

By Christopher H. Wheeler

Over the past three decades, the states of the Eighth Federal Reserve District have experienced a massive increase in earnings inequality.

Just among white males between the ages of 18 and 65, the 90th percentile of the weekly wage distribution was 3.7 times as much as the 10th percentile in 1970.<sup>1</sup> By 2000, this ratio had risen to 5.2. This trend mimics the pattern observed for the entire United States in which, over the same 30-year period, the 90-10 wage percentile ratio increased from a factor of 3.7 to 5.5.

These patterns, to a large degree, reflect the widening gaps between what workers with different levels of education earn. In 1970, high school graduates in the District earned approximately 16 percent more than high school dropouts, whereas by 2000, high school graduates earned 22 percent more. At the upper end of the education distribution, the trend has been even more pronounced. The premium paid to a worker with a four-year college degree relative to a high school graduate was 51 percent in 1970. By 2000, it was 80 percent.

### Location Matters

Underlying these relatively well-documented patterns, however, is a less well-known feature: a large difference between the inequality trends of urban and rural areas.<sup>2</sup> Consider, again, the ratio of the 90th percentile of the distribution of weekly wages to the 10th percentile. This figure in 1970 was actually higher in the rural parts of the Eighth District (3.6) than the urban parts (3.2).

Over the next 30 years, however, this ratio grew 65.2 percent in the District's urban areas, reaching a value of 5.4 by the year 2000. In rural areas, it rose to 4.3, a relatively modest 19 percent increase. Figure 1 illustrates these changes.

These differential growth rates can be linked, in large part, to the evolution of education returns in these two types of markets. The premium earned by a worker with a high school diploma relative to a high school dropout in 1970 was 11 percent in urban areas, 15 percent in rural areas. In 2000, the premium had risen to 21 percent in urban areas, 20 percent in rural areas.

Again, the difference is even larger at the top end of the education distribution. The average wage premium earned by a worker with a bachelor's degree relative to a worker with a high school diploma in 1970 was 52 percent in urban areas, 49 percent in rural areas. By 2000, however, the urban premium had grown to 86 percent, while the rural figure had risen to only 60 percent.

What is it about urban areas that has generated such a large rise in the earnings gap between workers with different levels of education? Although by no means exhaustive, there are three prominent theories of rising U.S. wage inequality that may help to account for these trends.

### Changing Employment Opportunities

The types of jobs available in the Eighth District changed substantially between 1970 and 2000, moving away from manufacturing and toward business, repair and professional services (e.g., accounting, medical and legal services, education).

As shown in Table 1, this type of employment restructuring has been especially prevalent within the District's cities.

Between 1970 and 2000, manufacturing's share declined from 33.1 percent to 25.4 percent of total rural employment. At the same time, it fell from 30.7 percent to 17 percent of urban employment. These decreases were mostly offset by increases in the shares of workers employed in services.

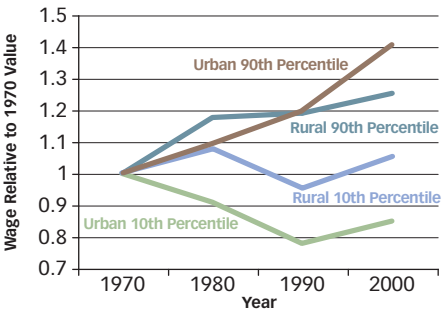
How might this shift have influenced inequality? Manufacturing has traditionally employed large quantities of less-educated labor. In 1970, roughly three-quarters of all manufacturing employees had no more than a high school degree. The business, repair and professional services, by contrast, have historically demanded more-educated workers. In 1970, 56 percent of employees in this sector had some college education. The substitution of service jobs for manufacturing jobs has, therefore, decreased the employment opportunities for the less-educated while improving them for the more-educated. Growing earnings disparity between these two groups is a natural consequence of such a change.

### Rising Demand for Highly Educated Workers

In general, all industries in the Eighth District are now more likely to hire college-educated workers than they were in 1970. Looking at a broad collection of 30 industries between 1970 and 2000, the fraction of total employment accounted for by workers with a bachelor's degree rose by an average of 13 percentage points per industry among urban employers. For rural employers, the average increase was 5 percentage points per industry.

Evidently, the demand for college-educated workers has risen for reasons independent of industrial shifts. Moreover, this rise has been particularly large in the District's cities. Some have speculated that this additional boost to the demand for the highly educated has been driven by the increased use in the workplace of information technology,

Figure 1  
Urban and Rural Wage Growth



which tends to replace manual tasks while complementing nonroutine problem solving.<sup>3</sup> Evidence has shown that computer usage tends to be significantly higher among urban workers than their rural counterparts.<sup>4</sup>

Rising demand for highly educated labor due to technological change would certainly help to explain why, as shown in Table 1, the fraction of total employment accounted for by college-educated workers has increased so dramatically in the District’s urban areas—from 12.3 percent in 1970 to nearly 28 percent in 2000. The fact that, in spite of this large increase in the supply of these workers, the urban

unionization is frequently invoked as an explanation for rising earnings inequality in the United States.<sup>6</sup> The flaw with this explanation is that there is little evidence that the decline in unionization has been larger among urban workers than rural workers. In fact, data from the Bureau of Labor Statistics indicate that, between 1983 and 2000, urban declines in unionization were larger than rural declines in only three of the Eighth District states (Arkansas, Mississippi and Missouri).<sup>7</sup> Illinois, Indiana, Kentucky and Tennessee actually saw greater declines in union membership among their rural labor forces.

Cities at a Fork in the Road

What do we make of these trends in wage inequality? On the negative side, workers at the bottom end of the earnings distribution have seen the real value of their wages stagnate or even decline in the past three decades. Because this pattern has been especially prevalent in cities, the problems associated with poverty may continue to worsen in the nation’s urban areas—particularly among the less-educated—where

Table 1  
Selected Characteristics of Urban and Rural Areas—Eighth District States

PERCENT OF EMPLOYMENT		1970	1980	1990	2000
In Manufacturing	Urban	30.7	26.0	19.7	17.0
	Rural	33.1	30.4	27.5	25.4
In Business, Repair and Professional Services	Urban	19.7	23.7	27.5	32.7
	Rural	18.7	20.3	22.9	26.7
With College Degree	Urban	12.3	17.9	23.6	27.7
	Rural	8.9	10.8	12.7	14.6

SOURCE: Author’s calculations using census public-use samples.

college premium remains higher than the rural college premium suggests that the rise in the demand for college-educated labor has been particularly large in the District’s cities.

Declining Union Activity

Since 1970, union activity has shown a gradual decline in the states of the Eighth District. Between 1970 and 2000, the percentage of the employed (nonfarm) labor force belonging to a union dropped from 15.7 to 5.9 in Arkansas, 33.2 to 18.7 in Illinois, 39.9 to 15.7 in Indiana, 25.4 to 12.2 in Kentucky, 15 to 6.1 in Mississippi, 25.5 to 13.3 in Missouri and 23.8 to 8.9 in Tennessee.<sup>5</sup>

Because a host of evidence has shown that union activity tends to equalize labor earnings across workers, decreasing

employers are looking primarily for highly educated labor.

On the positive side, the rising return to educational attainment has spurred larger fractions of American workers—particularly those living in cities—to go to college. Not only does an increase in a worker’s educational attainment raise his or her personal income by improving access to desirable jobs, it may also confer larger economic and social benefits to the worker’s local labor market, including enhanced growth potential, higher rates of civic involvement and lower rates of crime.<sup>8</sup>

Ultimately, the health of America’s urban areas will depend on which of these two effects dominates.

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ENDNOTES

- 1 The census data used in the calculations are available at [www.ipums.umn.edu](http://www.ipums.umn.edu). Throughout, the analysis focuses on white males between the ages of 18 and 65 who worked at least 14 weeks in the past year and earned at least \$67 per week (in 1982 dollars). This is done to remove any influence of race or gender and to eliminate the effects of workers without a strong attachment to the labor force—workers whose contribution to the calculations may vary dramatically with the business cycle (and, thus, not represent a long-run trend).
- 2 In this article, “urban” refers to a metropolitan area, which is defined by the U.S. Office of Management and Budget as a core area containing a substantial population nucleus (50,000 or more inhabitants) along with adjacent communities having strong economic and social integration with that nucleus. All nonmetropolitan areas are labeled “rural.”
- 3 See Acemoglu (2002) and Autor, Levy and Murnane (2003).
- 4 See Kusmin (1996).
- 5 Calculation of these figures is described by Hirsch, Macpherson and Vroman (2001). The statistics are reported at [www.unionstats.com](http://www.unionstats.com).
- 6 For a discussion of the link between unionization and wage inequality, see Fortin and Lemieux (1997).
- 7 These figures are based on author’s calculations using the Current Population Survey. Information on unionization and urban-rural status are both available only after 1982.
- 8 See Milligan et al. (2004) and Lochner and Moretti (2004).

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