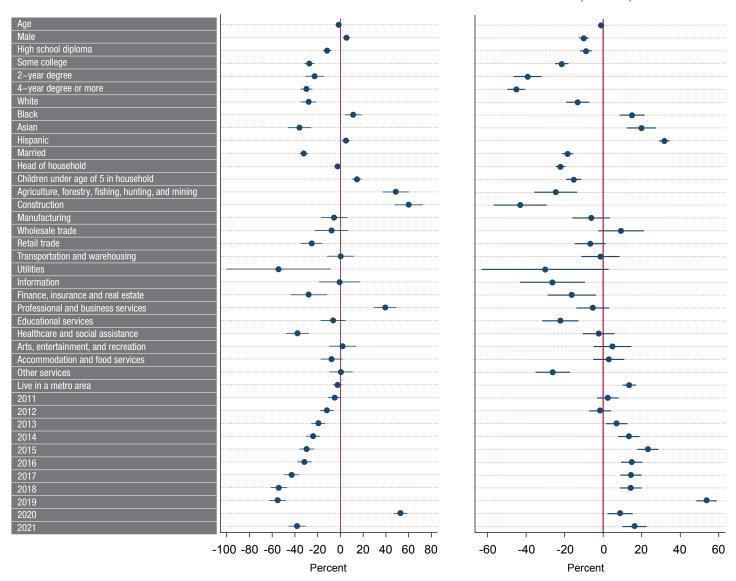
Figure 7 shows that for workers transitioning into unemployment, the business cycle and a few notable worker characteristics are important. Examining the transitions by year highlights the cyclical nature of unemployment; transitioning into unemployment became less likely during the 2010s, more likely in 2020 when there was a recession, and again less likely in 2021 as the economy began to recover and business activity increased. Relatedly, the industry sector in which a worker is employed also influences how likely they are to transition into unemployment. Workers in agricultural and farming, construction, and professional and business services are 48.7 percent. 60.1 percent, and 39.4 percent, respectively, more likely than workers in the public sector to become unemployed. Alternatively, workers in healthcare and social assistance (33.7 percent); finance, insurance, and real estate (27.9 percent); and retail trade (25.3 percent) are less likely than public-sector workers to transition into unemployment. There are also some familiar demographic patterns related to unemployment. Workers with lower rates of educational attainment are more likely to become unemployed. Younger workers (25 years old) are 29.7 percent more likely to transition into unemployment than an older worker (45 years old). Black workers are 11.2 percent more likely to transition to unemployment than workers of other races. An unmarried worker is 32.2 percent more likely to become unemployed than a married counterpart, while workers with young children in the home are 14.5 percent more likely than workers without young children to transition into unemployment.

Workers Who Transition into Other Lowest-Quality Occupations

Figure 8 shows how worker characteristics relate to workers' transitioning into different lowest-quality occupations. The importance of educational attainment is once again highlighted, as workers with lower rates of educational attainment are more likely to take another lowest-quality occupation. Time is also important, as workers have been more likely to move from one lowest-quality job to another starting in the mid-2010s, reaching 53.7 percent more likely in 2019. The industry sector in which a worker is employed also influences the likelihood of moving to another lowest-quality occupation; workers in construction (43.0 percent), information (26.3 percent), other services (26.1 percent), agriculture and farming (24.6 percent), and educational services (22.2 percent) are less likely to move to another lowest-quality occupation than workers in the public sector. In terms of race and ethnicity, Hispanic (31.8 percent), Asian (19.9 percent), and Black (15.0 percent) workers are more likely to move into a different lowest-quality occupation than workers of other races.

Figure 7. Rate at Which Workers Become Unemployed by Characteristic, Sector, and Year

Figure 8. Rate at Which Workers Transition to Other Lowest-Quality Occupations by Characteristic, Sector, and Year



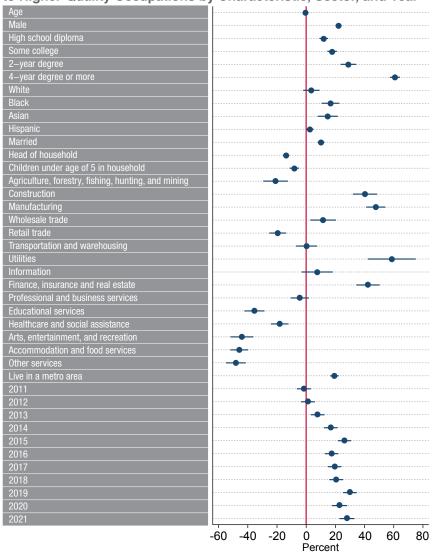
Sources: Author's calculations, IPUMS-CPS (2010-2021), IPUMS-ACS (2019), IPUMS USA, University of Minnesota, www.ipums.org.

Workers Who Transition from Lowest-Quality Occupations to Higher-Quality Occupations

Figure 9 concludes the set of occupational mobility metrics by showing which worker characteristics relate to workers moving from lowest-quality occupations to higher-quality occupations. Workers with higher rates of educational attainment are more likely to move into a higher-quality occupation, and this effect gets larger as educational attainment increases. For example, workers with a high school diploma (12.1 percent), some college (17.8 percent), a 2-year degree (29.0 percent), and a 4-year degree (60.8 percent) are more likely to transition into a higher-quality occupation than a worker without a high school diploma. Workers in certain industry sectors are more likely to move into higher-quality jobs, too; workers in construction, manufacturing, utilities and finance, and insurance and real estate are all more than 20 percent more likely than workers in the public sector to move into

a higher-quality occupation. Conversely, workers in the agriculture and farming (20.9 percent); retail trade (19.5 percent); educational services (35.4 percent); healthcare and social assistance (18.1 percent); arts, entertainment, and recreation (44.0 percent); accommodation and food services (45.8 percent); and other services (48.1 percent) sectors are less likely than workers in the public sector to move into a higher-quality occupation. Unfortunately, these same sectors employ 75 percent of workers in the lowest-quality occupations. Disparities are present in terms of gender but not in terms of race. Male workers are 22.3 percent more likely than female workers to move into a higher-quality occupation. Black (16.7 percent) and Asian (14.8 percent) workers are more likely than workers of other races to find a higher-quality occupation, while the results for white workers are not statistically significant. The likelihood of moving into a higher-quality occupation has increased over time and currently stands at 28.0 percent more likely in 2021 than in 2010.

Figure 9. Rate at Which Workers in Lowest-Quality Occupations Transition to Higher-Quality Occupations by Characteristic, Sector, and Year



CONCLUSION

This analysis adds to a growing body of research about job quality and shows that it is an important dimension of the labor market to consider. Workers—especially those in the lowest-quality occupations—are affected by job quality. Those in the lowest-quality occupations tend to be less attached to employment and the labor market, a situation which suggests that employers might consider improving job quality in response to hiring and retention challenges. Furthermore, it has been shown that these are not new developments related to the pandemic but rather ongoing labor market trends. Taking job quality into consideration reveals that even when the unemployment rate is low, workers in the lowest-quality occupations can face bleak labor market prospects. Moreover, it is also suggested that the industry sectors predominantly employing workers in the lowest-quality jobs may limit a worker's ability to move into a higher-quality job.

NOTES

- ¹ Variables are standardized by computing Z-scores for each variable and then summed to produce a job quality index.
- ² In addition to a worker's occupation, the CPS provides information on demographics (age, gender, race, and ethnicity), educational attainment, household structure (marital status, head of household, children under the age of five in the household), industry sector, and if a worker lives in a metro area.
- ³ An IPUMS-CPS defined variable that uniquely identifies individuals across CPS samples allows this analysis to be conducted monthly. Monthly CPS samples, as opposed to the March Supplement, are used to observe occupation transitions because it allows for a large sample size and for this analysis to include 2021; Gabe, Abel, and Florida (2019) use the annual supplement in their analysis, so there are expected differences.
- 4 Wage growth and changing employers are not observable when a worker remains in the same occupation.
- Monthly data are aggregated to produce annual measures of occupational mobility to ensure better coverage across occupation types and to remove seasonality.
- ⁶ Gabe, Abel, and Florida (2019) found similar results.
- Average effects are calculated by dividing the average marginal effect divided by the average for that particular outcome over the sample period. It is interpreted as the percent change in the probability of a specific outcome, given a 1-unit change in the independent variable. The omitted reference categories are females, no high school diploma, other race, non-Hispanic, unmarried, non-head of household, no children under the age of five in household, the public administration sector, and the year 2010.

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