

## Introduction

Rising job skill requirements were a signature feature of the U.S. economy in the 20th century. Technological change, shifts in the global geography of production, and large investments in human capital slowed or reversed the growth of jobs comprised of physical, routine tasks while prompting rapid growth in jobs requiring high levels of formal education and technical knowledge. In 1900, agriculture and manufacturing alone employed two-thirds of all workers, the great majority of them holding manual and routine jobs in field and factory. Much of the remaining workforce was engaged in similarly low-skill work in the Nation's mines, shops, and offices (Executive Office of the President, 2000). As of 2000, about 38 percent of the U.S. workforce was employed in occupations requiring only low-level academic, technical, and reasoning skills; in rural America, 42.2 percent of all jobs were in such low-skill occupations, down from 44.4 percent in 1990.<sup>1</sup>

The long-term decline in rural low-skill jobs was historically associated with the steep decline in farm employment. Agriculture now claims too small a share of the workforce to affect large-scale patterns of change, and most of the remaining farmers are skilled owners and operators. Rural manufacturing, which has a higher concentration of low-skill jobs than agriculture, has likewise seen its share of total employment decline in recent years.

Most workers in both urban and rural labor markets today are employed in the service sector, which has higher skill requirements on average than the goods-producing sector comprised of agriculture, mining, construction, and manufacturing. Thus, the economic transformation from goods to services should reduce the share of low-skill jobs. Moreover, new ways of organizing work within an industry to accommodate new technologies and product demand are changing employers' demand for various skills, reflected in the mix of occupations needed. In short, both industry and occupation changes affect the number of low-skill jobs available in the economy.

This report examines the relationship between low-skill employment and industrial and occupational shifts by considering the following questions:

1. Did low-skill jobs continue to shrink as a proportion of the rural economy as quickly in the 1990s as in the past?
2. Did large-scale industrial shifts, such as from goods production to service provision, play a decisive role in these changes, or did shifts to more skilled occupations within these industries become the key factor?
3. Did skill trends benefit rural workers economically, particularly those historically more prone to low-skill employment?

The measure of skill in this study is based on the complexity and technical knowledge required in the worker's occupation. This measure, unlike such commonly used measures as educational attainment, emphasizes the skills embodied in a job—and by extension the economic structure of a region—rather than the skills of workers, who may be in jobs below, and occasion-

<sup>1</sup> In this report we use the terms “rural” and “nonmetro” interchangeably when discussing conditions in nonmetro counties, and the same is true for “urban” and “metro.” See “Data and Methods” for further explanation.

ally above, their skill potentials. The skill measure is described in greater detail in the following section.

The third question addresses the crucial link between transformation in skill demand and the well-being of the rural workforce. To some observers, the shift from goods to services has inhibited the growth of “good” jobs in rural America. According to this perspective, although many service-sector jobs demand high skill levels and pay well, rural areas lack the density of population and infrastructure to attract those jobs. As a result, the service sector has merely replaced the goods sector as the source of most rural low-skill jobs. And, because low-skill service jobs pay less on average than low-skill jobs in the goods sector, workers who take these jobs often end up worse off economically than before, widening the gap between workers at the top and bottom of the earnings scale.

Other observers, however, point out that as human capital levels and capital investments have grown in some rural labor markets, the ability to attract and retain a vibrant high-skill service sector has increased as well. They also argue (correctly, we show) that technology and productivity change within industries has a far greater effect on earnings change than does the transition to services (Albrecht et al., 2000; Galston and Baehler, 1995).

The key finding in this report is that the share of rural jobs in low-skill occupations fell between 1990 and 2000—although by less than in the 1980s—mostly as a result of rising skill requirements and higher skill occupations within industries rather than industrial restructuring. The decline in low-skill employment share was seen among nearly all demographic subsets of workers. Rural economies kept pace with the national trend toward job upskilling. In fact, the low-skill share of jobs in rural areas, though still higher than the national average, fell slightly more than in urban areas.

A second important finding is that the continuing gains in service-sector employment during the 1990s were too small to contribute much to changes in the rural skill mix. Nor did these gains prevent a real rise in earnings for either the typical rural worker or the less educated worker with less chance of moving into high-skill employment. Nonetheless, those workers who would have been employed in a low-skill goods job, but found themselves in a low-skill services job due to sectoral shifts, were likely to see real earnings declines.

Why does rural job-skill change matter? On a fundamental level, a healthy rural America depends on its ability to share in a national and global economy that increasingly relies on human capital. For individual workers, jobs requiring higher skills tend to pay more and offer better benefits, leaving them better off and possibly reducing demand for Federal and State support services. For communities, a high-skills jobs mix usually indicates an upward development track, making such places less vulnerable to international competition and more attractive to high-wage employers.

The source of rural job-skill change also matters. Shifts to more skilled occupations within industries—not industrial change—drove the decline in the low-skill share of jobs in the 1990s. Rural areas with limited resources may opt to pursue development strategies incorporating skill upgrades

within the current set of industries, including investments in education and training and encouraging new technology that creates higher skill work.

Finally, low-skill employment change can affect rural economic inequality. Women and Blacks benefited most from the decline in low-skill share, while the rising prevalence of low-skill work among Hispanics was associated with lower earnings growth. Effective labor policies will ensure that labor market differences are transitory and that better educational and career prospects are available regardless of residence.