

## Middle-Skill Jobs Remain More Common Among Rural Workers

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Rural and urban economies have undergone drastic changes in recent decades. Whether replaced by technology, sent overseas, or eliminated altogether, middle-skill jobs—those requiring either long-term, on-the-job training (typically between one month to one year) or some form of apprenticeship or up to two years of education beyond high school—have become less common.<sup>1</sup> These jobs, such as many of those in manufacturing, continue to play a particularly substantial role in rural labor markets.<sup>2</sup> Nationwide, however, the U.S. job market has become increasingly polarized between “good” high-skill jobs requiring a college degree (and also providing benefits and higher pay) and “bad” low-skill jobs requiring little education or training but also characterized by low pay, few if any benefits, and less job security.<sup>3</sup>

These economic changes mean new challenges and obstacles for American workers and their families. Middle-skill jobs represent occupations that have been crucial to American workers since the 1950s, including blue-collar positions such as those in the manufacturing and construction industries. Many families rely on these “mid-level” jobs for financial security, making access to middle-skill employment crucial to economic well-being in America.<sup>4</sup> Reliance on these jobs is also more critical in rural than urban America, where workers are more frequently employed in manufacturing, mining, and other traditionally blue-collar industries.<sup>5</sup>

This issue brief uses data from the Current Population Survey (CPS) collected from 2003 to 2012 to assess trends in employment in middle-skill jobs and the Great Recession’s impact on middle-skill workers, with particular attention paid to differences between those in rural and urban places (see Box 1 on page 4). Each occupation category listed by the Bureau of Labor Statistics (BLS) is measured on three interrelated dimensions including education, necessary work experience, and required on-the-job training. I use these to classify occupations as low, middle, or high skill. Middle skill encompasses jobs that require at least one of the following: (1) at least moderate on-the-job training (one month to one year) or an apprenticeship, (2) one to five years of experience in a similar job, or (3) a post-secondary vocational award,

### Key Findings

- Roughly half (51 percent) of American workers living in rural areas held middle-skill jobs in 2012—positions requiring at least some on-the-job training, an apprenticeship-type experience, or postsecondary education but no more than a two-year degree. This figure is well above the national average of 43 percent and the urban average of 42 percent.
- Since 2003, the percentage of workers holding middle-skill jobs has not changed in rural places but has declined slightly in urban places. Other data suggest that there has been a downward trajectory in these types of occupations since the 1970s; analyses conducted for this brief indicate that, at least in recent years, national declines in the prevalence of middle-skill workers appear to reflect an urban rather than rural trend.
- Despite this trend, some middle-skill occupations are growing in both urban and rural areas. Much of this growth is driven by the increasingly important role that the service sector (in particular, the health care field) plays in the U.S. economy.
- Half of all working men, but only 35 percent of working women, hold middle-skill jobs. In urban places, white, Hispanic and black workers were equally likely to hold middle skill jobs but in rural areas Hispanics were substantially more likely to hold middle-skill jobs than white or black workers. And older workers are more likely than younger workers to hold middle-skill jobs.

some college, or an associate degree. For example, plumbers (who are typically required to complete an apprenticeship for entry into this position) are considered middle-skill workers, as are medical assistants (who often hold two-year degrees).

High-skill jobs require at least a four-year college degree regardless of an individual's level of related experience or training, whereas low-skill jobs require no more than a high-school diploma, less than one year of related experience, and less than one month of on-the-job training.<sup>6</sup> While some researchers use industry or required education alone as a measure of skill, I move down to the occupation level using these measures from the BLS, which provide a more precise description of the skills and credentials workers in these jobs typically possess.

## Rural Workers Are More Likely to Hold Middle-Skill Jobs Than Urban Workers

In 2012, more than 40 percent of all employed workers nationwide reported holding a middle-skill job (see Table 1). Rural workers were much more likely to hold middle-skill jobs than their urban counterparts (by a difference of 9 percentage points); this trend was evident both before and after the Great Recession (see Figure 1). In 2012, 51 percent of workers living in rural places reported holding middle-skill jobs, compared with only 42 percent of those workers living in cities and suburbs. Place differences also persisted with respect to the job market for high-skill labor, with more urban workers than

**TABLE 1. PERCENTAGE OF WORKERS EMPLOYED IN LOW-, MIDDLE-, AND HIGH-SKILL OCCUPATIONS, BY PLACE AND SELECT DEMOGRAPHICS, 2012**

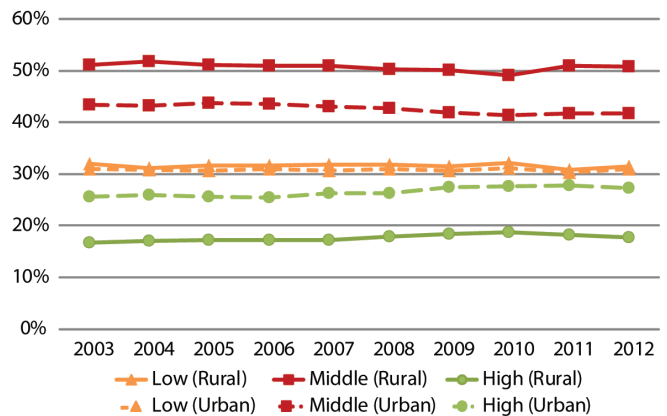
	All Places			Rural			Urban		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
<b>TOTAL</b>	31	43	26	31	51	18	31	42	27
<b>SEX</b>									
<b>Female</b>	38*	35*	27*	39*	40*	21*	38*	34*	28*
<b>Male</b>	25	50	25	25	61	15	25	49	26
<b>RACE/ETHNICITY**</b>									
<b>Black</b>	38*	43	19*	37*	50	13*	38*	42	20*
<b>Hispanic</b>	47*	41*	12*	49*	42*	9*	46*	41*	13*
<b>White</b>	27	44	29	29	52	19	26	42	32
<b>AGE, YEARS</b>									
<b>18–21</b>	69*	25*	6*	65*	30*	5*	70*	24*	6*
<b>22–29</b>	39*	39*	22*	38*	48*	14	39*	38	23*
<b>30–39</b>	27*	44	29	28	53	19	27*	43*	30*
<b>40–49</b>	26*	46*	28	27	53	20	26*	45*	29*
<b>50–64</b>	27*	45*	28	28	52	20	26*	44*	29*
<b>65 and Older</b>	30	43	27	29	55	16	30	40	30

**Notes:**

\*Statistically significant differences between groups within places (for example, rural men and rural women). Male is the reference group (referring to the gender section), Non-Hispanic White is the reference group (referring to race/ethnicity), and Age 65 and older is the reference group.

\*\*White and black refer to non-Hispanic individuals, whereas Hispanic individuals may be of any race.

**FIGURE 1. PERCENTAGE OF WORKERS EMPLOYED IN LOW-, MIDDLE-, AND HIGH-SKILL JOBS BY PLACE, 2003–2012**



Source: March Current Population Survey (CPS), 2003–2012

their rural peers employed in occupations requiring at least a four-year degree (27 percent compared with 18 percent, respectively). There were no rural/urban differences with respect to the percent employed in low-skill jobs.

As Figure 1 illustrates, two different trends are apparent in rural versus urban America. In rural places, the prevalence of middle-skill work has remained relatively stable over the last decade. In urban areas, however, these jobs have slowly but steadily declined in number; this trend continued throughout the Great Recession. Although the decrease in availability of middle-skill work among urban residents represents only about 2 percentage points, this decline is suggestive of the long-term downward trend in this type of employment overall. Indeed, by some estimates, the prevalence of middle-skill work has decreased by 20 percent since the 1970s.<sup>7</sup>

Men are more likely than women to report employment in middle-skill occupations (see Table 1). In 2012, one-half of all working men over age 18 were employed in these jobs, compared with just 35 percent of women. This gender gap is even more pronounced among those living in rural areas, where 61 percent of men held middle-skill jobs, compared with only 40 percent of women.

In urban areas, Hispanics are slightly less likely to report holding middle-skill jobs, but this difference is small (only 1 percentage point). It is also worth noting that, in 2012, almost one-half of all rural Hispanics who were employed held low-skill jobs—substantially more than both white and black workers in rural places.

Workers under age 30 were typically less likely than older workers to report employment in middle-skill occupations. This is likely a reflection of generational differences in the

job markets between younger and older workers, with the former being more likely to pursue four-year degrees for employment in high-skill jobs.<sup>8</sup>

In addition, middle-skill jobs were most common in the male-dominated construction, manufacturing, and transportation industries; in 2012, more than 50 percent of workers employed in these industries reported holding middle-skill occupations. Conversely, middle-skill jobs were least common in the service industry and in retail trade—industries in which roughly one-third of workers in 2012 were employed in middle-skill jobs.<sup>9</sup>

## Rural and Urban Places Saw Similar Trends in Growth and Decline of Certain Middle-Skill Jobs

Although middle-skill jobs are more common in rural labor markets, certain shifts in both urban and rural areas were similar. Recent losses in middle-skill jobs are indicative of broader economic restructuring that has affected both rural and urban job markets. During the recession, the decline in the number of middle-skill jobs in urban places represented a continuation of the loss of manufacturing jobs.<sup>10</sup> Other types of jobs that declined in number represented the deleterious influence of the recession on various sectors of the U.S. economy, including the construction industry. Middle-skill occupations such as carpenters, painters, and other construction-oriented trades witnessed some contraction in recent years due in large part to the mortgage crisis that stalled the construction of many new homes (among other projects) across the country.<sup>11</sup> The declines experienced by the construction industry during the Great Recession occurred in both rural and urban areas, emphasizing at least some place-continuity in the trajectory of the middle-skill labor force.

Despite the nationwide decrease in middle-skill employment opportunities overall, not all middle-skill jobs are in decline. Many of these occupations expanded even during the recession. Over the past five years, middle-skill jobs in the medical and health services sector in particular experienced growth, in both rural and urban America. For instance, according to the BLS, the middle-skill occupation of registered nurse is expected to account for many of the jobs created in the health field in coming years, and nursing, psychiatric, and home health aides (an occupational group that includes both low- and middle-skill jobs) are among the fastest growing of all health care support occupations. The numbers of both kinds of occupations are projected to grow through 2020 as the health care sector continues to expand.<sup>12</sup>

## The Future of Middle-Skill Employment

Many Americans looking for work presently and in coming years will be seeking middle-skill jobs. At least some of the job growth over the remainder of the current decade is projected to occur in the middle-skill labor market. More specifically, the BLS projects that “in occupations in which apprenticeship is the typical on-the-job training, employment is expected to grow by 22.5 percent (more than half a million jobs), faster than for any other on-the-job training category.”<sup>13</sup> Future growth will not be enough to offset losses incurred in certain occupations during the recession, however. For instance, although the number of carpenters is projected to increase as the housing market improves, the BLS reports that not all of these jobs are expected to return to their pre-recession levels.<sup>14</sup> Moreover, continued losses are expected in other corners of the middle-skill workforce, including in the manufacturing sector and various jobs in agriculture. With respect to the high-skill workforce, occupations that often require at least a master’s degree are expected to grow by more than one-fifth. On the low-skill end of the labor market, employment opportunities in personal-care work and retail sales are also expected to grow rapidly, reflecting the importance of the service sector to the U.S. economy.

Although a plurality of workers across the United States hold middle-skill jobs, more than one-half of rural workers are employed in this type of occupation, perhaps as a result of larger differences in the job markets of these places. Demand-side factors such as a greater prevalence of jobs in rural America in the manufacturing and agriculture sectors (industries in which middle-skill jobs are more common) likely play a role in this economic divide. At the same time, supply-side factors such as a lower prevalence of college graduates in rural areas may also contribute to the economic trajectory of rural labor markets, as might differences in levels of compensation for college-educated workers, who typically experience greater returns on their credentials in metropolitan areas.<sup>15</sup> Although economists have noted that overall numbers of middle-skill-sector jobs are in decline, this trend appears to have been relegated to the construction, manufacturing and finance/insurance/real estate industries in urban areas in recent years, while the rate of employment in these jobs has held steady in rural America.

Although the middle-skill sector continues to represent an avenue into well-paying occupations that do not require formal education beyond a high school level, an increasing number of these jobs (such as those in

the health care field) requires workers to obtain a two-year degree or some other credential, particularly as baby boomers reach retirement age and occupations in health care expand.<sup>16</sup> Some rural counties rich in natural amenities that are attracting older Americans are likely to experience a change in the demand for registered nurses, medical assistants, and other middle-skill workers who play a critical role in the health sector. Job-training programs should consider the growing role that these jobs will play in the future of the U.S. economy.

Policy makers should bear in mind these important distinctions between rural and urban economies. If U.S. labor markets are becoming increasingly polarized between low- and high-skill jobs, this trend is less apparent in rural places. As policy makers continue to press for initiatives to put more Americans back to work, they must recognize the role that middle-skill jobs play in the U.S. economy.

#### Box 1: Definition of the Terms *Rural* and *Urban*

Definitions of *rural* and *urban* vary among researchers and the sources of data they use. Data for this brief come from the Current Population Survey, which indicates whether or not each household is located in a metropolitan area. The Office of Management and Budget defines a metropolitan area as: (1) a central county (or counties) containing at least one urbanized area with a population of at least 50,000 people, and (2) the counties that are socially and economically integrated with the urbanized area, as measured by commuting patterns. In this brief, *urban* refers to such metropolitan places, and *rural* refers to places outside these boundaries.

## Data and Methods

Data are from the Annual Social and Economic Supplement to the Current Population Survey (CPS), provided by Integrated Public Use Microdata Series (IPUMS).<sup>17</sup> I include only workers aged 18 and older. The CPS categorizes respondents as “employed” (“at work”; “has job, not at work last week”; or “Armed Forces”), “unemployed,” or “not in labor force.” I include only those workers who reported a labor status of “at work” or “has job, not at work last week.”

All differences and changes discussed in this brief are statistically significant at the  $p < .05$  level. I report significance for within-place differences (for example, rural men compared with rural women) in Table 1; for simplicity in displaying percentages, across-place differences are not noted in the table but are discussed in the main text. Data are weighted on the basis of age, race/ethnicity, and sex.

Past analyses have employed either occupational categories to assess middle-skill occupations (for example, coding all construction jobs as middle skill) or the distribution of the educational attainment of workers in that occupation (such as 30 percent of construction workers have less than a high school degree, 50 percent have a high school degree, 10 percent have completed some college or have an associate degree, and 5 percent have a bachelor’s degree or higher).<sup>18</sup> Rather than employing these measures, I move down to the occupation level to operationalize middle-skill employment. In this case, “skill” refers to the minimum amount of training or education required for entry into a given occupation. The Bureau of Labor Statistics provides a description for each occupation, including the length of on-the-job training, education, and past work experience typically required for entry. It is from these descriptions that I derive measures of low, middle, and high skill, assigning a skill category to each four-digit occupation code in the CPS data from IPUMS.



## ENDNOTES

1. David Autor, *The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings* (Washington, DC: Brookings Institution, 2010), available at <http://www.brookings.edu/research/papers/2010/04/jobs-autor>; Barry Bluestone and Bennett Harrison, *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry* (New York: Basic Books, 1982).
2. Kristin Smith, E. Tickamyer, and Ann R. Tickamyer, *Economic Restructuring and Family Wellbeing in Rural America* (State College, PA: Penn State University Press, 2011), p. 17, Table I-2.
3. Arne L. Kalleberg, *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s–2000s* (New York: Russell Sage Foundation, 2011).
4. Autor, *The Polarization of Job Opportunities*; Jennifer Wheary, Thomas M. Shapiro, and Tamara Draut, “By a Thread: The New Experience of America’s Middle Class” (New York: Demos and the Institute on Assets and Social Policy, 2007), available at [www.demos.org/sites/default/files/publications/ByAThread\\_MiddleClass\\_Demos.pdf](http://www.demos.org/sites/default/files/publications/ByAThread_MiddleClass_Demos.pdf).
5. Smith and Tickamyer, *Economic Restructuring and Family Wellbeing in Rural America*.
6. Harry J. Holzer and Robert I. Lerman, *America’s Forgotten Middle-Skill Jobs* (Washington, DC: The Workforce Alliance, 2007), available at [http://www.nationalskillscoalition.org/assets/reports-/americasforgottenmiddleskilljobs\\_2007-11.pdf](http://www.nationalskillscoalition.org/assets/reports-/americasforgottenmiddleskilljobs_2007-11.pdf). The authors used a similar method to define middle-skill jobs at the occupation level, although they also examined these jobs using industry as a basis for skill. It should be noted that even within jobs there is a great deal of variation in skill. For example, a plumber with ten plus years of experience is likely far more skilled than another with only one or two years of experience. A plumber with ten years of experience might also be more skilled than someone in a high-skill profession who has a four-year degree and no on-the-job experience. Although it is not within the scope of this research to assess these job-level differences, “middle skill” is by no means an arbitrary categorization. Instead, it captures real labor market changes that may be detrimental to the well-being of American workers and their families, as many of these jobs are disappearing and fewer and fewer are being created to replenish them.
7. This figure of 20 percent comes from David Autor, *The Polarization of Job Opportunities*, who uses industry of employment as his measure of middle skill. Because I relied on occupational-level data (to gain a more precise measure of skill), significant changes in the occupational coding scheme that occur every few years prevented from coding further back than the early 2000s.
8. U.S. Census Bureau, *Educational Attainment, 2007–2011 American Community Survey 5-Year Estimates* (Washington DC: U.S. Census Bureau, 2010); ACS data suggest that roughly 31 percent of individuals between 25 to 34 and 35 to 44 have obtained a Bachelor’s degree or higher, compared to nearly 29 percent of those between 45 to 64 and a fifth of those over the age of 64; note that the difference in middle-skill employment rates between workers aged 22 to 29 and those older than 65 were not statistically significant in urban places.
9. Analyses of data not shown in this brief is available upon request.
10. Bluestone and Harrison, *The Deindustrialization of America*.
11. Benjamin Cover, “Construction Employment: A Visual Essay,” *Monthly Labor Review*, vol. 134, no. 11 (2011): 23–36.
12. Bureau of Labor Statistics, “Employment Projections: 2010–20 News release,” USDL-12-0160 (Washington, DC: U.S. Bureau of Labor Statistics, 2012), p. 1, available at [bls.gov/news.release/ecopro.htm](http://bls.gov/news.release/ecopro.htm).
13. Bureau of Labor Statistics, “Employment Projections: 2010–20,” p. 1; for a discussion of need and growth in middle-education jobs (where education, not on the job training, is the emphasis), see Anthony Carnevale, Tamara Jayasundara, and Andrew Hanson, *Career and Technical Education: Five Ways that Pay along the Way to the B.A.* (Washington, DC: Center on Education and the Workforce, Georgetown University, 2012), available at [cew.georgetown.edu/ctefiveways/](http://cew.georgetown.edu/ctefiveways/).
14. Bureau of Labor Statistics, “Employment Projections: 2010–20.”
15. Lorin Kusmin, “Rural America at a Glance: 2011 Edition” (Washington, DC: Economic Research Service, U.S. Department of Agriculture, 2011), available at [www.ers.usda.gov/media/123318/eib85.pdf](http://www.ers.usda.gov/media/123318/eib85.pdf). See also S.J. Goetz and A. Rupasingha, “The Returns to Education in Rural Areas,” *Review of Regional Studies*, vol. 34, no. 3 (2004): 245–259.
16. Bureau of Labor Statistics “Employment Projections: 2010–20” includes a list of numerous occupations that are expected to expand. Of those that might be considered “middle skill,” a number are in the health care sector (including registered nurses).
17. Miriam King et al., “Integrated Public Use Microdata Series, Current Population Survey: Version 3.0” [Machine-readable database](Minneapolis: Minnesota Population Center [producer and distributor], 2010).
18. Autor, *The Polarization of Job Opportunities*; Holzer and Lerman, *America’s Forgotten Middle-Skill Jobs*; Carnevale, Jayasundara, and Hanson, *Career and Technical Education*; Julia Dennett and Alicia Sasser Modestino, “The Middle-Skills Gap: Ensuring an Adequate Supply of Skilled Labor in Northern and Southern New England,” Policy Brief 11-1 (Boston: New England Public Policy Center, Federal Reserve Bank of Boston, 2011).

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