

A decade of economic change and population shifts in U.S. regions

Regional 'fortunes,' as measured by employment and population growth, shifted during the 1983–95 period, as the economy restructured, workers migrated, and persons immigrated to the United States

William G. Deming

Between 1983 and 1990, the United States experienced one of its longest periods of economic expansion since the Second World War. After a brief recession during 1990–91, the economy resumed its expansion, and has continued to improve. The entire 1983–95 period also has been a time of fundamental economic change in the Nation. Factory jobs have declined in number, while service-based employment has continued to increase. As we move from an industrial to a service economy, States and regions are affected in different ways.

While commonalities exist among the States, the economic events that affect Mississippi, for example, are often very different from the factors which influence California. This article examines the economic fortunes of the individual States between 1983 and 1995. The first part of the article examines employment growth within the States, using a shift-share analysis. Next, because State employment growth often goes hand-in-hand with population growth, these two variables are examined in combination. Finally, several key issues related to regional economic growth over the last decade are discussed.

Shift-share analysis

One technique that often is used to measure employment changes at the State or regional level is shift-share analysis. As applied in this article, shift-share analysis decomposes State employment growth into three components: national share, industry mix, and State employment share.

The national share component shows the proportion of total employment change that is due simply to overall employment growth in the U.S. economy. That is, it answers the question: "What would employment growth in State 'X' have been if it had grown at the same rate as the Nation as a whole?" The industry mix component indicates the amount of employment change attributable to a State's unique mix of industries. For example, a State with a relatively high proportion of employment in a fast-growing industry, such as services, would be expected to have faster employment growth than a State with a relatively high proportion of employment in a slow-growing or declining industry such as manufacturing. The third effect, State employment share, shows whether the industries within a State performed better or worse than the same industries on a nationwide basis.¹

Analyses of this sort typically aggregate employment data into census regions and divisions rather than considering individual States. This has not been done in this case primarily because these divisions are largely arbitrary, being based mainly on the geographic proximity of the States. While there no doubt can be economic similarities between adjacent States, there are, in many cases, at least as many dissimilarities.² For example, it may make sense to combine Vermont and New Hampshire for analytical purposes, but the economies of Louisiana and Arkansas are driven to a large extent by different factors.

William G. Deming is an economist in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

The argument also can be made that even individual States are no more than a collection of possibly dissimilar sub-State areas. However, it would be extremely cumbersome to examine every sub-State area. Also, individual States are generally viewed as economic units for administrative and governmental purposes. Even at the State level, it is not practical to analyze the data for each industry in each State in detail, so only State-level totals are shown in this article.³

Table 1 summarizes the results of the shift-share analysis. The national share component is most usefully viewed in relation to the actual total employment growth for each State. If, for example, total State employment growth is greater than its national share component (indicated by a value greater than 100.0 in column 3 of table 1), then employment in that State grew at a rate greater than the national average over the period. (Put another way, an index of greater than 100.0 means that part of the State's job growth is not explained by overall national employment growth.) Those States with the lowest actual rates of employment growth relative to the overall national rate were generally concentrated in the Northeast and in the "oil patch" (namely, Alaska, Idaho, Louisiana, Oklahoma, Texas, and Wyoming), although employment in Texas grew at about the same rate as the Nation as a whole between 1983 and 1995. States in the West (except California), the Midwest, and the Southeast grew at rates well above the national average.

The States that showed the poorest performance in terms of their industry mix statistic were concentrated in the South and the Midwest.⁴ However, it was not simply a case of the States with the highest concentration of manufacturing jobs being the hardest hit, as one might expect. While North Carolina, the State with the highest initial proportion of factory jobs, did have the worst industry mix component, two of the States with the worst industry mixes, Oklahoma and Texas, owed their poor performances to declines in the oil and gas component of the mining industry.⁵ Neither had a large proportion of manufacturing jobs in 1983.

Even more interesting is the fact that several States that did have high concentrations of manufacturing jobs in 1983 did not have poor industry mix statistics. The Northeastern States provide the best examples. Connecticut, which owed nearly 28 percent of its jobs in 1983 to manufacturing, had only a mildly negative industry mix, mostly because its large proportion of jobs in the fast growing services industry offset its concentration of factory—jobs.

The State employment share component in most cases provides a better explanation of employment growth (or decline) than the industry mix. The employment share component shows how well the industries within a State performed relative to the national average performance for those industries.⁶ In effect, it furnishes a measure of comparative advantage. To examine the employment share statistics for each of the States in relative terms, we compute a share index for

Table 1. Components of employment change, 1983–95

State	Total State growth	National share		Industry mix	State employment share
		Total	State growth / national share		
Alabama	474.70	390.50	121.56	-49.93	134.12
Alaska	47.77	62.98	75.85	.29	-15.50
Arizona	705.20	316.74	222.64	19.76	368.70
Arkansas	327.30	217.85	150.24	-24.71	134.16
California	2,516.20	2,914.61	86.33	138.27	-536.69
Colorado	512.13	390.03	131.30	11.17	110.92
Connecticut	120.06	424.42	28.29	-17.36	-286.99
Delaware	100.10	78.20	128.00	-3.57	25.47
Florida	2,095.00	1,147.71	182.54	171.37	775.92
Georgia	1,137.00	669.89	169.73	-40.74	507.85
Hawaii	126.50	119.37	105.97	24.57	-17.44
Idaho	158.90	93.42	170.09	-1.12	66.59
Illinois	1,067.74	1,331.44	80.19	27.48	-291.18
Indiana	751.17	596.42	125.95	-63.88	218.62
Iowa	316.70	305.75	103.58	5.61	5.34
Kansas	279.20	270.84	103.09	-8.87	17.24
Kentucky	490.90	338.63	144.96	-32.71	184.97
Louisiana	209.30	459.98	45.50	-19.95	-230.72
Maine	116.60	124.90	93.36	-6.33	-1.97
Maryland	456.90	506.67	90.18	62.08	-111.85
Massachusetts	277.90	792.44	35.07	51.22	-565.75
Michigan	1,028.90	947.20	108.63	-52.21	133.92
Minnesota	655.67	505.00	129.84	17.95	132.72
Mississippi	282.33	232.99	121.18	-33.00	82.34
Missouri	583.37	569.24	102.48	7.21	6.92
Montana	74.70	81.11	92.10	4.67	-11.08
Nebraska	204.56	179.50	113.96	10.52	14.54
Nevada	386.30	118.37	326.34	52.30	215.62
New Hampshire	129.40	120.34	107.53	-5.37	14.42
New Jersey	440.70	930.15	47.38	10.64	-500.09
New Mexico	210.23	140.91	149.19	2.85	66.47
New York	558.03	2,149.21	25.96	192.99	-1,784.18
North Carolina	1,035.50	710.95	145.65	-126.81	451.36
North Dakota	51.50	73.65	69.93	7.17	-29.31
Ohio	1,139.67	1,202.69	94.76	-51.36	-11.66
Oklahoma	143.04	344.01	41.58	-40.10	-160.87
Oregon	450.07	284.09	158.42	.81	165.17
Pennsylvania	724.03	1,329.59	54.46	2.81	-608.37
Rhode Island	44.30	116.46	38.04	-3.11	-69.06
South Carolina	459.20	349.42	131.42	-56.72	166.50
South Dakota	109.13	69.15	157.82	6.65	33.33
Tennessee	783.70	505.17	155.13	-42.86	321.39
Texas	1,833.62	1,820.16	100.74	-99.61	113.07
Utah	341.50	166.60	204.98	-2.70	177.60
Vermont	63.90	60.66	105.35	1.60	1.65
Virginia	861.20	648.56	132.79	3.12	209.52
Washington	762.17	466.12	163.51	16.11	279.95
West Virginia	105.30	171.12	61.53	-30.20	-35.62
Wisconsin	687.57	548.76	125.30	-21.27	160.08
Wyoming	17.60	59.51	29.57	-13.78	-28.13

State and industry.⁷ The index shows the performance of an industry within a particular State relative to the national average for that industry. An index value of less than one indicates below-average growth, while an index of greater than

each one indicates growth that was better than the average for all States in that industry.⁸ Table 2 shows the all-industries share index for each State during the 1983–95 period, as well as for the 1983–90, 1990–91, and 1991–95 subperiods because they approximate upward and downward trends in the national business cycle. The indexes for individual industries were calculated, but are not shown on a State-by-State basis because of space constraints. At the extremes for the entire 1983–95 period, Nevada and Arizona fared the best using this measure, New York and Connecticut, the worst.

Some States appear to have performed consistently over the entire period, while others' fortunes have changed rather dramatically.⁹ A good contrast is furnished by those States that have large oil production industries and States in the Northeast. The industries in Wyoming and Louisiana, for example, both fared poorly during the 1983–90 period when the country was experiencing a long expansion. This can be largely attributed to the "oil bust" of the mid-1980s, which disrupted the economies of all the States that were dependent on oil production. After 1990, by contrast, industries in these two States (and the other "oil States" as well) performed quite well in comparison to the rest of the country. Similarly, the industries in Texas, whose employment grew substantially more slowly than the national average over the 1983–90 period, outperformed the rest of the Nation in each of the periods after 1990 by this measure.

The Northeastern States have not shown this kind of resilience. New York, for example, had the worst overall share index. With the exception of mining (a very minor industry in New York), employment in all major industry groups grew at rates substantially less than the national average over all periods examined. Massachusetts and Rhode Island had similar industry growth patterns. Most of the States in this area of the country fared poorly in relative terms.

At the other end of the spectrum (and the country) are the States of the Mountain West. Nevada, Arizona, Utah, Idaho, and Washington make up 5 of the top 7 States in terms of their relative job gains as measured by the share index. In all but one of these States, employment gains were strong in nearly every industry. The exception to this, Idaho, was below average in mining; transportation, communication, and public utilities; and finance, insurance, and real estate. However, it was well above average in the other major industries; manufacturing employment grew 38 percent faster in Idaho than in the Nation as a whole. Even in the transportation, communication, and public utilities and finance, insurance, and real estate industries, Idaho was below average during the 1983–90 period. In the years after 1990, employment growth in both these industry groups was well above the national average.

Florida, another State in the top seven, along with several other southeastern States, also made very strong job gains, with most of these occurring during the 1983–90 period. In

Table 2. Share index for nonfarm payroll employment by State, 1983–95

State	1983–95			
	Total	1983–90	1990–91	1991–95
Alabama	1.049	1.017	1.016	1.016
Alaska .....	.945	.918	1.032	.998
Arizona	1.279	1.136	1.018	1.106
Arkansas	1.114	1.029	1.026	1.055
California .....	.969	1.041	1.001	.930
Colorado	1.071	.946	1.028	1.101
Connecticut .....	.837	.928	.969	.930
Delaware	1.063	1.079	.995	.990
Florida	1.187	1.139	.995	1.048
Georgia	1.158	1.084	.994	1.076
Hawaii	1.014	1.074	1.033	.914
Idaho	1.159	1.000	1.047	1.108
Illinois .....	.955	.964	1.001	.990
Indiana	1.059	1.026	1.006	1.026
Iowa	1.008	.973	1.022	1.014
Kansas	1.007	.975	1.018	1.013
Kentucky	1.102	1.054	1.015	1.030
Louisiana .....	.876	.839	1.027	1.017
Maine .....	.985	1.039	.971	.976
Maryland .....	.978	1.040	.979	.960
Massachusetts .....	.853	.914	.957	.975
Michigan	1.020	1.017	.992	1.010
Minnesota	1.068	1.022	1.017	1.027
Mississippi	1.048	.976	1.013	1.060
Missouri	1.006	1.000	.997	1.009
Montana .....	.982	.890	1.034	1.068
Nebraska	1.031	.987	1.025	1.020
Nevada	1.514	1.273	1.025	1.161
New Hampshire	1.017	1.025	.960	1.033
New Jersey .....	.880	.948	.974	.953
New Mexico	1.112	1.000	1.021	1.089
New York .....	.832	.927	.972	.923
North Carolina	1.104	1.064	.997	1.040
North Dakota .....	.932	.876	1.030	1.032
Ohio .....	.988	.985	.999	1.004
Oklahoma .....	.868	.844	1.025	1.004
Oregon	1.133	1.065	1.010	1.053
Pennsylvania .....	.897	.944	.995	.955
Rhode Island .....	.859	.940	.945	.966
South Carolina	1.071	1.073	.991	1.007
South Dakota	1.131	1.013	1.039	1.074
Tennessee	1.125	1.054	1.008	1.060
Texas	1.002	.946	1.023	1.035
Utah	1.238	1.054	1.042	1.127
Vermont	1.012	1.030	.978	1.004
Virginia	1.075	1.084	.988	1.003
Washington	1.144	1.116	1.028	.997
West Virginia .....	.913	.894	1.010	1.011
Wisconsin	1.057	1.013	1.017	1.026
Wyoming .....	.840	.810	1.035	1.002

both periods after 1990, Florida's share index was slightly below the national average for the goods-producing industries and slightly above average in the service-producing industries. While still the pacesetter in the Southeast, Florida is no longer carrying its neighboring States. All of the South Atlantic States had overall share indexes above the national

Table 3. Population change by State, 1983–95

State	1983–95			1983–90			1990–95		
	Total (thousands)	Percent change	Average annual growth rate	Total (thousands)	Percent change	Average annual growth rate	Total (thousands)	Percent change	Average annual growth rate
Alabama	342	12.1	1.0	169	6.0	0.9	173	5.8	1.2
Alaska	80	24.1	1.8	42	12.5	1.9	39	10.3	1.8
Arizona	866	40.1	2.9	514	23.8	2.9	352	13.2	2.2
Arkansas	163	9.8	.8	63	3.8	.6	100	5.8	1.1
California	4,063	21.7	1.7	3,211	17.1	2.2	852	3.9	.9
Colorado	479	21.0	1.6	137	6.0	1.0	343	14.1	2.3
Connecticut	84	3.5	.3	144	6.0	.7	-61	-2.4	-.4
Delaware	93	21.0	1.6	59	13.2	1.8	35	6.9	1.4
Florida	2,481	29.8	2.2	1,718	20.7	2.7	763	7.6	1.6
Georgia	1,172	28.6	2.1	656	16.0	2.1	517	10.9	2.0
Hawaii	143	19.4	1.5	98	13.4	1.8	44	5.3	1.3
Idaho	148	22.2	1.7	32	4.8	1.0	117	16.7	2.9
Illinois	404	4.9	.4	209	2.5	.4	195	2.3	.5
Indiana	386	9.8	.8	189	4.8	.7	197	4.8	1.0
Iowa	24	1.2	.1	-33	-1.6	-.2	57	2.8	.5
Kansas	102	5.7	.5	47	2.7	.3	54	3.0	.5
Kentucky	228	8.6	.7	87	3.3	.5	140	5.1	1.0
Louisiana	45	1.5	.1	-50	-1.6	-.2	95	3.2	.6
Maine	101	12.2	1.0	89	10.6	1.3	13	1.4	.4
Maryland	564	17.6	1.4	413	12.9	1.7	151	4.2	.9
Massachusetts	231	5.2	.4	255	5.8	.6	-24	-.5	-.1
Michigan	537	8.3	.7	360	5.5	.7	177	2.6	.6
Minnesota	358	11.9	.9	205	6.8	.9	153	4.8	.9
Mississippi	162	9.2	.7	71	4.0	.6	91	4.9	1.0
Missouri	306	8.4	.7	174	4.8	.6	132	3.5	.7
Montana	53	9.1	.7	-5	-.8	.1	58	10.0	1.6
Nebraska	45	3.9	.3	2	.2	.1	43	3.7	.7
Nevada	464	69.4	4.5	234	35.1	4.6	229	25.4	4.8
New Hampshire	146	20.7	1.6	128	18.1	2.0	19	2.2	.5
New Jersey	370	6.6	.5	318	5.7	.7	52	.9	.2
New Mexico	217	22.4	1.7	99	10.2	1.5	118	11.1	2.0
New York	353	2.7	.2	481	3.6	.4	-128	-.9	-.1
North Carolina	920	20.6	1.6	554	12.4	1.7	366	7.3	1.4
North Dakota	-13	-2.7	-.2	-18	-3.6	-.6	4	.9	.2
Ohio	485	6.2	.5	280	3.6	.5	205	2.5	.6
Oklahoma	17	.7	.1	-77	-3.2	-.3	94	4.1	.7
Oregon	401	20.6	1.6	173	8.9	1.4	227	10.7	2.0
Pennsylvania	267	3.0	.2	202	2.3	.3	65	.7	.2
Rhode Island	25	3.5	.3	52	7.1	.8	-27	-3.4	-.5
South Carolina	412	17.8	1.4	263	11.3	1.6	149	5.8	1.3
South Dakota	29	5.8	.5	3	.7	.2	25	5.1	.9
Tennessee	531	15.5	1.2	257	7.5	1.1	274	7.5	1.4
Texas	2,181	19.6	1.5	1,000	9.0	1.3	1,181	9.7	1.8
Utah	280	28.1	2.1	106	10.6	1.6	174	15.8	2.8
Vermont	55	14.4	1.1	39	10.3	1.3	16	3.7	.9
Virginia	878	21.3	1.6	568	13.8	1.8	310	6.6	1.3
Washington	857	27.1	2.0	444	14.1	2.0	412	11.5	2.2
West Virginia	-5	-.3	.0	-55	-3.9	-.4	51	3.7	.7
Wisconsin	330	9.6	.8	160	4.6	.7	170	4.7	.9
Wyoming	-5	-1.5	-.1	-32	-9.0	-1.0	26	8.3	1.2

SOURCE: U.S. Bureau of the Census.

average after 1991, although the relative gap in the rate of industry employment growth between this region and the Nation as a whole has narrowed in recent years.

California, Hawaii, and Maryland represent a different sce-

nario. After employment growth continued through the latter part of the 1980s for these States, it fell well below the national average following the 1990–91 recession. While different factors affect the industries in each of these States,

one that they have in common is that all are recipients of large amounts of Federal defense dollars. Obviously, the economies of these States are diverse, but the decline in military spending has had a noticeable effect on their overall performance. Several industries in the New England States also experienced substantial declines in defense spending.

Business cycle analysis

While the shift-share analysis used in the previous section is a valuable tool in the analysis of comparative economic performance of States, it has some limitations. One of these is that it uses a point-to-point perspective. That is, the differences between time A and time B can be investigated in detail, but what happens over time between those points is not apparent.¹⁰ Another limitation is that this analysis does not directly account for shifting populations. In comparing the labor market performance of one State or region to the country as a whole, it is helpful to look not just at changes in employment levels, but also at shifts in population. After all, if total employment in a State was growing at an annual rate of 2 percent, but the population was growing at a rate of 3 percent, an assessment of its labor market would be quite different than if population was increasing by only 1 percent. Migration has had a profound effect on the economies of many States over the last decade and especially since 1990. The following analysis attempts to address these shortcomings by examining the employment changes in the States using monthly employment data and introducing a population component to the analysis of the 1983–95 time period.

Migration. Employment growth is closely tied to population growth. Table 3, which lists population growth by State, shows how different areas of the country have experienced widely varying patterns of population change.

As people move into a region, the demand for goods and services increases, leading to more jobs for people who produce those goods and services. Chart 1 illustrates relative population growth by State between July 1983 and July 1995. This map reveals an obvious population shift from the northeastern and midwestern States to the West and South, continuing a trend that began decades ago. This does not tell the whole story, however. If one divides migrants into those moving from State to State and those entering the United States from foreign countries, quite a different picture emerges.¹¹ Several States, notably New York, New Jersey, Illinois, Florida, Texas, and especially California, have been receiving increasingly large flows of migrants from foreign countries, while some are losing residents who move to other States.

New Yorkers, for example, have been moving in large numbers to southern States, especially Florida. California no longer attracts migrants from other States to the extent that it

once did. In fact, for each year between 1990 and 1994, more people left the “Golden State” for other States than moved in. Only three States—North Dakota, West Virginia, and Wyoming—experienced absolute declines in population, although several of the larger States have numbers of residents moving out.

International migration does more than just mask the flow of people moving from State to State. Traditionally, States experiencing high rates of out-migration have tended to lose disproportionate numbers of their better-educated and affluent residents. States that have high rates of international immigration have a different problem. Residents in the low and middle income groups are more likely to leave these States.¹² The following section considers this phenomenon more fully.

Employment-population ratios. It is important to account for population movements when assessing the growth of the States on a relative basis. One way to analyze relative employment growth in the various States in a way that accounts for these changes is to take employment in a given period and divide it by population for the same period. This results in a statistic commonly known as the employment-population ratio, which expresses the proportion of the population that is employed. Actually, the ratios used in this article are constructed somewhat differently than those usually defined by BLS.¹³ However, for the purposes of this analysis, they quite effectively illustrate the economic trends being investigated over the entire 1983–95 period.

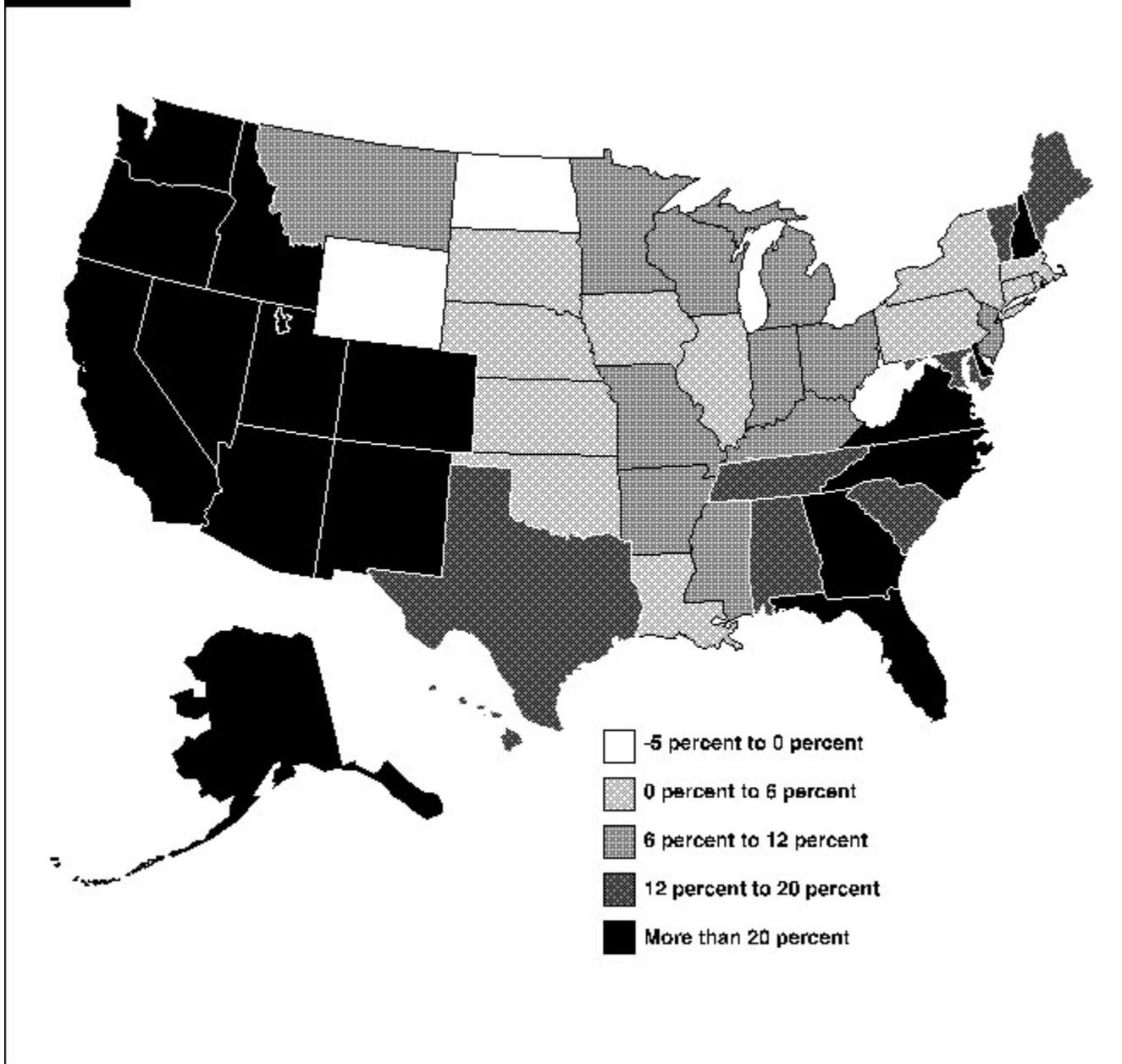
These ratios can be influenced by a number of factors. For example, if the number of persons over age 65 in a State is growing relative to the number of working-age persons, that State will have a declining employment-population ratio, all other things being equal. The employment-population ratios of various demographic groups can differ quite markedly, so changes in the demographic composition of a State’s population will also have an impact on a State’s employment-population ratio. Even so, this statistic is still a valuable measure of economic achievement, and, in general, a rising ratio is interpreted as a positive economic development.

Between 1983 and 1995, the official civilian employment-population ratio (based on the Current Population Survey (CPS)) trended gently upward, due in large measure to steadily increasing employment among women. For the same reason, the employment-population ratios calculated for the individual States also exhibited an upward trend in most cases. What is examined in this analysis, however, is not just the long-term trend, but also the similarities among the various States in the cyclical movements of their ratios. (See chart 2.)

Employment-population ratios were calculated for each State on a monthly basis for the period between January 1983 and December 1995.¹⁴ The resulting data series were then

Chart 1.

Population growth by State, 1983-95



rendered in graphic form to facilitate comparisons among the States and between each State and the Nation as a whole. As chart 3 shows, the results fell into six basic patterns, characterized by the similarities in the movements of their employment-population ratios over time. These groupings are not precise, and some States could arguably have been included in groups other than those shown.

The first group, comprised of 13 States in a swath from Montana to Alabama, generally showed a steady pattern of growth in their employment-population ratios. The 1990–91 recession appears to have had little or no effect on the

employment-population ratios in these States. Almost all of the States in this group have a large agricultural base. While this analysis uses data from the Current Employment Statistics program, which does not actually measure agricultural employment, this industry is nevertheless an important stabilizing force in the economies of these States. West Virginia is something of an exception here, in geographic as well as industry terms, and, even in 1995, its employment-population ratio was well below that of all other States. A few of the States in this group, notably Alabama and Mississippi, did exhibit a slight slowdown in growth during the recession, but immedi-



The electronic version of Chart 2 is not available. If you would like a hard copy of this chart, please send email to mlr@bls.gov

ately resumed their higher growth rates in 1991.

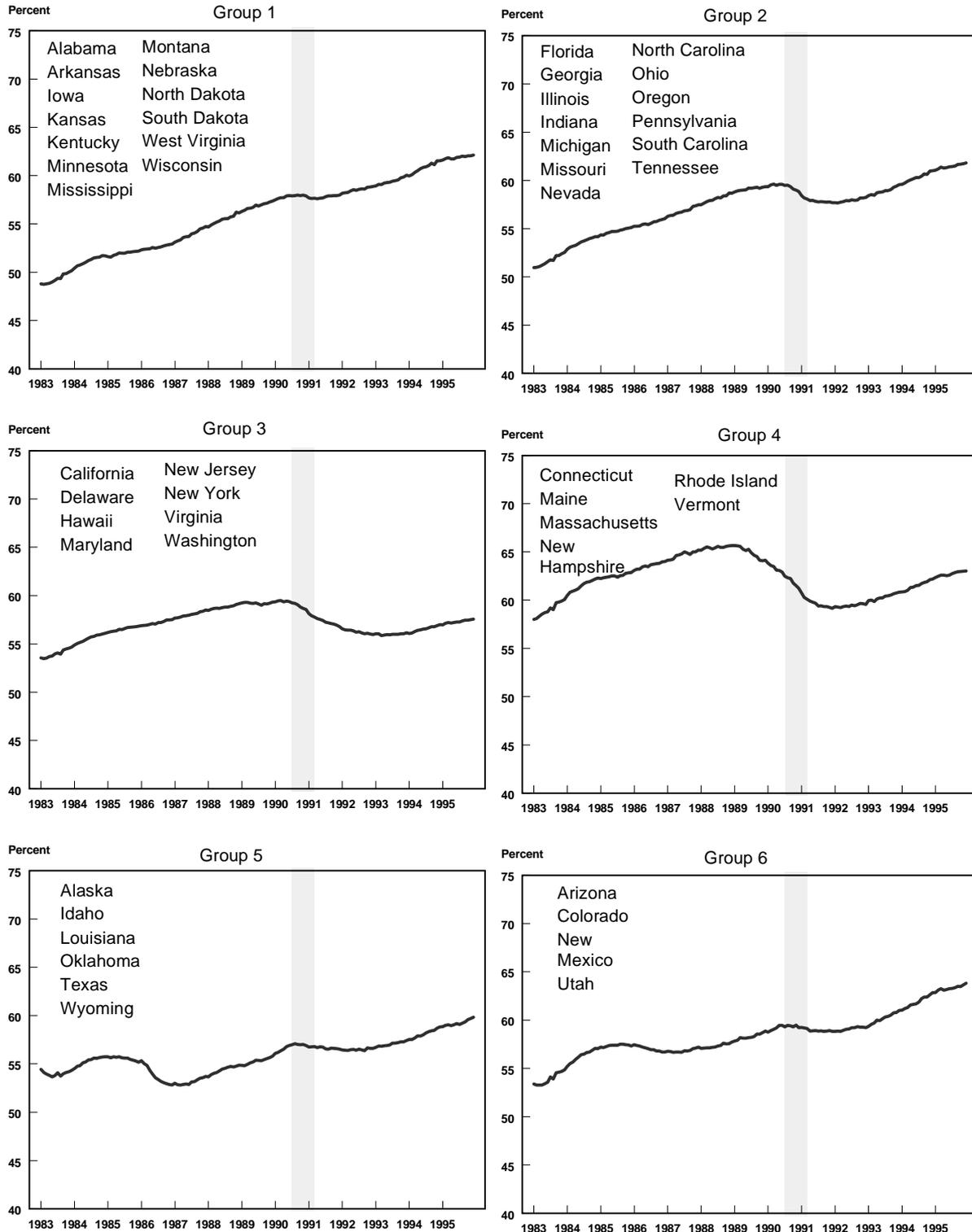
The second group consists of 13 States that most closely approximate national growth patterns over the last decade or so. In each case, these States had steadily rising employment-population ratios throughout the mid- to late 1980s. Also in each case, the point at which the ratios began to decline more or less coincided with the official onset of the recession. The employment-population ratios of these States resumed their upward trends following the recession. Most of the States in this group have managed to maintain a solid manufacturing base. By contrast, Nevada and Florida both have economies

that are heavily dependent on tourism. Since the traditional tourist markets for both these States were hit by the recession, tourism fell and the economies of both States suffered.

The next group, California and Washington on the West coast, along with several States in the mid-Atlantic region, slumped during the 1990–91 recession, were slow to turn

The New England States are remarkably homogeneous with respect to the patterns of their employment-population ratios. In this region, the economic resurgence that took place during the early 1980s fizzled out in the latter part of the decade. As measured by employment-population ratios, the

Chart 3. Employment-population ratios by State, 1983–95



NOTE: Each panel shows a weighted average monthly employment-population ratio for a group of States. Shaded areas represent recession.

economic decline in this region was both deeper and more sustained than it was in any other part of the country. Also, the decline in New England started earlier than did those in other regions. New England was particularly hard hit by losses in the goods-producing sector. When the States are ranked according to the percent decline in factory employment, the New England States are all near the top of the list. Connecticut, the State with the highest percentage loss, experienced a 31-percent drop in factory employment between 1983 and 1995. Employment in manufacturing has continued its decline in New England, although Vermont and New Hampshire have added factory jobs since 1991.

The oil States experienced slumped economies during the mid-1980s, but have since grown quite briskly. In general, these States have seen mining employment fall sharply as part of a national trend, while employment in services grew as a proportion of the total. Alaska, however, had expanding employment in mining through about 1991, at which point it fell again. As a percentage of total employment, mining was about the same in Alaska in 1995 as it was in 1983.

While some States were relatively unaffected by the recession, and most showed no effects from the oil bust of the mid-1980's, the last group of States—Arizona, Colorado, New Mexico, and Utah—appear to have been affected by both events. These States generally have strong economies and are attracting migrants from other parts of the country. Their geographic location between California—which is still trying to recover from recession—and several oil States has, however, left them vulnerable to the economic misfortunes of both.

Key issues

There are a number of reasons why different States or regions would exhibit such diverse economic trends. For one, income and cost-of-living differentials exist among the different parts of the country. On the one hand, wage rates in the urban Northeast are higher than those in rural Utah, for example. On the other hand, the cost of living in high-wage urban areas tends to be commensurately high. This can be an incentive for firms as well as individuals to relocate. Also, economic shocks affect different regions in different ways. Plummeting oil prices in the mid-1980s devastated the Texas economy, but had a positive effect on most parts of the country because they benefited from lower energy costs.¹⁵

Nationwide industrial restructuring. It has been widely acknowledged that the 1990–91 recession was unlike previous economic downturns. This recession, and the subsequent recovery, came at a time of fundamental restructuring of the U.S. economy. As with economic shocks, this restructuring affected States in different ways. Employment in manufacturing has shrunk as a result of increasing global competition

and productivity gains. In 1983, manufacturing accounted for slightly more than one-fifth of all nonfarm jobs. Twelve years later, less than 16 percent of nonfarm jobs were in manufacturing. Over that same period, the services industry increased its share of total employment in the United States from 22 percent to 28 percent. The national economy is now largely service driven. Some States have adapted rapidly to these new conditions and prospered.

Converting from traditional smokestack industries to a services-driven economy is not an easy process, however. Nor does reliance on service industries provide a guarantee of (relative) success. Indeed, other than Nevada and Florida, the States with the highest shares of service employment generally had economic performances that were, at best, mediocre from 1983 to 1995. Even given the decline in the importance of manufacturing, it would appear that a stable manufacturing base is still an important component for a strong economy.

Defense cutbacks. The end of the Cold War has been a two-edged sword for the U.S. economy. When the Iron Curtain finally fell in 1989 and 1990, many people assumed that the United States would enjoy a “peace dividend” as defense-related expenditures declined. However, as Federal defense procurement budgets have shrunk, many manufacturers have had to cut jobs. There has been a series of corporate takeovers and consolidations as companies, which are heavily dependent on defense dollars, have merged. Many of the jobs that disappeared with the declining defense budget were the type of skilled factory jobs that have traditionally been considered the basis of the economy.

Table 4 shows Federal defense spending as a percentage of gross State product for each State in 1984 and 1992. The States that experienced only small changes in defense spending performed well in the preceding analyses in most cases. Those States that underwent large Federal defense cuts were less consistent. On the one hand, Connecticut, a State that has performed rather poorly in economic terms over the last decade, experienced a decline in Federal defense spending from nearly 10 percent of gross State product to less than 4 percent. Missouri, on the other hand, has shown fairly robust growth in spite of a similar decrease in military dollars. So, while declining Federal defense spending may have had a major impact on some State economies, other States have taken the cuts in stride and continued to flourish.

California. Because of its sheer size and because it has traditionally been an economic leader among the States, California's fortunes are important both regionally and nationally. At least some of the growth in the States of the Mountain West (such as Idaho and Nevada) has resulted from an influx of Californians.

The Golden State has historically been a magnet for inter-

nal migration in the United States. Just as America was seen as the land of opportunity by the rest of the world, California was the land of opportunity for Americans. From the fertile Central Valley, which attracted refugees from the Midwest

dust bowl in the 1930s, to the Silicon Valley of the 1980s, California has represented optimism and possibility. As the 1990s pass their halfway point, this optimism is tempered, at least temporarily. As already noted, California residents have

Table 4. Gross State product and Federal defense spending by State, 1984 and 1992

[Numbers in thousands]

State	1984			1992		
	Gross State product	Total defense spending	Percent	Gross State product	Total defense spending	Percent
Alabama	48,944,000	2,803,831	5.73	78,137,000	4,088,206	5.23
Alaska	24,814,000	984,162	3.97	25,957,000	1,574,665	6.07
Arizona	44,175,000	2,901,537	6.57	74,060,000	3,603,813	4.87
Arkansas	27,894,000	1,239,211	4.44	43,994,000	991,157	2.25
California	468,127,000	39,957,380	8.54	787,896,000	38,045,275	4.83
Colorado	54,539,000	2,620,171	4.80	82,463,000	4,661,472	5.65
Connecticut	60,590,000	5,976,352	9.86	98,873,000	3,718,975	3.76
Delaware	10,743,000	417,893	3.89	23,666,000	370,654	1.57
Florida	149,595,000	8,244,741	5.51	268,609,000	11,271,701	4.20
Georgia	87,232,000	5,771,692	6.62	153,534,000	8,029,949	5.23
Hawaii	16,687,000	2,369,329	14.20	33,203,000	2,964,455	8.93
Idaho	12,596,000	272,914	2.17	20,860,000	356,079	1.71
Illinois	190,262,000	3,068,079	1.61	294,449,000	3,128,460	1.06
Indiana	78,308,000	3,265,985	4.17	121,647,000	2,612,752	2.15
Iowa	40,313,000	563,745	1.40	59,457,000	644,052	1.08
Kansas	38,206,000	3,155,665	8.26	56,164,000	2,041,117	3.63
Kentucky	48,382,000	1,639,029	3.39	75,561,000	2,280,072	3.02
Louisiana	83,466,000	2,818,061	3.38	96,245,000	2,561,988	2.66
Maine	14,507,000	845,730	5.83	24,085,000	1,949,090	8.09
Maryland	66,476,000	6,381,660	9.60	116,169,000	7,272,770	6.26
Massachusetts	100,572,000	7,859,457	7.81	161,966,000	6,678,909	4.12
Michigan	139,998,000	3,259,959	2.33	204,421,000	2,472,078	1.21
Minnesota	68,233,000	2,084,651	3.06	110,276,000	1,853,973	1.68
Mississippi	29,249,000	3,088,348	10.56	44,298,000	3,645,919	8.23
Missouri	73,748,000	7,690,775	10.43	111,604,000	5,336,107	4.78
Montana	11,420,000	246,662	2.16	15,227,000	288,559	1.90
Nebraska	24,005,000	663,051	2.76	37,213,000	970,777	2.61
Nevada	16,720,000	531,824	3.18	36,816,000	845,968	2.30
New Hampshire	14,806,000	1,119,796	7.56	25,524,000	643,820	2.52
New Jersey	131,988,000	4,712,355	3.57	223,146,000	4,919,763	2.20
New Mexico	22,100,000	1,327,633	6.01	31,863,000	1,747,465	5.48
New York	315,608,000	10,799,152	3.42	497,555,000	7,239,446	1.46
North Carolina	87,713,000	3,506,398	4.00	159,637,000	5,580,554	3.50
North Dakota	10,904,000	475,739	4.36	13,057,000	474,024	3.63
Ohio	160,935,000	4,398,894	2.73	241,604,000	5,214,950	2.16
Oklahoma	50,321,000	2,095,955	4.17	60,188,000	2,793,905	4.64
Oregon	37,618,000	544,626	1.45	62,724,000	637,550	1.02
Pennsylvania	168,739,000	5,438,426	3.22	266,969,000	5,669,428	2.12
Rhode Island	13,548,000	710,618	5.25	21,582,000	891,702	4.13
South Carolina	40,159,000	2,585,945	6.44	69,810,000	3,455,422	4.95
South Dakota	9,299,000	233,374	2.51	15,131,000	336,398	2.22
Tennessee	63,316,000	1,552,833	2.45	108,894,000	2,245,904	2.06
Texas	299,987,000	14,346,688	4.78	416,867,000	15,687,904	3.76
Utah	22,381,000	1,668,373	7.45	35,590,000	1,665,600	4.68
Vermont	6,866,000	224,314	3.27	11,844,000	138,898	1.17
Virginia	86,891,000	12,044,725	13.86	153,808,000	17,727,832	11.53
Washington	69,481,000	5,223,226	7.52	127,578,000	5,521,989	4.33
West Virginia	22,576,000	218,861	0.97	30,699,000	288,084	0.94
Wisconsin	69,568,000	1,263,519	1.82	109,517,000	1,334,501	1.22
Wyoming	13,355,000	202,377	1.52	13,186,000	232,623	1.76

SOURCES: Department of Commerce, Bureau of Economic Analysis and Department of Defense.

been leaving the State in increasing numbers. Although immigrants from Asia and Latin America are more than making up for the flight of the residents, a pronounced demographic shift is taking place.

In the past, when a State underwent substantial outmigration, it was usually the more mobile, better educated residents who were most likely to leave. In California (and several other States that experience very high rates of international immigration, such as New York), persons leaving for other States are more likely to be from the lower and middle income ranges.¹⁶ This process, combined with underlying industrial restructuring results in (and is exacerbated by) a “hollowing out” in these States, leaving a lot of high-wage and low-wage jobs, but decreasing numbers of jobs in the middle-income range. Some States with high numbers of international immigrants are spared this phenomenon because they also have experienced inflows of internal migrants. But for other States, this is a growing issue.

Conclusions

Since 1983, the migration of both people and jobs to the South and West that was evident in earlier decades has continued. In contrast to earlier periods, though, California is no longer

a primary destination. A number of economic factors have come into play, shifting growth away from those States, such as California and New York, that have previously been centers of growth. The new growth regions are the Mountain West and the deep South, although the southern States are not growing as strongly in the current expansion as they did during the 1980s. The northeastern States, which experienced something of an economic renaissance in the 1980s, are again having economic problems, and residents are leaving for more promising regions.

As the relative importance of manufacturing has declined, so has the tendency for jobs to remain in the “rust belt” (namely the traditional heavy manufacturing industries). Firms and industries are less constrained by geographic factors than was previously the case. Workers and employers, given the opportunity, are “voting with their feet” and relocating to areas away from the traditional population centers of the Northeast, Midwest, and California.

Perhaps the most salient feature of any analysis of regional employment growth is the constant change in the list of strong and weak performers. Whether it be New England, Texas, the Midwest, California, or the Mountain States, with time comes a dramatic shift in relative economic fortunes. The events of the last decade have illustrated this point well. □

Footnotes

³ For the purposes of this study, national totals are simply the sum of the State totals, unless otherwise stated. The Current Employment Statistics program produces independent national employment estimates which are not derived by summing the States, but because these totals do not equal the sum of the State totals, the independent national totals are not used. Also, for the sake of consistency with the business cycle analysis presented later in this article, the District of Columbia has been omitted from this analysis. (See footnote 14.)

⁴ The industry divisions used in this analysis were as follows: mining; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; services; and government.

⁵ Note that if the aggregate share of employment for an industry is decreasing over time, the industry mix statistic for that industry will be negative (or zero) for all States. If the industry’s national employment share is increasing, the statistic will be positive (or zero) for all States. When looking at individual industry effects in individual States, we realize that the relative magnitude of the measure is crucial.

⁶ In fact, the State employment share component indicates how well the industries within a State do in an *aggregate* sense. It is quite possible that one or two industries could be the driving force behind a State’s growth (or decline), although it is also true that local or regional economic events tend to affect a wide range of industries.

⁷ The share index (SI) is calculated as follows: $SI = \frac{E_{is}^{t+1}/E_{is}^t}{E_{in}^{t+1}/E_{in}^t}$

where E_{is} is the employment in industry i and State s ,
 E_{in} is employment in industry i for all States,
 t is the base year, and
 $t+1$ is the final year in a comparison.

E_s is the total employment in State s ,

⁸ For a fuller explanation of share indexes, see Philip L. Rones, "Analysis of regional employment growth, 1973–85," *Monthly Labor Review*, July 1986, pp. 3–14.

⁹ In many cases, there were no actual declines in the number of persons employed in an industry. It would be more accurate to say that these States had lower growth rates than the Nation as a whole. For the sake of simplicity, the terms "gains" and "losses" occasionally are used in this article to describe situations in which a State showed employment growth at less than the national rate.

¹⁰ This limitation is overcome to some extent in this case by dividing the 11-year period into 3 subperiods.

¹¹ For detailed discussions of interstate and international migration patterns, see William H. Frey, "The New White Flight," *American Demographics*, April 1994, pp. 40–48; and Peter Francese, "America at Mid-Decade," *American Demographics*, February 1995, pp. 23–31.

¹² Ibid.

¹³ Employment-population ratios are normally computed based on employment as defined by the Current Population Survey (CPS). However, monthly estimates for most States are not available directly from the CPS, therefore, to remain consistent with data used in the preceding shift-share analysis, employment data from the Current Employment Statistics (CES) program are used instead. The CES employment count is conceptually different from that in the CPS in that the former excludes agricultural workers and the self-employed and includes workers in each job in which they are employed. Also, the population figures used in the article are for persons 18 and older

and not 16 and older, as in the CPS-based rate.

The Bureau of the Census makes population estimates for each State based on July 1 of each year. For this analysis, monthly population estimates are necessary. The monthly estimates for each State were calculated using linear interpolation; that is, the population estimates for the months between the July estimates of each year assume constant growth over the year. The seasonal variations in population growth would likely be too small to affect the results.

The Local Area Unemployment Statistics (LAUS) program of the BLS produces employment-population ratios for each State on an annual basis using data from the CPS. The ratios used in this analysis were calculated independently because the employment estimates derived from the CES are based on a much larger sample and are benchmarked each year to what amounts to a universe count of employment. This means that the CES State employment estimates are the most accurate available. The Local Area Unemployment Statistics program does produce monthly estimates of State employment-population ratios, but these estimates are based on mathematical models rather than deriving directly from employment estimates.

¹⁴ The District of Columbia was not included in this analysis because the majority of workers in Washington, DC, commute from neighboring States. While this phenomenon, no doubt, affects all States to a degree, it renders the employment-population ratios for the District of Columbia (as calculated in this article) unusable.

¹⁵ See Rones, "Regional employment," for a more detailed discussion of regional incomes and economic shocks.

¹⁶ Frey, "The New White Flight."