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ECONOMIC GROWTH OF THE SOUTH VERSUS OTHER REGIONS: PAST TRENDS AND FUTURE PROSPECTS

Herman Bluestone

The dramatic surge of economic activity in the South is a relatively recent development. During the first half of the postwar period, the South, along with the Northeast and North Central region, lagged well behind the nation in population and employment growth (Table 1). It was only in the 1960s that rates of growth in the South began to exceed the national averages, and it was only in the 1970s that the South began to mount a serious challenge to the West for first place in regional growth. It also should be noted that the surge in southern growth was not uniformly distributed; most of it occurred in the region's two western subregions, the East South Central division and the energy-rich West South Central division.

Will the 1960–80 acceleration of southern eco-

nomie activity continue, or will this new trend prove to have been only a transitory phenomenon? While it may be too early to draw firm conclusions, recent changes in the industrial structure of southern employment growth and recent changes in the national economy suggest that the South may be hard pressed to duplicate its relatively good growth performance in the 1980s. Indications are that the economic stagnation that has plagued the Northeast during the past two decades has begun to spread southward into the South Atlantic states. Low-wage labor-intensive industries, mainstays of southern economic growth in earlier years, have been battered by intensified foreign competition since 1973. And, some of the factors that enhanced the competitive position of the South vis-a-vis other regions

TABLE 1. Population and Employment Growth Rate by Area, Selected Decades

Item and area	Percentage change							
	Actual				As a percentage of U.S. change			
	1940–50	1950–60	1960–70	1970–80	1940–50	1950–60	1960–70	1970–80
<hr/>								
-----Percent-----								
Population:								
South	13.3	16.5	14.3	19.0	92	89	107	176
South Atlantic	18.8	22.6	18.1	19.1	130	122	135	177
East South Central	6.5	5.0	6.3	13.6	45	27	47	126
West South Central	11.3	16.6	14.0	22.3	78	90	104	206
Northeast	9.7	13.2	9.8	-1.1	67	71	73	-1
North Central	10.8	16.1	9.6	3.6	74	87	72	33
West	40.4	38.9	24.2	23.3	279	210	181	216
United States	14.5	18.5	13.4	10.8	100	100	100	100
Employment ^{1/}				1969–79				1969–79
South	23.3	14.3	23.4	32.4	87	92	120	142
South Atlantic	28.0	19.6	28.0	29.6	105	126	144	130
East South Central	14.4	2.9	15.0	28.0	54	19	77	123
West South Central	23.6	15.0	21.9	40.0	88	97	112	175
Northeast	21.4	11.2	13.3	6.7	80	72	68	29
North Central	25.7	10.3	15.9	16.5	96	66	82	72
West	52.2	38.7	28.9	40.4	196	250	148	177
United States	26.7	15.5	19.5	22.8	100	100	100	100

¹ Employment data for 1940–50, 1950–60 and 1960–70 are resident-based estimates of total employment; data for 1969–79 are establishment-based estimates of nonfarm wage and salary employment.

Source: U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis.

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in the past may operate with diminished force during the next several years. These factors include the mix of federal government expenditures, the rate of migration of retirees to the South, and the relative attractiveness of the southern business climate.

This paper is divided into two parts. The first examines the industrial structure of recent regional and metropolitan-versus-nonmetropolitan employment growth. The second attempts to relate these patterns of change to recent and prospective economic developments.

In analyzing the structure of employment changes, the focus will be on the 1969-79 period. This 10-year span is particularly appropriate for study, because it covers the two most recent complete business cycles, the 1969-73 cycle and the 1973-79 cycle. The years, 1969, 1973, and 1979, were peaks of economic activity. The year 1973 also marks the beginning of the period of sharply rising energy prices. Thus, the earlier business cycle can be considered a pre-energy crisis period and the latter a post-energy crisis period. The 1973-79 period also has been a period of increasing inflation, sharply rising interest rates, and stagnating productivity.

DATA

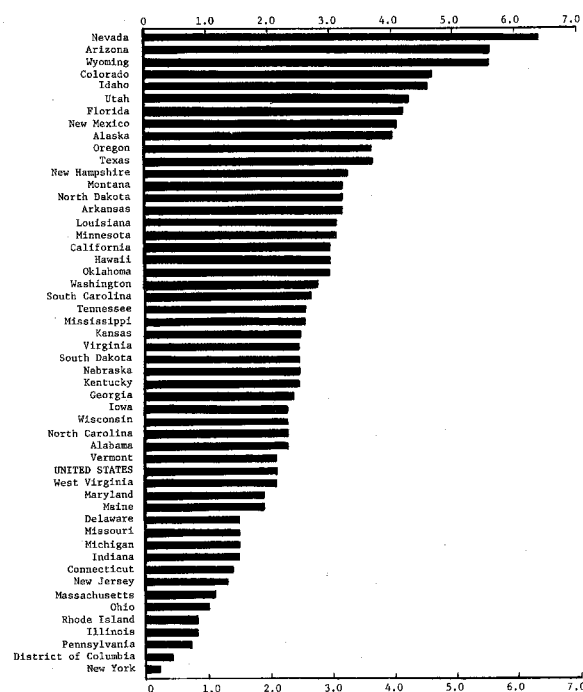
Data used to analyze employment changes are establishment-based or place-of-work estimates developed by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce.¹ To keep the analysis reasonably brief and to avoid disclosing information on individual business operations, the BEA county data are aggregated to isolate broad regional patterns of employment change. Growth rates for nonfarm wage and salary employment are shown for two major types of industries: goods-producing and service-producing with the former broken down into manufacturing, mining, and construction. In the South, a higher degree of resolution is provided by disaggregating the change in manufacturing growth into 20 major two-digit SIC industries. Although some state data are shown, most comparisons are among metropolitan and nonmetropolitan portions of major census regions. Metro and nonmetro data also are shown for census divisions in the South.

EMPLOYMENT GROWTH PATTERNS

Growth During the 1970s

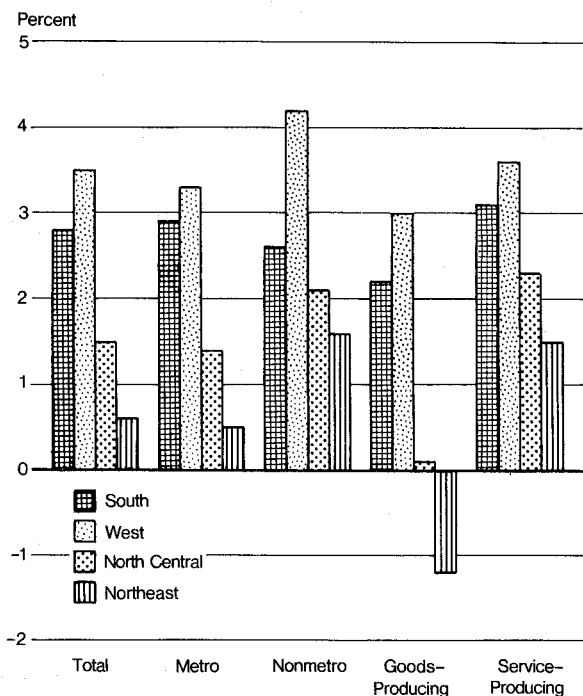
Regional and metro-nonmetro employment changes between 1969 and 1979 are highlighted in Figures 1, 2, and 3. These show that during the 1969-79 decade:

FIGURE 1. Employment Growth by State, 1969-79^a



^a Nonfarm wage and salary employment.

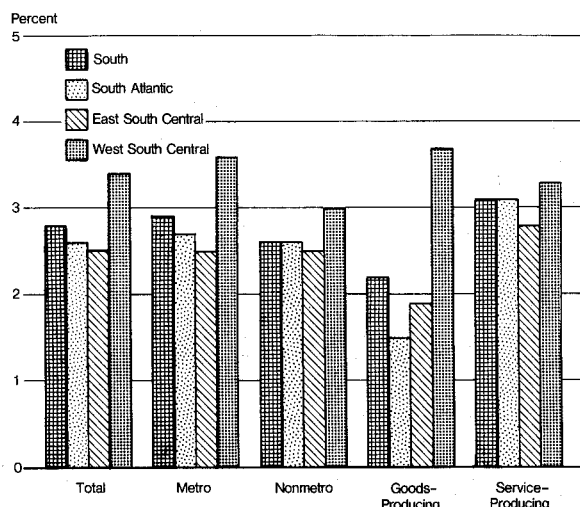
FIGURE 2. Employment Growth by Region, 1969-79^a



^a Nonfarm wage and salary employment.

¹ Estimates of private wage and salary employment are based largely on data provided by state employment security agencies from administrative records of each state's unemployment insurance (UI) program. For sectors not covered by UI legislation, such as the government sector, estimates are derived from other data sources.

FIGURE 3. Employment Growth in the South, 1969–79^a



^a Nonfarm wage and salary employment.

The rate of employment growth exceeded the national average in all southern states, except West Virginia, Maryland, and Delaware, and in all western states.

The South continued to lag behind the rapidly expanding West in employment growth.

Employment growth in the South, contrary to the pattern in other regions, grew more rapidly in metro than in nonmetro areas.

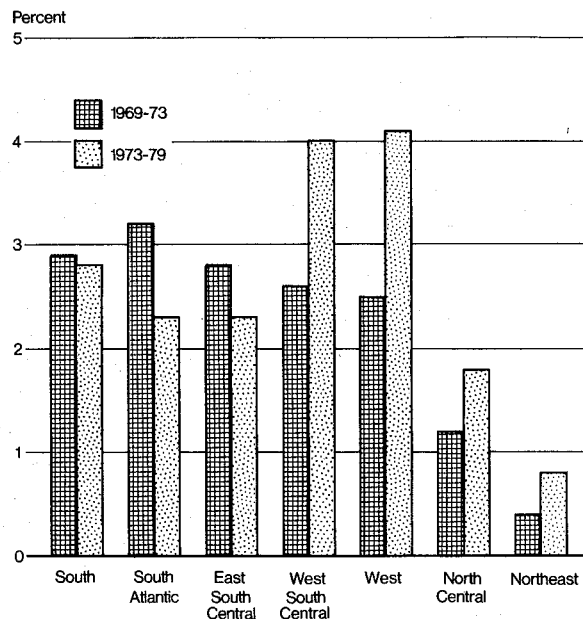
Growth within the South was most rapid in the West South Central states.

The West South Central states was the only southern subregion in which the rate of employment growth in the goods-producing industries exceeded growth in the service-producing industries.

1973–79 versus 1969–73: Overall Patterns

The compound annual rate of employment growth in the South was 2.8 percent during 1973–79, slightly lower than the 2.9 percent during 1969–73 (Figure 4). The South, which was the fastest growing region during 1969–73, was the only region that failed to improve its rate of employment growth between these two periods. The growth rate increased from .4 percent to .8 percent in the Northeast, from 1.2 percent to 1.8 percent in the North Central region, and from 2.5 percent to 4.1 percent in the West. Because of the South's lack of growth improvement and because of the West's spectacular improvement, the South fell back into second place in regional growth during the 1973–79 period.

FIGURE 4. Employment Growth by Region, 1969–73 and 1973–79^a

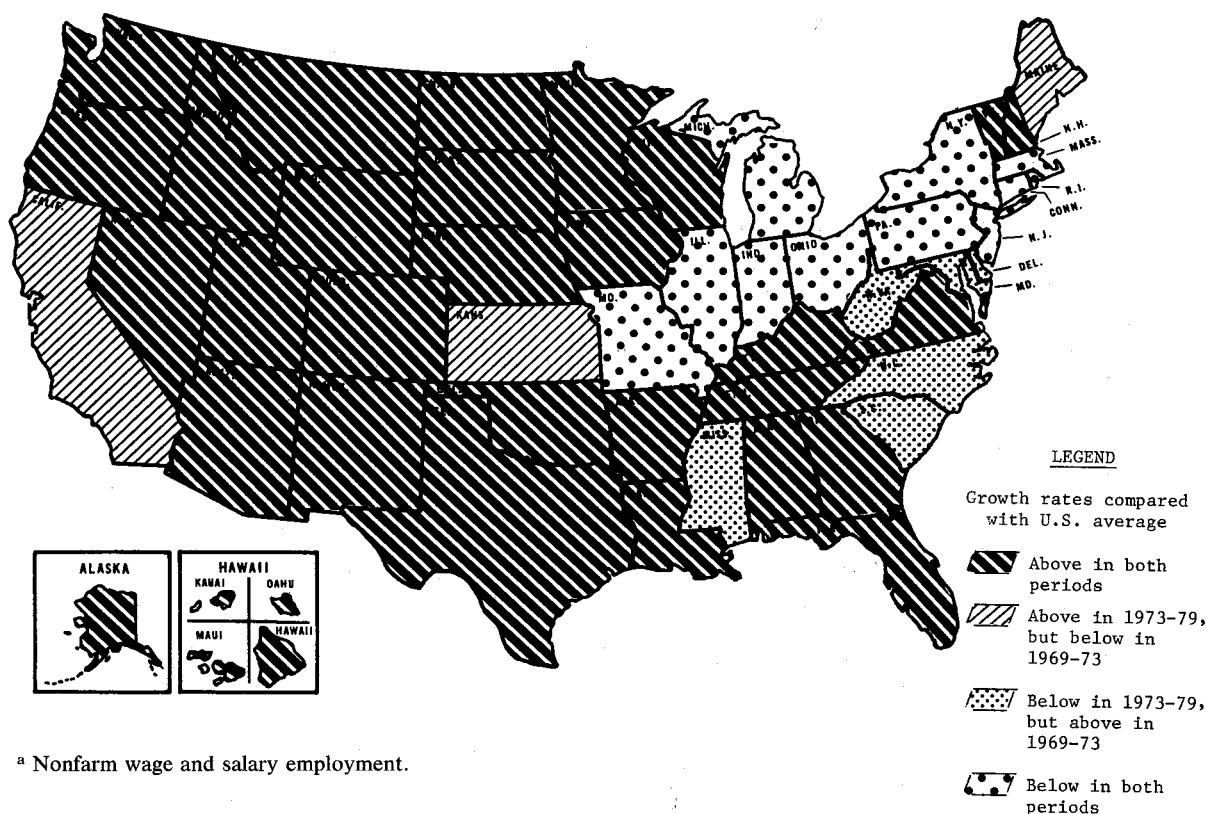


^a Nonfarm wage and salary employment.

Stability in the overall employment growth rate for the southern region masked sharply divergent changes within different parts of the region. Growth slowed in the South Atlantic and East South Central states, but increased dramatically in the West South Central states. The South Atlantic division's growth rate declined from 3.2 percent to 2.3 percent and the East South Central division's from 2.8 percent to 2.3 percent, but the West South Central division's rate rose from 2.6 percent to 4.0 percent, aided in part by the further exploitation of its abundant energy resources and by its favorable business climate.

Regional changes in employment between 1969–73 and 1973–79 are shown even more dramatically in Figure 5. This map classifies states by employment growth rates during the two periods. The map clearly identifies the region of persistently slow employment growth—the tier of 11 northern states extending from Missouri in the West to Massachusetts and Rhode Island in the East. It also shows a relative decline in growth in six southeastern states—Delaware, Maryland, West Virginia, the Carolinas, and Mississippi, and a growth increase in Kansas, California, and Maine. These changing growth rates are modifying the nation's major slow-growing and fast-growing region. During the last decade, slow growth has extended southward from the Northeast, and growth in the West and in the western part of the South has increased. Therefore, for the major census regions, the current growth pattern is a partial reversion to that which prevailed in the early part of the post World War II period.

FIGURE 5. Employment Growth by States, 1969-73 and 1973-79^a



^a Nonfarm wage and salary employment.

Metro versus Nonmetro

The much-heralded shift in employment from metro to nonmetro areas lost much of its momentum between 1969-73 and 1973-79. Employment growth increased in metro areas from a compound annual rate of 1.5 percent during 1969-73 to 2.2 percent during 1973-79, but still was below the nonmetro rate, even though the latter declined slightly (Table 2). Growth improved more (or declined less) in metro than in nonmetro areas in all regions. In the South, metro growth declined only slightly, from 3.0 percent to 2.9 percent, while nonmetro growth fell from 2.8 percent to 2.5 percent. A strong resurgence in metro employment growth occurred in the North Central region, although the growth rate remained well below the national average. In the West, the rapid metro and nonmetro growth quickened even more. The western growth rate advanced from 2.2 percent to 4.0 percent in metro areas, and from 3.7 percent to 4.5 percent in nonmetro areas. In the Northeast, slow metro growth recovered only slightly, and this increase was partly offset by a decline in nonmetro growth.

Within the South, sizable declines occurred both in metro and nonmetro employment growth in the South Atlantic and East South Central states. By contrast, both metro and nonmetro growth rates increased sharply in the West South Central division.

Goods-producing versus Service-producing

The post-industrial trend of an increasing service sector and a declining goods-producing sector slowed down somewhat during the late 1970s, at least so far as employment was concerned. While employment growth in the United States increased both in the goods-producing and the service-producing sectors between 1969-73 and 1973-79, the increase in the rate of growth was larger in the goods-producing industries (Table 2). Goods-producing employment growth rate increased from a compound annual rate of .3 percent to 1.2 percent, while service-producing employment growth increased from 2.4 percent to 2.7 percent. Some have suggested that the greater growth increase in the goods-producing industries occurred because employers since 1973 have substituted labor for energy and capital in response to a more rapid rise in energy prices and interest rates than in wage rates.

Except in the South, growth in goods-producing employment improved more than did service-producing employment growth in all regions. In the South, there was a slight increase in service-producing employment growth, but a sharp decline, from 2.6 percent to 1.9 percent, in goods-producing employment growth. The revival in goods-producing employment growth was largest in the West, where the rate advanced from 1.2 percent to 4.2 percent. In the Northeast

TABLE 2. Compounded Annual Rates of Employment Growth by Industry Group, Area, and Metro Status, 1969-79, 1969-73, and 1973-79¹

Period and area	All industries			Goods-producing ^{2/}			Service-producing ^{2/}		
	Total	Metro	Nonmetro	Total	Metro	Nonmetro	Total	Metro	Nonmetro
-----Percent-----									
1969-79:									
South	2.8	2.9	2.6	2.2	2.1	2.4	3.1	3.2	2.8
South Atlantic	2.6	2.7	2.6	1.5	1.3	1.8	3.1	3.1	3.1
East South Central	2.5	2.5	2.5	1.9	1.4	2.4	2.8	2.9	2.6
West South Central	3.4	3.6	3.0	3.7	3.6	4.0	3.3	3.6	2.5
Northeast	.6	.5	1.6	-1.2	-1.4	.1	1.5	1.4	2.4
North Central	1.5	1.4	2.1	.1	-.4	1.5	2.3	2.3	2.3
West	3.5	3.3	4.2	3.0	2.7	4.6	3.6	3.5	4.1
United States	2.1	1.9	2.5	.8	.4	2.0	2.6	2.6	2.8
1969-73:									
South	2.9	3.0	2.8	2.6	2.3	3.2	3.0	3.2	2.6
South Atlantic	3.2	3.2	3.1	2.9	2.8	3.0	3.3	3.3	3.2
East South Central	2.8	2.8	2.8	3.0	2.2	3.8	2.7	3.0	2.2
West South Central	2.6	2.7	2.2	1.9	1.5	2.7	2.8	3.1	1.9
Northeast	.4	.3	1.8	-1.9	-2.1	-.5	1.6	1.4	3.1
North Central	1.2	.9	2.1	-.5	-1.1	1.6	2.1	2.0	2.4
West	2.5	2.2	3.7	1.2	.6	4.2	2.9	2.7	3.6
United States	1.8	1.5	2.6	.3	-.4	2.3	2.4	2.3	2.8
1973-79:									
South	2.8	2.9	2.5	1.9	2.0	1.9	3.1	3.2	2.9
South Atlantic	2.3	2.3	2.2	.6	.3	1.0	2.9	2.9	3.0
East South Central	2.3	2.3	2.3	1.2	.9	1.5	2.9	2.9	2.8
West South Central	4.0	4.2	3.5	4.9	4.9	4.8	3.7	3.9	2.9
Northeast	.8	.7	1.4	-.7	-.9	.4	1.4	1.4	1.9
North Central	1.8	1.7	2.0	.5	.1	1.4	2.4	2.4	2.3
West	4.1	4.0	4.5	4.2	4.0	4.8	4.1	4.0	4.4
United States	2.3	2.2	2.5	1.2	.9	1.9	2.7	2.7	2.8

¹ Nonfarm wage and salary employment.

² Goods-producing industries are mining, manufacturing and contract construction; all other industries are classified as service-producing industries.

and North Central division, employment growth in the goods-producing sector increased, but there was little change in growth in the service-producing sector.

Within the South, growth changes varied widely. Reduction occurred in rate of goods-producing employment growth in the South Atlantic and East South Central states. Goods-producing growth declined from 2.9 percent to .6 percent in the South Atlantic division, and from 3.0 percent to 1.2 percent in the East South Central division. However, little change occurred in the service-producing growth rates in both divisions.

In the West South Central division, the rate of employment growth increased sharply in the goods-producing sector, from 1.9 percent to 4.9 percent, and moderately in the service-producing sector, from 2.8 percent to 3.7 percent. This southern subregion appears to have had a competitive edge over other areas in attracting both footloose manufacturing industries and retirees because of a relatively favorable business climate, surplus of energy, and pleasant climate.

The Goods-producing Sector

Employment growth in the nation's goods-

producing sector increased between 1969-73 and 1973-79 because of a modest recovery in manufacturing and a large expansion in mining (Appendix Table 1). However, a decline occurred in the growth rate in construction employment. The increased growth gain in manufacturing, occurring only in metro areas, was especially large in the West. In the South, manufacturing growth declined sharply in nonmetro areas, while increasing slightly in metro areas. The combined effect was an overall decline in southern manufacturing employment growth rate, from 1.9 percent in 1969-73 to 1.4 percent in 1973-79.

The South was the only region where manufacturing employment growth rate declined. Within the South, decreases in the manufacturing growth rate in the South Atlantic and East South Central states more than offset a sharp increase, from 1.8 percent to 3.4 percent, in the West South Central states.

Employment growth in mining, an industry in which relatively few workers are employed, increased sharply in all regions, with the largest gains occurring in the West and South. Within the South, the increase in mining employment growth was greatest in the West South Central division.

Growth in construction employment increased

in the West and North Central region, but declined in the Northeast and South. In the South, construction employment growth rose in the West South Central division, but fell in the other two divisions.

Manufacturing in the South

Manufacturing employment growth in the South fell in 13 out of a total of 20 two-digit SIC manufacturing industries between 1969-73 and 1973-79 (Appendix Table 2). Declines were especially large in the low-wage labor-intensive industries—textiles, apparel, rubber and plastic products, leather and leather products, furniture and fixtures, and miscellaneous products. A part of these declines has been attributed to increased foreign competition (Hansen). Significant growth rate increases occurred only in lumber and wood products, nonelectrical machinery, transportation equipment, and in energy-related chemicals and petroleum refining.

All of the South's slowdown in manufacturing employment growth took place in the South Atlantic states, which have specialized in low-wage labor-intensive industries and in the East South Central states. In the South Atlantic division, significant growth decreases occurred in most low-wage labor-intensive industries; energy-related petroleum refining; chemicals; stone, clay, and glass products; fabricated metals; and tobacco manufacturing. In the East South Central division, industries showing significant growth rate declines included most low-wage labor-intensive industries, as well as electrical and nonelectrical machinery; transportation equipment; tobacco manufacturing and miscellaneous products; energy-related petroleum refining; and stone, clay, and glass products.

Total manufacturing employment growth increased in the West South Central division, despite declining growth in most low-wage labor-intensive manufacturing industries, in paper and paper products, primary metals, and tobacco manufacturing. Industries contributing to the upsurge in manufacturing growth included expansion in energy-related petroleum refining; chemicals; stone, clay, and glass products; printing and publishing; food and kindred products; lumber and wood; electrical and nonelectrical machinery; and transportation equipment.

Summary of Southern Employment Growth Changes

During the 1973-79 period, the South continued to be the second fastest growing region in employment in the United States, being outpaced only by the West. However, the South was the only major region in which the rate of growth in total nonfarm wage and salary employment failed to increase between 1969-73 and 1973-79. Employment growth in the South declined both in

metro and nonmetro areas. The growth decline in manufacturing and construction was partially offset by increases in the service-producing industries and in mining. Within the manufacturing sector, employment growth in the South fell in all low-wage labor-intensive industries, except lumber and wood products. Significant declines also occurred in tobacco manufacturing; in stone, clay, and glass products; instruments; and miscellaneous products.

All of the employment growth decline in the South was concentrated in the South Atlantic and East South Central divisions. In both divisions, employment growth in the goods-producing industries dropped sharply, while little change occurred in the service-producing industries both in metro and nonmetro areas. By contrast, employment growth increased significantly in the West South Central States in metro and in nonmetro areas, and in goods- and service-producing industries. In this area, growth decreases in low-wage labor-intensive manufacturing industries were more than offset by increases in other manufacturing industries, especially in energy-related petroleum refining, chemicals, in electrical and non-electrical machinery, and transportation equipment.

Much attention recently has been focused on the economic rise of the South and West and the economic decline of the Northeast. However, growth in the eastern part of the South has declined substantially, while growth in the western part of the South and in the West has increased. If these trends continue, the broad regional patterns of growth would revert to those that prevailed in the early part of the post World War II period.

SOME FACTORS INFLUENCING REGIONAL GROWTH

Interregional shifts in population and economic activity are affected by many interrelated factors. Because these are difficult to isolate and measure statistically and because of a lack of adequate interregional trade data, a satisfactory interregional growth model has yet to be developed. However, there is some agreement on the factors having the most effect on regional economic growth. Included among these factors are (1) labor supply, (2) business climate, (3) migration of the elderly, (4) energy prices, and (5) federal expenditures and taxes. In this section, we briefly examine these factors and attempt to determine how they have influenced regional growth in the past and how they might affect it in the future.

Labor Supply

The shift in manufacturing, especially low-wage labor-intensive manufacturing to the South

often has been attributed to the region's abundant supply of relatively unskilled labor, augmented in recent years by the influx of illegal aliens from Mexico. Also contributing to this shift have been the standardization and routinization of production processes in many industries, which has facilitated the substitution of low-cost unskilled labor for higher-cost skilled labor. But as we have seen, employment growth in the low-wage labor-intensive manufacturing industries has slowed markedly in the South since 1973, and this slowdown raises questions about whether the supply of labor will continue to favor more rapid economic growth in the South. Niles Hansen of the University of Texas has investigated the international division of labor that has come with the expansion of the multinational corporation. He asks "whether manufacturing decentralization abroad may not have the same consequences for industrial employment in the South as decentralization to the South had for manufacturing employment in the old U.S. industrial heartland." Peter F. Drucker of Claremont Graduate School in Claremont, California, goes even further. He envisions the spread of a new type of worldwide economic integration that he calls "production sharing." In production sharing, "the resources of the developing countries—their abundant labor for traditional jobs—are brought together with the resources of the developed countries—their management, their technology, their educated people, their markets and purchasing power." Under the production sharing system, the final product usually will include components made in several less-developed countries, and coordination of activities will not be achieved through financial control, as in the case of the multinational corporation, but through the organizing efforts of medium-sized international management and marketing companies. Investment in the manufacturing facilities will be provided by the developing countries themselves.

Business Climate

Business climate at the sub-national level is largely determined by the complex of actions taken by state and local governments that affect business profitability. Some actions constrain management flexibility or raise unit labor costs; others, such as guaranteeing loans or floating tax-exempt industrial development bonds, may reduce the cost of raising capital. One of the pioneering efforts to measure variation in business climate was a 1975 study conducted by the Fantus Corporation, a locational consulting subsidiary of Dun and Bradstreet (Illinois Manufacturers Assoc.). Fantus constructed state indexes of business climate based on per-capita levels of various kinds of state and local taxes and expenditures and debt, unemployment compensation

tax rates, average working men's compensation payments, government units per 1,000 population, and various measures of labor-management regulations.

According to the Fantus indexes, all southern states, except Louisiana, and all western states, except California and Oregon, had business climates that were more favorable than average. But it is noteworthy that one year after the Fantus study, in 1976, Louisiana enacted a right-to-work law. Most of the states that have had persistently slow growth in manufacturing, including those in the traditional manufacturing heartland, are indicated as having relatively unfavorable business climates.

Thus, while a favorable business climate appears to have contributed to faster economic growth in the South and West in recent decades, this advantage may become somewhat less important in the near future as a result of national efforts to arrest inflation, reduce government regulations, foster quicker economic growth, and enlarge the role of the private sector of the economy. During the past several months, numerous articles have appeared in the business press indicating that in those industries that are facing weak demand and severe competition, particularly the auto, airline, trucking, and construction industries, organized labor in all parts of the country is beginning to moderate wage demands and to accept efficiency-increasing changes in work rules.

Migration of the Elderly

Increasing migration of the elderly has benefited growth of the warmer regions at the expense of the colder ones. Older persons commonly prefer heat to cold, and, in addition, housing costs tend to be lower in a warmer climate. Several factors contribute to this: lower land prices in less urbanized areas, lower construction and home operating costs (mainly because less energy is needed for heating), and the greater public acceptance of smaller homes, particularly mobile homes. In addition, state and local taxes generally are lower in the South than in the North. The number of retirees seeking areas with favorable benefit-cost relationships has been accelerating in recent years as the population has become older and as pensions have become more generous and better indexed to the rising cost of living.

Migration of the elderly to the southern and western states is likely to continue, but it may be a less important factor in the future than in the past. It has been pointed out that, in the future, persons may no longer be able to retire so early or completely as in the past, and, thus, the inter-regional rate of migration of the elderly likely will slow (Drucker). The major reason is that the population is aging, and the elderly are living longer. If people are permitted to continue retiring at a fixed age, such as age 65, the number of

retirees in relation to the number of workers will increase markedly from current levels. This means that workers contributing to the retirement systems would be supporting more and more retirees. Thus, two things are likely to occur. First, retirement benefits will have to be reduced, and the age at which people become eligible for retirement will have to be increased. Second, as the work ethic of the elderly changes and as their health continues to improve, many may prefer to work longer both for economic and social reasons. While it is true that some workers will shift to less demanding and lower paying jobs as they become older, many will not move to new areas when this happens.

Energy Prices

Escalation in energy prices since 1973 has resulted in a considerable increase in employment growth in mining, especially in the South and West. While the expansion in mining has had a considerable economic impact on some individual counties and states, the industry still employs a relatively small number of workers. Thus, mining, by itself, even after allowing for a multiplier effect, does not appear to have accounted for much of the variation in total employment growth among the major census regions.

However, energy prices, in addition to their impact on local energy-producing industries, are increasingly affecting employment growth in other industries. As recently as a decade ago, low energy prices were not an important locational factor, except in a few energy-intensive industries such as aluminum reduction and some capital intensive electrolytic processes. Now that energy costs have increased substantially, regions with surplus energy supplies and relatively low energy prices have more of a competitive advantage over energy-deficit regions than they did in the past. But as has been stated elsewhere, most of the more energy-dependent industries already have located in the low-cost energy-surplus states and, therefore, relatively little additional locational shift in these industries is likely. (Miernyk). He suggested, however, that an advantage will accrue to the energy-surplus regions as a result of improved terms of trade with the energy-deficit regions: that is, energy will exchange for larger quantities of other goods and services. That author sees incomes and state tax revenues rising faster in energy-surplus than in energy-deficit states. Rising incomes can be expected to increase the demand for locally produced goods and services. And, the ability of the energy-rich areas to compete for economic activity would be further enhanced if these areas used the increasing tax revenues, especially revenues from exportable severance taxes on oil and coal, to replace income, sales, and property taxes paid by local residents and businesses (Advisory Comm. Intergov't. Rel.).

Federal Expenditures and Taxes

There is evidence to suggest that the Northeast and North Central regions have had a balance of federal funds deficit (Muller; O'Rourke; Rones; Weinstein and Firestine). That is, the ratio of federal expenditures to tax collections has been less than one. On the other hand, the South and West may have enjoyed a balance of funds surplus, receiving more in federal funds than they paid in federal taxes. Much of the regional imbalance is attributed to the distribution of defense expenditures, which include not only spending for the operation of military bases, but also awards of prime defense contracts (Rones).

Estimates of the importance and magnitude of the regional taxing and spending imbalances differ, however. For example, the Midwest Institute, research arm of a coalition of 18 frostbelt states, has estimated that the coalition states paid \$165 billion more in federal taxes than they received in federal expenditures between 1975 and 1979 (O'Rourke). However, on the basis of per capita federal expenditures in 1972 and 1976, others conclude that the impact of federal expenditures on interregional growth shifts may have been exaggerated (Weinstein and Firestine).

Even if variation in federal expenditures has not been a major factor contributing to the interregional growth shifts in recent years, it is likely to become more important during the next several years as federal spending priorities change. Decreased spending growth for social programs and increased spending growth for military programs likely will benefit the West more than any other region because of the West's large number of military bases and large aerospace industry. The South also may benefit, but to a lesser degree than the West, because the South, with its larger poverty population, is more affected by social program expenditures than the West. The Northeast would be expected to benefit least from the expected changes in spending priorities.

Prospects for the Future

What conclusions about future regional growth changes can we draw from the recent changes in employment growth patterns and from examination of some of the factors that are believed to affect regional growth? Admittedly, all of the factors that will be shaping regional growth over the next several years have not been identified. It is not even possible to gauge with accuracy the importance of the few factors that we have touched upon. Nevertheless, on the basis of the factors we have considered, there seems to be little reason to expect a radical change through the next few years in the new employment growth patterns that have emerged since 1973.

If the various conditions that have been discussed prove to be reasonably correct, employment growth would continue to be most rapid in

the West and West South Central states, would slow further in the South's two eastern divisions, would continue to recover in the North Central region, but would remain little changed—in relative terms—in the Northeast. The pattern of employment growth would diverge further from the 1960–80 pattern of slow growth in the Northeast

and North Central regions and rapid growth in the South and West. Instead, the slow growth in the Northeast would extend further into the South Atlantic states. If so, the growth pattern among the major census regions would closely resemble the pattern of the early post-World War II period.

REFERENCES

- Advisory Commission on Intergovernmental Relations. *Regional Growth: Interstate Tax Competition*. Washington, D.C.: ACIR, A-76 March 1981, p. iii.
- Drucker, Peter F. *Managing in Turbulent Times*. New York: Harper and Row, Publishers, 1980, pp. 95–100, 124–28.
- Hansen, Niles. "The New International Division of Labor and Manufacturing Decentralization in the United States." *Rev. Reg. Stud.* 9(1979).
- Illinois Manufacturers Association. *Comparative Business Climate Study*, Chicago, 1978.
- Miernyk, William H. "Energy and Regional Development." Paper prepared for the Brookings Conference on Housing and Energy in the 1980's, Washington, D.C., November 12, 13, 1981.
- Muller, Thomas. "Regional-Urban Policy: Should the Government Intervene," *Challenge: Magazine Econ. Aff.*, March/April 1981, pp. 38–41.
- O'Rourke, Timothy G. "The Frostbelt-Sunbelt Controversy." *News Letter*, Vol. 57, No. 8, Institute of Government, Univ. of Virginia, April 1981.
- Rones, Phillip L. "Moving to the Sun: Regional Job Growth, 1968 to 1978." *Monthly Labor Rev.*, March 1980, pp. 12–24.
- Weinstein, Bernard L. and Robert E. Firestone. *Regional Growth and Decline in the United States: The Rise of the Sunbelt and the Decline of the Northeast*. New York: Praeger Publishers, 1978, pp. 30–42.

APPENDIX TABLE 1. Compounded Annual Rates of Employment Growth in Manufacturing, Mining and Contract Construction, by Area, and Metro Status, 1969–79, 1969–73, and 1973–79¹

Period and area	Manufacturing			Mining			Contract construction		
	Total	Metro	Nonmetro	Total	Metro	Nonmetro	Total	Metro	Nonmetro
-----Percent-----									
1969–79:									
South	1.6	1.5	1.8	5.3	5.6	5.0	3.6	3.4	4.2
South Atlantic	1.1	.9	1.3	3.9	3.5	4.0	2.8	2.3	4.2
East South Central	1.5	1.1	1.9	6.7	4.6	7.4	2.7	2.5	3.1
West South Central	2.8	2.5	3.4	5.4	6.0	4.5	5.3	5.3	5.3
Northeast	-1.2	-1.4	-1	1.9	1.1	3.0	-1.2	-1.4	.2
North Central	-.1	-.5	1.2	2.5	1.8	2.9	.8	.2	2.5
West	2.2	2.1	3.3	4.4	2.9	5.3	5.3	4.9	7.5
United States	.4	-	1.5	4.4	4.2	4.5	2.3	1.9	3.8
1969–73:									
South	1.9	1.1	3.0	.8	.6	1.0	5.9	6.1	5.2
South Atlantic	1.5	1.0	2.2	3.0	4.2	2.6	7.9	7.7	8.7
East South Central	2.9	1.8	3.8	3.0	-2.5	4.8	3.8	4.4	3.0
West South Central	1.8	.9	4.3	-.6	.3	-2.0	3.2	3.9	.4
Northeast	-2.4	-2.6	.9	.6	1.2	-.2	1.0	.9	2.1
North Central	-.3	-.9	1.9	-.5	-.6	-.3	-1.5	-2.0	.1
West	.3	-.2	3.4	.5	-.3	1.0	4.9	4.1	9.9
United States	-.2	-1.0	2.1	.5	.3	.7	2.8	2.5	3.9
1973–79:									
South	1.4	1.7	1.1	8.3	9.1	7.7	2.2	1.7	3.6
South Atlantic	.8	.9	.8	4.5	3.1	4.9	-.5	-1.1	1.3
East South Central	.7	.6	.7	9.3	9.6	9.2	2.0	1.2	3.1
West South Central	3.4	3.6	2.8	9.6	10.0	9.1	6.7	6.2	8.7
Northeast	-.5	-.6	.5	2.8	1.0	5.2	-2.6	-2.8	-1.1
North Central	.1	-.1	.8	4.6	3.5	5.2	2.4	1.7	4.2
West	3.6	3.6	3.2	7.1	5.1	8.4	5.6	5.4	6.4
United States	.8	.7	1.1	7.0	6.8	7.2	2.0	1.5	3.7

¹ Nonfarm wage and salary employment.

Source: Compiled from unpublished data from the Bureau of Economic Analysis, U.S. Department of Commerce.

APPENDIX TABLE 2. Change in Compound Annual Growth Rates Between 1969-73 and 1973-79 in 2-Digit SIC Manufacturing Industries in the South, by Division¹

Industry	South	South Atlantic	East South Central	West South Central
---Change in growth rate---				
Food and kindred products	.7	.8	-.1	1.3
Textile mill products <u>2/</u>	-2.9	-2.6	-4.8	-4.5
Apparel & other fab. tex. prod. <u>2/</u>	-3.3	-2.1	-3.4	-6.2
Paper and allied prod	-.1	.3	-.1	-1.1
Printing, pub. & allied prod.	.8	.7	.6	1.1
Chemicals & allied products	1.0	-1.1	1.8	4.3
Petroleum refining & related ind.	2.3	-3.2	-4.0	3.3
Tobacco manufacturing	-2.0	-1.6	-3.6	-7.9
Rubber & misc. plastic prod. <u>2/</u>	-3.5	-1.5	-6.4	-4.4
Leather & leather prod. <u>2/</u>	-4.8	-2.0	-6.8	-4.9
Lumber & wood prod. <u>2/</u>	2.5	3.5	2.3	1.1
Furniture and fixtures <u>2/</u>	-4.9	-3.5	-7.9	-5.7
Primary metal ind.	-.2	.1	-.4	-.7
Fabricated metal prod. <u>3/</u>	-.6	-2.8	.1	1.3
Machinery, except elec.	1.2	-.1	-3.2	5.2
Electrical machinery	-.5	.8	-5.3	2.2
Transportation equip. <u>3/</u>	3.0	1.5	-3.3	8.2
Stone, clay and glass prod.	-1.7	-2.8	-2.8	1.2
Instrument mfg.	-2.8	3.2	-1.1	-10.3
Miscellaneous mfg. <u>2/</u>	-3.2	-.5	-4.4	-6.9
Total	-.5	-.7	-2.2	1.6

¹ Nonfarm wage and salary employment.

² Low-wage labor-intensive industries. Industries in which (1) production worker wages per hour in 1972 were less than the national rate for manufacturing (\$3.81), and (2) labor intensity levels in 1972 (production worker wages per dollar added exceed the national level of labor intensity (29.8 percent)).

³ Ordinance employment was reported separately in 1969 and 1973 but was included mostly with fabricated metal products and transportation equipment in 1979. To make the data more comparable half of the 1969 and 1973 ordinance employment was added to fabricated metals and half to transportation equipment before percentages were calculated. This allocation of ordinance employment approximates the allocation revealed in the 1969 Survey of Manufacturing and the 1972 Census of Manufacturing, both released by the Commerce Department.

Source: Compiled from unpublished data from the Bureau of Economic Analysis, U.S. Department of Commerce.