

records check—the record reviews, interviews, related compliance activities, and followup work outside the establishment—took OSHA compliance officers an average of 40 hours (5 workdays) per establishment to complete. The reconstruction of the employer log was the most time-consuming part of the process.

The lack of employee listings, absenteeism, and different work shifts made it difficult at times to select or contact employees. In some situations, employees who were injured or ill in 1986 were intentionally selected for interview to provide more information on their 1986 cases. Experience with these employee interviews and those with people responsible for keeping the employer log, while useful, suggests the need for further research on ways to expand the detail requested and to ensure full understanding of the questions asked.

— FOOTNOTE —

ACKNOWLEDGMENT: The records checks were planned and conducted by the following OSHA area office personnel: Mary Gayle, Warren Huse, William Lander, Frank Pagliuca, and Marie Sullivan in Massachusetts; and Ted Bach, Sandra Jenkins, Diana Lee Gandy, Jean Marshall, and Mary Wehmeier in Missouri. Joanne Goodell, of the OSHA Policy Directorate directed the program. The following staff members in the BLS Office of Safety, Health, and Working Conditions contributed to the development, processing, and analysis of the results of the project: Stephen Newell, Robert Moore, Elyce Biddle, Maryrose Cline-Buso, and Janice Windau.

¹ The BLS guidelines provide interpretation of the recordkeeping requirements of the Occupational Safety and Health Act of 1970 and Title 29, Pt. 1904, of the Code of Federal Regulations.

A movable beast: changing patterns of regional unemployment

RICHARD M. DEVENS, JR.

At yearend 1987, the current expansion reached 61 months, the longest peacetime expansion on record. From the recession trough in November 1987, employment rose by about 14.6 million, the number of jobless fell by almost 5 million, and the unemployment rate dropped from 10.8 percent to 5.8 percent.

As in other years, there were wide differences in the incidence of unemployment among the State and regional labor markets in 1987. New Hampshire had the lowest average rate of unemployment for the year—2.6 percent—while Louisiana, West Virginia, Alaska, and Mississippi had unemployment rates in double digits. On a regional basis, New England reported the lowest unemployment rate—3.4 percent. In contrast, the West South Central division, which

includes Louisiana, saw 8.9 percent of its labor force jobless.

Over the last decade or so, the relative situations of the regions have shifted considerably. In the mid-1970's, higher-than-average unemployment rates were basically a bicoastal phenomenon. In 1976, the Northeast census region—which includes New England—and the West Coast States—especially California and Washington—had much more severe unemployment problems than the geographic center of the country.¹ (See table 1.) Much was made at the time of intractable structural economic problems: “the frost-belt,” the presumed obsolescence of the Northeastern industrial base, the changing demographics of the West Coast's growing labor force, and the migration of manufacturing employment to the expanding South and Southwest.

Following the recessions of the early 1980's, however, a significantly different regional pattern of unemployment began to emerge. In 1983, relatively high unemployment rates² were concentrated in a broad band of Eastern and Central States. (See chart 1.) Structural decline was still evident in the labor markets of the traditionally industrial East North Central division, but the effect of recession on manufacturing jobs also took a toll on the more newly industrialized East South Central States of Alabama, Kentucky, Mississippi, and Tennessee. Louisiana also experienced high unemployment, as oil prices declined and high-cost exploration and production ventures in the Gulf of Mexico were curtailed.

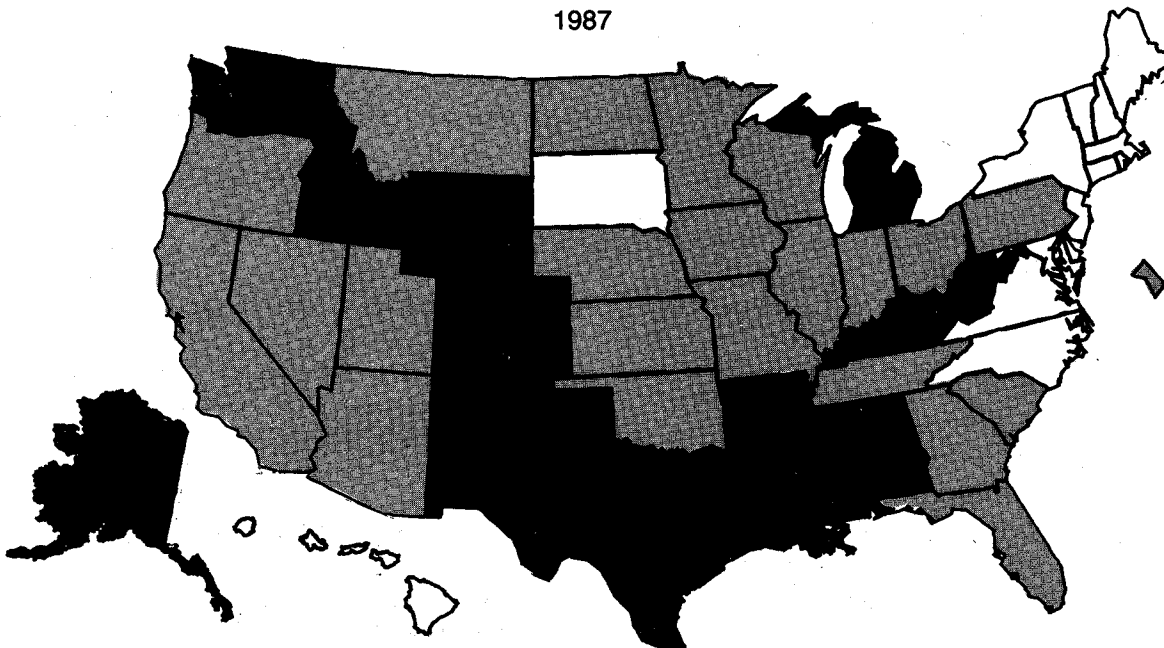
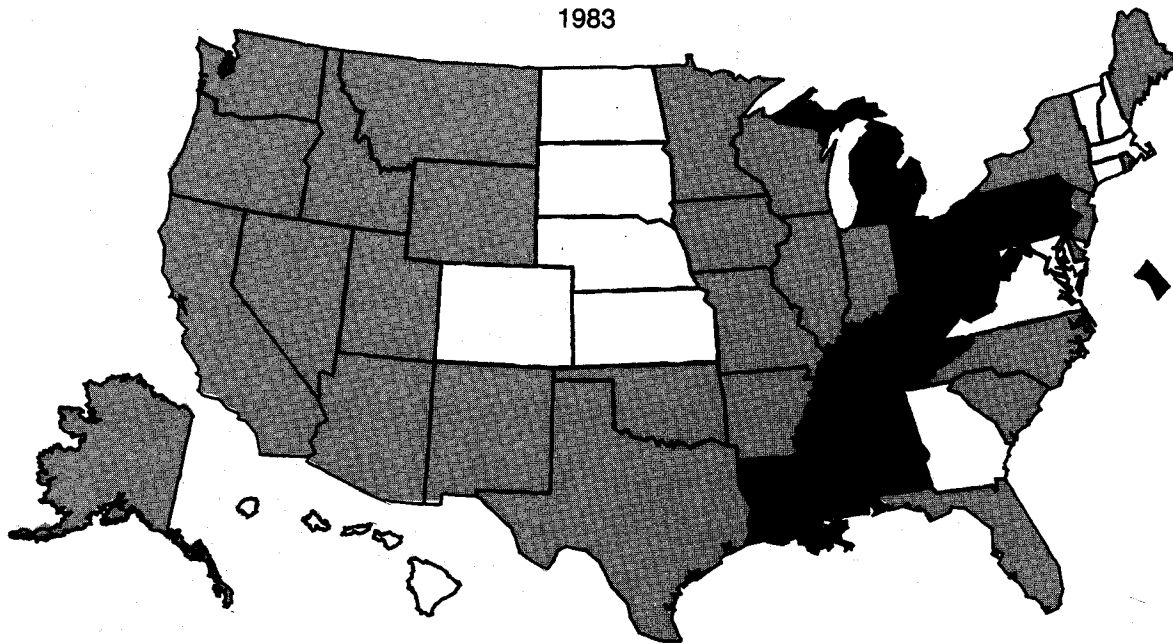
In 1986, the fourth year of recovery, another pattern of regional unemployment rates started to become apparent. The New England States had all moved to the low-unemployment group, and several of the East North Central States had unemployment rates fairly close to the improving national average.




By 1987, the new pattern was more clearly developed. The geographic axis of relatively high unemployment had shifted from North-South to basically East-West. (See chart 1.) The northeastern States, by now including New York, a beneficiary of a rapid buildup in financial services, and New Jersey, well-positioned as a transportation services and regional retailing center, had jobless rates well below the national level. The coastal States in the northern tier of the South Atlantic division were also in good shape. State unemployment rates 20 percent or more above the national average of 6.2 percent started in West Virginia and Kentucky and broadened through the West South Central division, before sweeping out to Washington State by way of Colorado, Wyoming, and Idaho. High unemployment thus was largely concentrated in States whose economies were most dependent on energy production. California, in contrast to its position a decade before, was now among the States with near-average unemployment.

Over the current 5-year expansion, the relative dispersion of State unemployment rates has increased, which, on the surface suggests a trend toward polarization of State

Richard M. Devens, Jr., is an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics.

Chart 1. State unemployment rates, 1983 and 1987



-  More than 20 percent *below* U.S. average unemployment rate
-  Within 20 percent of U.S. average unemployment rate
-  More than 20 percent *above* U.S. average unemployment rate

NOTE: U.S. average unemployment rate was 9.6 percent in 1983 and 6.2 percent in 1987.

Table 1. Unemployment rates by State, selected years, 1976-87

State	1976	1983	1986	1987
Alabama	6.8	13.7	9.8	7.8
Alaska	8.0	10.3	10.8	10.8
Arizona	9.8	9.1	6.9	6.2
Arkansas	7.1	10.1	8.7	8.1
California	9.2	9.7	6.7	5.8
Colorado	5.9	6.6	7.4	7.7
Connecticut	9.5	6.0	3.8	3.3
Delaware	8.9	8.1	4.3	3.2
District of Columbia	9.1	11.7	7.7	6.3
Florida	9.0	8.6	5.7	5.3
Georgia	8.1	7.5	5.9	5.5
Hawaii	9.8	6.5	4.8	3.8
Idaho	5.7	9.8	8.7	8.0
Illinois	6.5	11.4	8.1	7.4
Indiana	6.1	11.1	6.7	6.4
Iowa	4.0	8.1	7.0	5.5
Kansas	4.2	6.1	5.4	4.9
Kentucky	5.6	11.7	9.3	8.8
Louisiana	6.8	11.8	13.1	12.0
Maine	8.9	9.0	5.3	4.4
Maryland	6.8	6.9	4.5	4.2
Massachusetts	9.5	6.9	3.8	3.2
Michigan	9.4	14.2	8.8	8.2
Minnesota	5.9	8.2	5.3	5.4
Mississippi	6.6	12.6	11.7	10.2
Missouri	6.2	9.9	6.1	6.3
Montana	6.1	8.8	8.1	7.4
Nebraska	3.3	5.7	5.0	4.9
Nevada	9.0	9.8	6.0	6.3
New Hampshire	6.4	5.4	2.8	2.5
New Jersey	10.4	7.8	5.0	4.0
New Mexico	9.1	10.1	9.2	8.9
New York	10.3	8.6	6.3	4.9
North Carolina	6.2	8.9	5.3	4.5
North Dakota	3.6	5.6	6.3	5.2
Ohio	7.8	12.2	8.1	7.0
Oklahoma	5.6	9.0	8.2	7.4
Oregon	9.5	10.8	8.5	6.2
Pennsylvania	7.9	11.8	6.8	5.7
Rhode Island	8.1	8.3	4.0	3.8
South Carolina	6.9	10.0	6.2	5.6
South Dakota	3.4	5.4	4.7	4.2
Tennessee	6.0	11.5	8.0	6.6
Texas	5.7	8.0	8.9	8.4
Utah	5.7	9.2	6.0	6.4
Vermont	8.7	6.9	4.7	3.6
Virginia	5.9	6.1	5.0	4.2
Washington	8.7	11.2	8.2	7.6
West Virginia	7.5	18.0	11.8	10.8
Wisconsin	5.6	10.4	7.0	6.1
Wyoming	4.1	8.4	9.0	8.6

performance. However, such a pattern is typical, reflecting an arithmetic process that may be illustrated by a simple example. Assume that the national unemployment rate is 10 percent at some time and over the course of the next year every State's jobless rate falls by 5 points. The national rate will then improve to roughly 5 percent, but the standard deviation of the State rates will not change and the ratio of that figure to the national rate, the "coefficient of variation,"—a statistical measure of relative dispersion—will actually increase.

Although this helps explain why the relative dispersion of State unemployment rates seems larger in the recent years that have been part of a prolonged recovery, there still remains the challenging task of explaining the differences among the levels of State unemployment rates. In efforts to reduce the problem to its elements, analysts have often concentrated on industry mix and economic shock factors.³ The rapidly changing pattern of State and regional unemployment rates described in this article suggests that the differentials are clearly not a function of relatively stable differences in regional attributes, such as industry distribution or demographics, but rather of a fairly rapidly changing economic environment. For example, Rhode Island and Massachusetts are neighboring States with unemployment rates that are now well below the Nation's. Both were near the top of the table in 1976, and both have been part of the general resurgence of the New England economy. But, their industry distributions and policy mixes are quite different. Massachusetts is the prototypical high-tech State combined with a strong regional financial services center, while Rhode Island has much of its work force engaged in such relatively low-wage, traditional manufacturing industries as apparel and jewelry.⁴ While Massachusetts has experimented with broad business development programs on the part of the State government, the citizens of Rhode Island explicitly rejected such a comprehensive approach in a 1984 referendum.

From this example, and the dramatic changes in the spatial patterns of State unemployment outlined earlier, one might conclude that tomorrow's winner cannot easily be projected from today's characteristics, policies, or leadership position.

—FOOTNOTES—

¹ Susan Elizabeth Shank, "Changes in regional unemployment over the last decade," *Monthly Labor Review*, March 1985, pp. 17-23. The current paper is essentially an update of Shank's more detailed article.

² States with unemployment rates 20 percent or more lower than that year's national rate are unshaded in the chart accompanying this article. States with unemployment rates 20 percent or more above the Nation's are shaded black. States whose jobless rates are within 20 percent of the national figure are gray.

³ Philip L. Rones, "An analysis of regional employment growth, 1937-85," *Monthly Labor Review*, June 1986, pp. 4-13. Rones' comments and references concerning shift-share analysis, the impact of migration, and the role of economic shocks are especially useful.

⁴ Howard Kurtz, "Rhode Island: Rags to Riches," *The Washington Post*, Feb. 8, 1988.